K RAIN®

KRX12

12 ZONE Wi-Fi IRRIGATION CONTROL

User Manual

5 YEAR WARRANTY

WWW.K-RAIN.COM.AU

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Please be sure to read through all the instructions before attempting to use your controller.

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PRODUCT CODE: KRX12

MNL0016 REV -

Overview

Controls

1. **MAIN DIAL**
2. Indicator LED lights
3. **START** button
4. **STOP** button
5. **SENSOR** switch
6. **START** switch

⚠ **Do not disassemble this product. There are no serviceable parts inside. Some internal components can run at elevated temperatures and touching these could cause burns**

Overview

Key Features

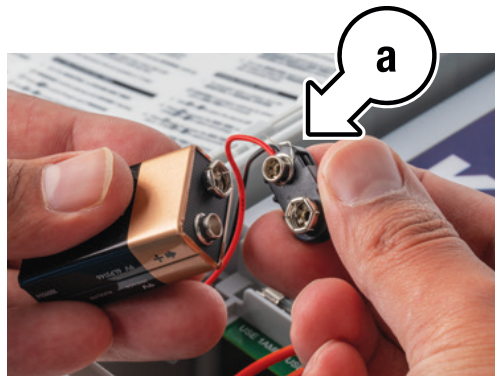
- Wi-Fi control with ***Holman Home*** via iOS® or Android®
- 12 **ZONES** can be added to the 4 **START** times
- Scheduling options: **7 DAYS**, **INTERVAL DAYS**, **ODD DAYS incl. 31st**, **ODD DAYS excl. 31st**, **EVEN DAYS**, with misting
- Max. 15 day watering delay
- 11:59 hr max. **RUN TIME** per **ZONE**
- **ZONE** and multi-zone (sequential) **MANUAL** control
- On-board **MANUAL** controls: **START** and **STOP**, including shut-off with the **MAIN DIAL**
- M-205 fuse rated at 1A for power spike protection
- Memory backup power requires 9V battery (sold separately)
- IP54 rated housing with lockable door
- To drive a pump contactor, this controller must be installed with a low current relay–refer to PUMP CONNECTION to learn more

Installation

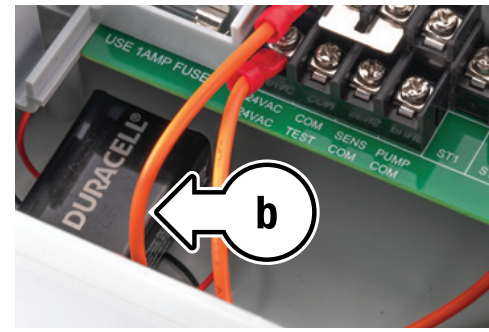
9V Battery

Install a high quality 9V alkaline battery (sold separately) to ensure your programs are not lost during a power outage

1. Open the controller housing door
2. Remove the terminal cover using the two tabs on either side of the cover
3. Locate the 9V battery snap (a) below the terminal block



4. Connect a 9V battery to the snap, and fit below the terminal block (b)



5. Replace the terminal cover to house the battery

Installation

Power Supply

Installation must be carried out in accordance with these instructions. If hard wiring the controller, an approved electrician must be used in accordance with all Local, State and Federal codes

- 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
- 1.25A low energy, high efficiency toroidal transformer for long life
- ***Input:*** 24V AC 50/60Hz
  Output: Max 1 amp
- ***To zones:*** 24V AC 50/60Hz. 0.5 amp max
- ***To master/pump:*** 24V AC 0.25, amp max
- Transformer and fuse capacity must be compatible with output requirements

Installation

Installation

On-board Controls

a) **AP WI-FI** for pairing your device to ***Holman Home*** app–refer to ADDING YOUR KRX12 TO HOLMAN HOME

b) **OFF** globally disables all **STARTS**

c) **RUN** globally enables all **STARTS**

d) **TEST** ensures your watering programs are working as expected–refer to TEST FUNCTION to learn more

e) **ZONES (1–12)** to keep information for different watering areas separate–refer to ZONE SETTINGS for more information

f) **START** button to activate **ZONES/STARTS** manually–refer to ON-BOARD START/STOP CONTROLS

g) **STOP** button to disable **ZONES/STARTS** manually–refer to ON-BOARD START/STOP CONTROLS

h) **SENSOR** switch allows you to attach a sensor (sold separately) which can be setup to disable scheduled watering. For an example of how to connect a rain sensor (sold separately) refer to RAIN SENSOR for installation instructions

i) **START** switch **(A–D)**, a **START** is a group of **ZONES** with common **WATERING DAYS**–refer to START SETTINGS to learn more about programming **STARTS**

Installation

On-board START/STOP Controls

Use on-board controls to manually start/ stop **ZONES** or **STARTS**

If **MAIN DIAL** is left in a **ZONE** position, it will not affect automatic programmed start times

1. To turn **ZONE/START** on:
    i. Press the **START** button (f) and the controller will activate the selected **ZONE/START** for the programmed run time and turn off after–refer to ZONE SETTINGS for more information

