KRAIN®

KRC9

PROFESSIONAL IRRIGATION CONTROLLER

User Manual

5 YEAR WARRANTY

WWW.K-RAIN.COM.AU

Contents

Overview 3
Introduction 3
Main Components 4
Features 5
Programming 6
How Programming Works 6
Set Automatic Program 7
Set Current Time, Day and Date 8
Set Start Times 9
Set Watering Days 10
Set Zone Run Times 12
Set Additional Programs 13
Run a Single Zone 14
Edit Manual Run Time 15
Run a Program 15
Other Features 16
Stop Watering 16
Stacking Start Times 16
Upload to Contractor Memory 16
Download Contractor Memory 16
Rain Sensor 17
Rain Delay 18
Pump Connection 19
Display Contrast 20
Seasonal Adjustment 20
Fuse 22
System Test 22
Looping Setup 23
Clearing the Programs 25
Program Rescue Feature 25
Installation 26
Mounting Controller 26
Power Supply Connections 26
Electrical Hook-up 27
Field Wiring Connections 27
Terminal Block Layout 28
Master Valve Installation 29
Rain Sensor Connection 29
Zone Valve Installation 31
Pump Relay Connection 32
Pump Protection 32
Pump Installation 33
Troubleshooting 34
Electrical Specifications 35
Electrical Outputs 35
Electrical Specifications 36
Overload Protection 36
Wiring 36
Power Failure 36
Servicing 37
Servicing your Controller 37
Warranty 38

Overview

Introduction

The ***KRC9 Professional Irrigation Controller*** covers a wide range of applications from residential and commercial turf, to light agriculture and professional nursery.

- This instruction manual contains useful information on the proper use and care of this product. Please read through all instructions before attempting to program and use your ***KRC9***
- Please keep this user guide handy for future use

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.

Overview

Main Components

1. LCD display
2. <
3. +
4. >
5. −
6. P
7. **SENSOR** switch
8. **MAIN DIAL**
9. Terminal cover

Overview

Features

Max no. ZONES	9
Max no. PROGRAMS	5
Max no. STARTS per PROGRAM	8
Looping	PROGRAM 5; max. 99 loops
Max. RUN TIME/DELAY	12:59 hrs (can be multiplied up to 200%)
Scheduling options (per PROGRAM)	7 Day, Interval Days (up to 15), Odd, Even, Odd-31
SEASONAL ADJUSTMENT	Per month, 10-200%
MANUAL control	Per ZONE with savable run time
SYSTEM TEST	Sequential for all ZONES, 2 min default
PUMP/master control	ON/OFF per zone or per program
Rain sensor connectivity	Optically isolated hard-wired input
Rain sensor control	Master ON/OFF slide switch
Rain sensor programming	Per ZONE
Rain delay	Max 9 days
Shut off control	Turn MAIN DIAL to ALL OFF
Contractor programming	Save, recall and load memory easily
Clock and calendar	RTC; month, year, date, week day, time
Memory backup power	9V battery
Power source	24VAC low energy transformer with 30W capacity
Power spike protection	M-205 fuse rated at 1A
Common	4× common cables
Fault detection	Available on LCD display; no AC power and low battery
Housing	Heavy duty with lockable door and IS54 dust and moisture protection

Programming

How Programming Works

This controller has been designed with 5 separate programs to allow different landscape areas to have their own individual watering schedules

- A **PROGRAM** is a method of grouping zones (valves) with similar watering requirements to water on the same days. These zones will water in sequential order and on the days selected
- Group the zones (valves) which are watering similar landscape areas together. For example, turf, flower beds, gardens–these different groups may require individual watering schedules, or **PROGRAMS**
- Set the current time and correct day of the week. If odd or even day watering is going to be used, make sure the current year, month and day of the month is correct
- If left unattended for over 1 minute, the LCD display will return to **AUTO** no matter the position of the **MAIN DIAL**. If you were in the process of programming this controller, turn dial to **AUTO** and then back to the position you were programming to continue

Programming (continued)

Set Automatic Program

Set the automatic **PROGRAM** for each group of zones (valves) by completing the following three steps:

1. Set watering **START TIMES**

- For each start time, all the zones (valves) selected for the **PROGRAM** will come on in sequential order
- If two start times are set, the zones (valves) will come on twice

2. Set **WATER DAYS**
3. Set **ZONE RUN TIME** (durations)

This controller has been designed for quick intuitive programming. Remember these simple tips for hassle free programming:

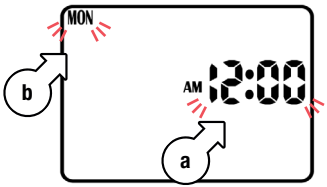
- One push of a button will increment one unit
- Holding a button down will fast scroll through units
- During the programming, only flashing units are able to be set
- Adjust flashing units using + or −
- Press ◀ or ▶ to scroll through settings as desired
- The **MAIN DIAL** is the primary device for selecting an operation
- Press P to select different **PROGRAMS**. Each push on this button will increment one **PROGRAM** number

Programming (continued)

Set Current Time, Day and Date

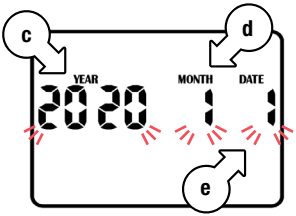
1. Turn the **MAIN DIAL** to **CLOCK-CALENDAR**
2. Use ➕ or ➖ to adjust the flashing *minutes* [a]
3. Press ▶ and then use ➕ or ➖ to adjust the flashing *hours* [a]

ℹ AM/PM must be set correctly.



4. Press ▶ and then use ➕ or ➖ to adjust the flashing *days of the week* [b]
5. Press ◀ repeatedly until the calendar date appears on the display with the *year* [c] flashing

ℹ The calendar only needs to be set when selecting odd/even day watering



6. Use ➕ or ➖ to adjust the flashing *year* [c]
7. Press ◀ and then use ➕ or ➖ to adjust the flashing *month* [d]
8. Press ◀ and then use ➕ or ➖ to adjust the flashing *date* [e]

ℹ To return to the clock, turn the dial back to **AUTO**

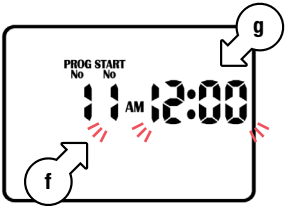
Programming (continued)

Set Start Times

- All zones will run in sequential order for each start time
- For this example, we will set a **START TIME** for **PROG No. 1**

1. Turn the dial to **START TIMES** and ensure that **PROG No. 1** is showing

- If not, press **P** to cycle through the **PROGRAMS** and select **PROG No. 1**



2. **START No. 1** [f] will be flashing
3. Use + or − to change the **START No.** if required
4. Press ▶ and the *hours* [g] for your selected **START No.** will flash
5. Use + or − to adjust if required

- Ensure **AM/PM** is correct

6. Press ▶ and the *minutes* [g] will flash
7. Use + or − to adjust if required

- Each **PROGRAM** can have up to 8 **START TIMES**

8. To set an additional **START TIME**, press ▶ and **START No. 1** [f] will flash
9. Advance to **START No. 2** by pressing +
10. Follow steps 4-7 above to set a START TIME for **START No. 2**

- To enable or disable a **START TIME**, use + or − to set both the *hours* and *minutes* to zero
- To cycle through and change **PROGRAMS**, press **P** repeatedly

Programming (continued)

Set Watering Days

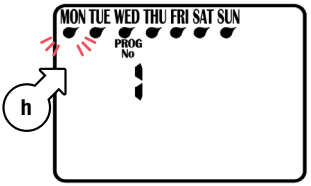
This unit has individual day, **EVEN/ODD** date, **ODD-31** date and **INTERVAL DAYS** selection

Individual Day Selection:

1. Turn dial to **WATER DAYS** and **PROG No. 1** will show

If not, use **P** to select **PROG No. 1**

2. **MON** (Monday) [h] will be flashing



3. Use + or − to enable or disable watering for Monday respectively

4. Use ◀ or ▶ to cycle through the days of the week

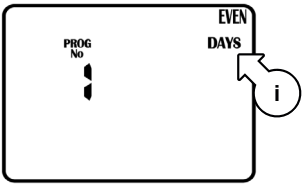
Active days will be shown with ◢ underneath

ODD/EVEN Date Selection

Some regions only allow watering on odd dates if the house number is odd, or likewise for even dates

Turn dial to **WATER DAYS** and **PROG No. 1** will show

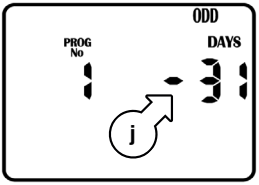
5. Press ▶ repeatedly to cycle past **SUN** until **EVEN DAYS** [i] or **ODD DAYS** is showing accordingly



Programming (continued)

Set Watering Days (continued)

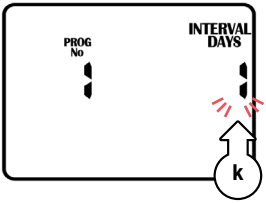
- Press ▶ again for **ODD- 31** [j] if necessary



- The 365-day calendar must be set correctly for this feature, (see Set Current Time, Day and Date)
- ✓ This controller will take leap years into account

Interval Day Selection

6. Turb dial to **WATER DAYS** and **PROG No. 1** will show
7. Press ▶ repeatedly to cycle past **SUN** until **INTERVAL DAYS** is showing accordingly



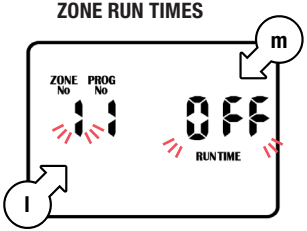
- **INTERVAL DAYS 1** [k] will be flashing
- Use + or − to select from 1 to 15 day intervals
- ***Example:*** **INTERVAL DAYS 2** means the controller will run the program every 2 days
- The next active day is always changed to 1, meaning tomorrow is the first active day to run

Programming (continued)

Set Zone Run Times

- **ZONE RUN TIME** is the length of time each zone (valve) is scheduled to water on a particular **PROGRAM**
- Maximum watering time is 12 hrs 59 min for each **ZONE**
- A zone can be assigned to any or all of the possible 5 **PROGRAMS**

1. Turn the dial to **ZONE RUN TIMES**



- **ZONE No. 1** [I] will be flashing labelled as **OFF**, as shown above, meaning it has no **RUN TIME** programmed in it

- The controller has permanent memory so if there is a power failure, even if the battery is not installed, the programmed values will be restored to the unit

2. Press + or − to select a zone (valve)
3. Press > and **OFF** will flash
4. Press + or − to adjust the **RUN TIME** *minutes* as desired
5. Press > and the **RUN TIME** *hours* will flash
6. Press + or − to adjust the **RUN TIME** *hours* as desired
7. Press > and the **ZONE No.** will flash again
8. Press + or − to select another zone (valve), and repeat steps 2-7 above to set a **RUN TIME**

Programming (continued)

Set Run Times (continued)

- To turn a **ZONE OFF**, set both the *hours* and *minutes* to 0, and the display will flash **OFF** [m] as shown

- This completes the setup procedure for **PROG No. 1**

Set Additional Programs

- Set schedules for up to 5 **PROGRAMS** by pressing **P** when setting up **START TIMES**, **WATERING DAYS** and **ZONE RUN TIMES** as previously outlined

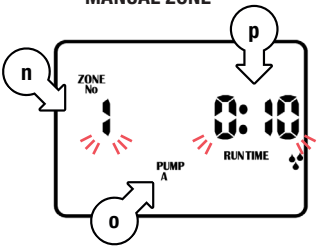
- Although the controller will run automatic programs with the **MAIN DIAL** in any position (with the exception of **OFF**), we recommend to leaving the main dial on **AUTO** position when not programming or running manually

Manual Operation

Run a Single Zone

- The maximum run time is 12 hours 59 minutes

1. Turn the dial to **MANUAL ZONE**



- **ZONE No. 1** [l] will be flashing
- The default manual run time [m] is 10 minutes– to edit this, see Edit Manual Run Time

2. Use + or − to select the desired zone

- The selected zone will start running and the **RUN TIME** will decrease accordingly
- If there is a pump or master valve connected, **PUMP A** [o] will be shown in the display, indicating the pump/master is active

3. Press ▶ and the **RUN TIME** *minutes* [p] will flash
4. Use + or − to adjust the *minutes*
5. Press ▶ and the **RUN TIME** *hours* [p] will flash
6. Use + or − to adjust the *hours*

- The unit will revert to **AUTO** after the time has lapsed
- If you forget to turn the dial back to **AUTO**, the controller will still run programs

7. To stop watering immediately, turn the dial to **ALL OFF**

Manual Operation
(continued)

Edit Manual Run Time

1. To edit default **MANUAL RUN TIME** turn the dial to **MANUAL ZONE**

ⓘ **ZONE No. 1** [n] will flash

2. Press ▶ and the **RUN TIME** *minutes* [p] will flash
3. Use ➕ or ➖ to adjust the **RUN TIME** *minutes*
4. Press ▶ and the default **RUN TIME** *hours* [p] will flash
5. Use ➕ or ➖ to adjust the **RUN TIME** *hours*
6. Once the desired **RUN TIME** is set, press Ⓟ to save this as the default manual **RUN TIME**

✓ The new default will now always appear when the dial is turned to **MANUAL ZONE**

Run a Program

1. To manually run a complete program or to stack multiple programs to run, turn the desired **PROGRAM**

ⓘ **OFF** will flash on the display

2. To enable a **PROGRAM**, press ➕ and the display will change to **ON**

ⓘ If no **RUN TIME** has been set for the desired **PROGRAM**, the above step will not work

3. To run the desired **PROGRAM** immediately, press ▶

Other Features

Stop Watering

- To stop an automatic or manual watering schedule, turn the dial to **ALL OFF**
- For automatic watering remember to turn the dial back to **AUTO**, as **ALL OFF** will stop any future watering cycles from occurring

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

Upload to Contractor Memory

1. Turn the **MAIN DIAL** to **ALL OFF**
2. Press ◀ and ▶ at the same time, and the display will read **LOAD UP** and **SAVE CONTRACTOR MEMORY**

3. Press Ⓟ to confirm

Download Contractor Memory

1. Turn **MAIN DIAL** to **ALL OFF**
2. Press ▶ and the display will read **LOAD** and **RECALL CONTRACTOR MEMORY**

3. Press Ⓟ to confirm

Other Features (continued)

Rain Sensor

1. When installing a rain sensor, first remove the factory fitted link between the **COM** and **SENS** terminals as shown

2. Replace with the two wires from the rain sensor into these terminals, polarity NOT required

- A Rain Sensor needs to be connected to the terminal correctly for this feature (for more details, see Zone Valve Installation)

3. Toggle the **RAIN SENSOR** switch to **ON**

4. Turn the dial to **RAIN SETTINGS** to enable your rain sensor for individual zones

- The default mode is **ON** for all zones

- If a zone is labelled **ON** on the display, this means your rain sensor will be able to control the valve in the instance of rain

- Should you have a zone that always needs to be watered, (such as an enclosed greenhouse, or plants that are under cover) the rain sensor can be turned **OFF** to continue watering during rainy conditions

5. To turn a zone **OFF**, press ▶ to cycle through and select the desired zone, then press −

6. To toggle a zone back **ON**, press +

- To disable the rain sensor and allow all zones to water, toggle the **RAIN SENSOR** switch to **OFF**

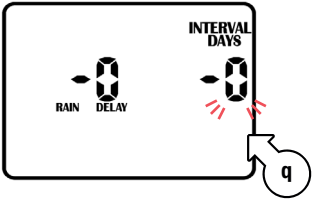
Other Features (continued)

Rain Delay

- To adjust the timing of your rain sensor, this controller features a **RAIN DELAY** setting
- This allows a specific delay time to elapse after the rain sensor has dried out before the zone will water again.

1. Turn the dial to **RAIN SETTINGS**
2. Press ◀ to access the **RAIN DELAY** screen

- The **INTERVAL DAYS** [q] value will now be flashing



3. Use + or − to alter the rain delay time in increments of 24 hours at a time

- A maximum delay of 9 days can be set
- This halts any watering and stops all automatic programs until the rain delay expires

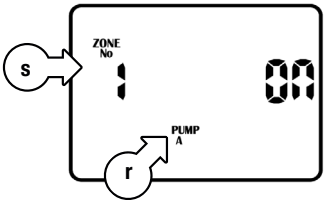
Other Features (continued)

Pump Connection

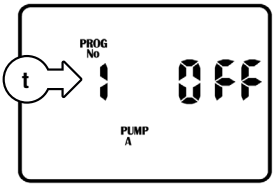
- This unit will allow zones to be assigned to a pump
- The default position is that all zones are assigned to **PUMP A** [r]

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

- **PUMP A** will be active on **ZONE 1** [s] by default



2. Use ◀ or ▶ to scroll **ZONES**
3. Use ➖ to deactivate pump when running the selected **ZONE**
4. Use ➕ to activate pump when running the selected **ZONE**
5. Press Ⓟ again to switch to **PUMP A** on **PROGRAM 1** [t]



- This allows for pump activation to be assigned to **PROGRAMS** rather than **ZONES**

6. Use ◀ or ▶ to scroll **PROGRAMS**

Other Features (continued)

Display Contrast

1. To adjust the LCD contrast, turn the dial to **PUMP SETTINGS**
2. Press P repeatedly until the display reads **CON**

ⓘ **CON 3** is the default contrast setting

3. Use ⊞ or ⊟ to adjust the display contrast as desired
4. To save your setting, turn the dial back to **AUTO**

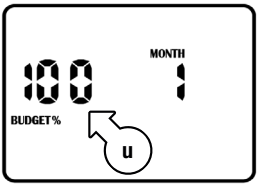
Seasonal Adjustment

ⓘ Automatic **ZONE RUN TIMES** can be adjusted by percentage as the seasons change

✓ Water budgeting saves valuable water as **RUN TIMES** can be adjusted quickly to reduce or increase water usage

ⓘ For this function, it is important to set the calendar correctly–see Set Current Time, Day and Date

1. Turn dial to **SEASONAL ADJUSTMENT**–the display will appear as follows:



✓ This means the **RUN TIMES** are set to a **BUDGET%** of 100% [u]

Other Features (continued)

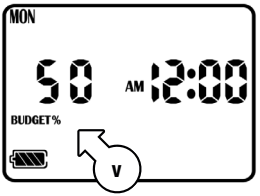
Seasonal Adjustment (continued)

- By default, the display will show the current **MONTH**
- For example, if **ZONE No. 1** is set to 10 minutes then it will run for 10 minutes
- If the **BUDGET%** changes to 50%, **ZONE No. 1** would now run for 5 minutes (50% of 10 minutes)
- The budget calculation is applied to all active **ZONES** and **RUN TIMES**

2. Use ◀ or ▶ to cycle through the months **1** to **12**
3. Use ➕ or ➖ to adjust the **BUDGET%** in 10% increments for each month

- This can be set for each month from **OFF** to **200%**
- The permanent memory function will retain the information

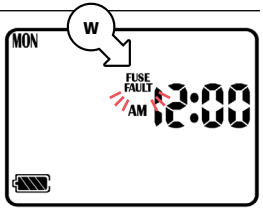
4. To return to the clock, turn the dial to **AUTO**
5. If the **BUDGET%** [v] for your current month is not **100%**, this will be shown in the **AUTO** clock display



Other Features (continued)

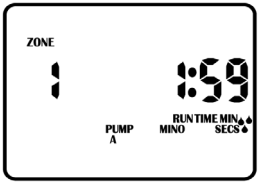
Fuse

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



System Test

1. Turn the dial to **SYSTEMS TEST**



- The system test will begin automatically
- Your ***KRC9*** will water every zone sequentially for 2 minutes each

2. Press ▶ to advance to the next zone before the 2 minute period has elapsed

- It is not possible to go backwards to a previous zone
- To restart the system test from **ZONE No. 1**, turn the dial to **OFF**, and then back to **SYSTEM TEST**

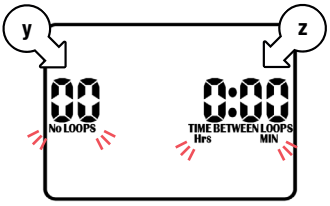
Other Features (continued)

Looping Setup

1. Turn the **MAIN DIA**L to **ZONE RUN TIMES**
2. Repeatedly press **P** to access **PROGRAM 5** settings
3. Set the **RUN TIMES** as desired for each **ZONE** (see Set Run Times)
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** [y] (number of loops) will be flashing



6. Use + or − to adjust the number of loops

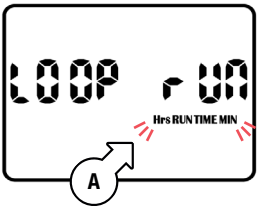
ⓘ This controller has a max of 99 loops

7. Press ▶ and **Hrs MIN** will flash [z]
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

Other Features (continued)

Looping Setup (continued)

12. Press ▶ again and the display will read **LOOP RUN** [A] at this stage



13. Use ➕ or ➖ to toggle between the **Hrs MIN** or **MIN SECS** [A] time settings that were previously set

✓ This will also change times set for **PROGRAM 5** to **Hrs MIN** or **MIN SECS**

14. Press ▶ to save your loop settings and return to **PROGRAM 5** controls

Running Automatic Looping

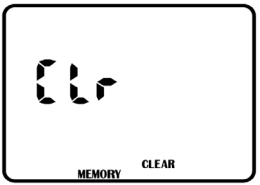
1. Turn **MAIN DIAL** to **WATERING DAYS** and set desired active days for **PROGRAM 5** (see Set Watering Days)
2. Turn **MAIN DIAL** to **START TIMES** and set the desired times for **PROGRAM 5** (see Set Start Times)
3. Turn the **MAIN DIAL** to **AUTO** to complete the process

Other Features (continued)

Clearing the Programs

- As this unit has a permanent memory feature, the best way to clear the **PROGRAMS** is as follows:

1. Turn the dial to **ALL OFF**
2. Press ▶ twice until the display appears as follows:



3. Press P to clear all **PROGRAMS**
4. All functions for setting **TIME, START TIMES**, **WATERING DAYS** and **RUN TIMES** will be cleared and returned to the start up settings

- **PROGRAMS** can also be cleared by manually setting **START TIMES**, **WATERING DAYS** and **RUN TIMES** individually back to their defaults

Program Rescue Feature

1. To upload Program Recall Feature turn the dial to **ALL OFF** and press ◀ and ▶ simultaneously–**LOAD UP** will appear on the screen
2. Press P to complete the process
3. To re-install Program Recall Feature turn the dial **ALL OFF** and press ▶

- **LOAD** will appear on the screen
- Press P to return to the original stored program

Installation

Mounting Controller

- Install the controller near a 240VAC outlet–preferably in a house, garage, or exterior electrical cubicle
- For ease of operation, eye level placement is recommended
- Ideally, your controller location should not be exposed to rain or areas prone to flooding or heavy water
- This inbuilt controller comes with an internal transformer and is suitable for outdoor or indoor installation
- The housing is designed for outdoor installation but the plug needs to be installed in a weatherproof socket or under cover
- Fasten the controller using the key hole slot positioned externally on the top centre and the additional holes positioned internally under the terminal cover

Power Supply Connections

- It is recommended that the transformer is not connected to a 240VAC supply also servicing or supplying motors (such as air conditioners, pool pumps, refrigerators)
- Lighting circuits are suitable as power sources

Installation (continued)

Electrical Hook-up

⚠ **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.)**

Field Wiring Connections

1. Prepare wire for hook-up by cutting the wires to the correct length and stripping approx. 6mm of insulation from the end to be connected to the controller

✓ A maximum of 2 solenoid valves can be run off each output

2. Ensure terminal block screws are loosened sufficiently to permit easy access for wire ends

3. Insert stripped wire ends into the clamp aperture and tighten screws

4. Do not over tighten as this may damage the terminal block

ℹ A maximum of 0.75 amps may be supplied by any output

5. Check the inrush current of your solenoid coils before connecting more than two valves to any one zone

Installation (continued)

Terminal Block Layout

6. **24VAC**—24VAC power supply connection
7. **COM**—Common wire connection to field wiring
8. **SENS**—Input for rain switch
9. **PUMP 1**—Master valve or pump start output
10. **ST1–ST9**—Zone (valve) field connections

ⓘ Use a 1 amp fuse

Installation (continued)

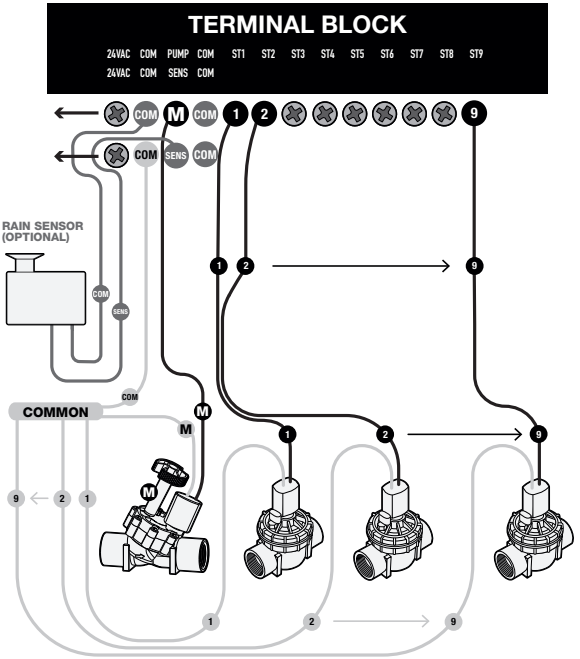
Master Valve Installation

- For a detailed illustration of valve installation, view page 32
- The purpose of the master valve [connected to the PUMP terminal] is to shut off the water supply to the irrigation system when there is a faulty valve or none of the zones are operating correctly
- It is used like a backup valve or fail safe device and is installed at the start of the irrigation system where it is connected to the water supply line

Rain Sensor Connection

- For a detailed illustration of rain sensor connection, view page 32
- A rain sensor detects rainfall and tells the controller to suspend watering, resuming after the sensor dries out
- This is wired between the **SENSOR TERMINAL** [SENS] and the **COMMON** [COM] as shown below

Installation (continued)



Installation (continued)

Zone Valve Installation

- Up to two 24VAC solenoid valves can be connected to each zone output and wired back to the Common [COM] connector
- With long cable lengths, voltage drop can be significant, especially when more than one coil is wired to a zone
- As a good rule of thumb select your cable as follows:
  - ✓ 0–50m cable dia 0.5mm
  - ✓ 50–100m cable dia 1.0mm
  - ✓ 100–200m cable dia 1.5mm
  - ✓ 200–400m cable dia 2.0mm
- When using multiple valves per zone, the common wire needs to be larger to carry more current. In these circumstances choose a common cable one or two sizes larger than required
- When making connections in the field, only ever use gel filled or greased filled connectors. Most field failures occur due to poor connections. The better the connection here, and the better the waterproof seal the longer the system will perform without trouble

Installation (continued)

Pump Relay Connection

- This controller does not provide mains power to drive a pump–a pump must be driven via an external relay and contactor (pump start) setup
- The controller provides a low voltage signal that actuates the relay which in turn enables the contactor and finally the pump

- Although the controller has permanent memory and thus a default program will not cause erroneous valve actuation, it is still good practice when using a system where the water supply comes from a pump to connect unused zones on the unit back to the last used zone
- This in effect, inhibits the chances of the pump ever running against a closed head

Pump Protection

- In some circumstances not all operational zones may be hooked up–for example, if the controller was capable of running 6 zones but there were only 4 field wires and solenoid valves available for connection

- This situation can pose a risk to a pump when the system test routine for the controller is initiated
- The system test routine sequences through all available zones on the controller

Installation (continued)

Pump Protection (continued)

- In the above example this would mean zones 5 through to 6 would become active and would cause the pump to operate against a closed head

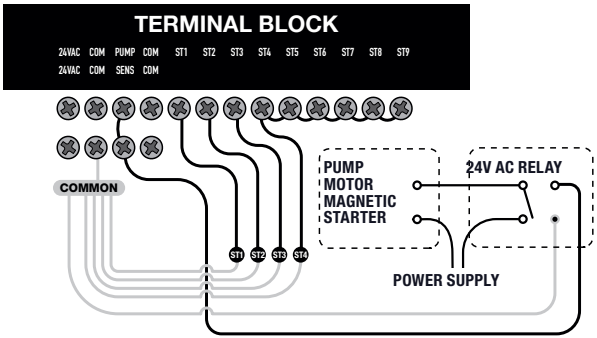
- **This could possibly cause permanent pump, pipe and pressure vessel damage**

- It is mandatory if the system test routine is going to be used, that all unused, spare zones, should be linked together and then looped to the last working zone with a valve on it

- Using this example, the connector block should be wired as per the diagram below

Pump Installation

- It is recommended to always use a relay between the controller and the pump starter for single phase pump installation



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
Zone not working	Faulty solenoid coil *or* broken cable	Swap faulty zone wire on controller terminal block with known working zone 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 zones running at once	Looping program active *or* faulty driver triac	Check if looping program is active and in multi-zone mode. Check wiring and swap faulty wires on terminal block with known working zones. 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

Electrical Specifications

Electrical Outputs

Power Supply

- Mains supply: this unit runs off a 240 volt 50 hertz single phase outlet
- The RTC uses a coin cell placed on the back of the board, to get access to the coin cell, remove the screws from the facia, unwire the terminal block and tilt the panel down and swap out the battery
- The controller draws 30 watt at 240VAC
- The internal transformer reduces the 240VAC to an extra low voltage supply of 24VAC
- The internal transformer is fully compliant with AS/NZS 61558-2-6 and has been independently tested and judged to comply
- This unit has a 1.25AMP low energy, high efficient toroidal transformer for long life performance

Electrical Power Supply

- Input 24 volts 50/60Hz

Electrical Outputs

- Maximum of 1.0 amp

To Solenoid Valves

- 24VAC 50/60Hz 0.75 amps max
- Up to 2 valves per zone on the inbuilt model

To the Master Valve/ Pump Start

- 24VAC 0.25 amps max
- Transformer and fuse capacity must be compatible with output requirements

Electrical Specifications
(continued)

Overload Protection

- Standard 20mm M-205 1 amp fast blow glass fuse, protects against power surges and electronic fuse rated to 1AMP protects against field faults
- Faulty zone skip function

Wiring

- Output circuits should be installed and protected in accordance with wiring code for your location

Power Failure

- The controller has permanent memory and real time clock, so the data is always backed up even with the absence of all power
- The unit is factory fitted with a 3V CR2032 lithium battery with up to 10 years memory backup
- The 9V alkaline battery maintains the data during power outages, and is recommended to help maintain the life of the lithium battery

Tampering with the unit will void the warranty

- The batteries do not run the outputs. The internal transformer requires mains power to run the valves

Servicing

Servicing your Controller

ℹ The controller should always be serviced by an authorised agent.

✓ Follow these steps to return your unit:

1. Turn the mains power off to controller

ℹ If controller is hard-wired, a qualified electrician is required to remove the entire unit, depending on the fault

2. Proceed to either unplug and return the entire controller with transformer or disconnect the panel assembly only for servicing or repair

3. Disconnect 24VAC leads at the controller 24VAC terminals on very left hand side of the terminal block

4. Clearly mark or identify all valve wires according to the terminals they are connected to, (1–9)

ℹ This allows you to easily wire them back to the controller and maintain your valve watering scheme

5. Disconnect valve wires from the terminal block

6. Remove the complete panel from the controller housing by unscrewing the two screws in the lower corners of the fascia (both ends of the terminal block)

7. Remove the complete controller from the wall unplugging the lead

8. Carefully wrap the panel or controller in protective wrapping and pack in a suitable box and return to your service agent or manufacturer

9. Replace your controller panel by reversing this procedure

⚠ **Tampering with the unit will void the warranty**

Warranty

5 Year Replacement Guarantee

Holman Industries offers a 5 Year replacement guarantee with this product.

In Australia our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

As well as your statutory rights referred to above and any other rights and remedies you have under any other laws relating to your Holman product, we also provide you with a Holman guarantee.

Holman Industries guarantees this product against defects caused by faulty workmanship and materials for 5 Years domestic use from the date of purchase. During this guarantee period Holman Industries will replace any defective product. Packaging and instructions may not be replaced unless faulty.

In the event of a product being replaced during the guarantee period, the guarantee on the replacement product will expire 5 Years from the purchase date of the original product, not 5 years from the date of replacement.

To the extent permitted by law, this Holman Replacement Guarantee excludes liability for consequential loss or any other loss or damage caused to property of persons arising from any cause whatsoever. It also excludes defects caused by the product not being used in accordance with instructions, accidental damage, misuse, or being tampered with by unauthorised persons, excludes normal wear and tear and does not cover the cost of claiming under the warranty or transporting the goods to and from the place of purchase.

Should you suspect your product may be defective and need some clarification or advice please contact us directly:

1300 716 188
support@holmanindustries.com.au
11 Walters Drive,
Osborne Park 6017 WA

If you are certain your product is defective and is covered by the terms of this warranty, you will need to present your defective product and your purchase receipt as proof of purchase to the place you purchased it from, where the retailer will replace the product for you on our behalf.

KRC9
PROFESSIONAL IRRIGATION CONTROLLER

K RAIN

For support email info@k-rain.com.au or contact the friendly Customer Service team at Holman Industries on 08 9416 9999

Supplied and Serviced by Holman Industries

11 Walters Drive, Osborne Park WA 6017

SCAN FOR MORE INFO

We really appreciate having you as a customer and would like to say thank you for choosing us.

We recommend registering your new product on our website. This will ensure we have a copy of your purchase and activate an extended warranty. Keep up to date to with relevant product information and special offers available through our newsletter.

Scan here, or visit
k-rain.com.au/register
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