2. To turn **ZONE/START** off:
    i. Turn **MAIN DIAL** to desired **ZONE** (e) or the **START** switch (i) to desired **START**
    ii. Press the **STOP** button (g) and the controller will disable the selected **ZONE/START** for the programmed run time

Installation

Installing Holman Home

1. Download ***Holman Home*** to your mobile device via the ***App Store*** or ***Google Play***

2. Open ***Holman Home*** on your mobile device

ⓘ You may be prompted to allow notifications–the app can still function if you choose to opt out

ⓘ For best results, allow Bluetooth® and Location settings when prompted. This is an 'in app' permission. Allow only while using app

3. Tap **SIGN UP**

4. Read our User Agreement and Privacy Policy and tap **AGREE** if you wish to proceed

5. Follow the prompts to register a ***Holman Home*** account with your email address

⚠ **Ensure your country details are correct at this stage**

ⓘ This allows the app to discover local networks (for ease of pairing) and also allows the app to show weather information–it will still function if you choose to opt out

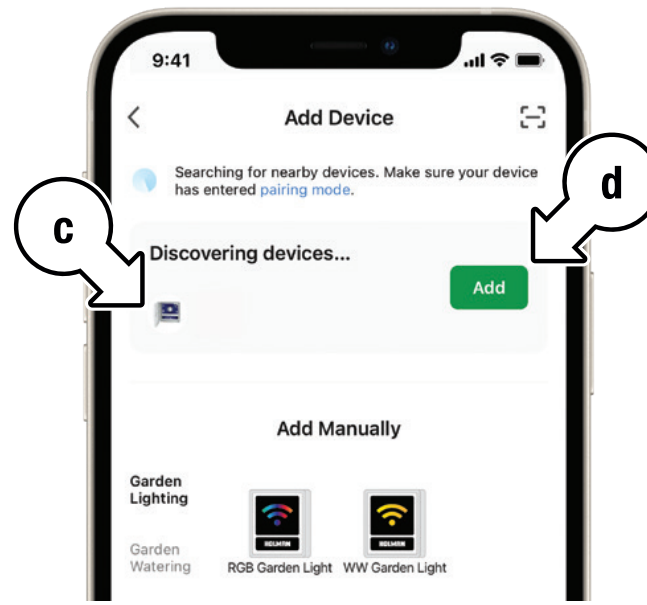
Installation

Adding your KRX12 to Holman Home

1. Before attempting to connect your ***KRX12*** to ***Holman Home***, ensure:
   - Plug connected to power socket
   - 9V battery connected
   - ***KRX12*** is close to your router
   - Bluetooth® on your smartphone is active
   - Ensure the **MAIN DIAL** is set to **AP WI-FI** for pairing

2. Open the **HOME** screen in ***Holman Home*** and tap ⊕ (a) and **ADD DEVICE** (b)

3. If your ***KRX12*** appears in the **DISCOVERING DEVICES...** section (c), tap **ADD** (d)

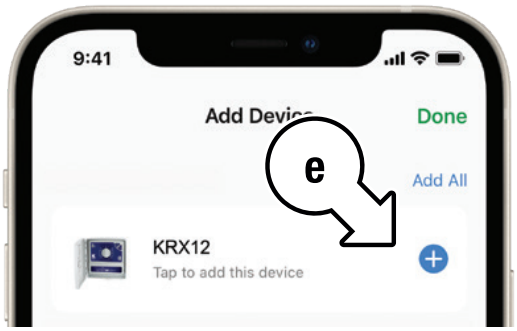


ⓘ If your ***KRX12*** does not appear here, press **START** until the red **AP** LED flashes quickly (5 seconds) or refer to ***AP Connection*** mode

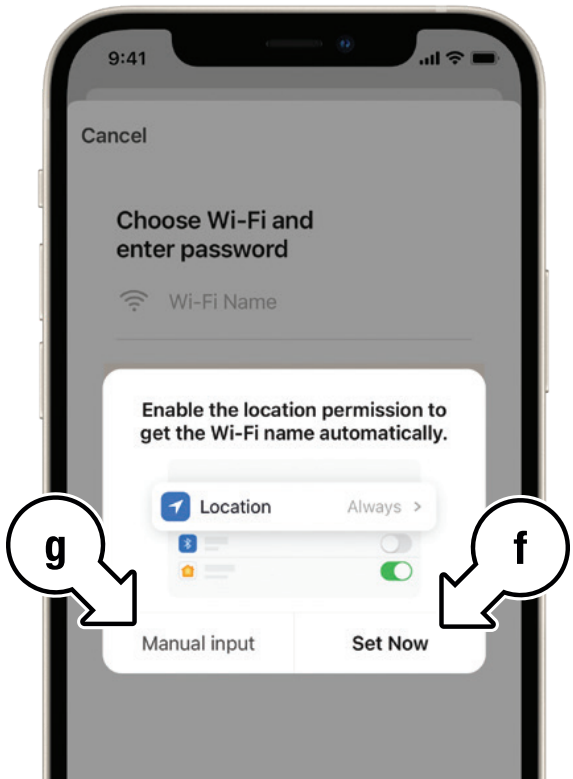
Installation

Adding your KRX12 to Holman Home (continued)

4. In the following screen, tap ⊕ (e) next to your ***KRX12***

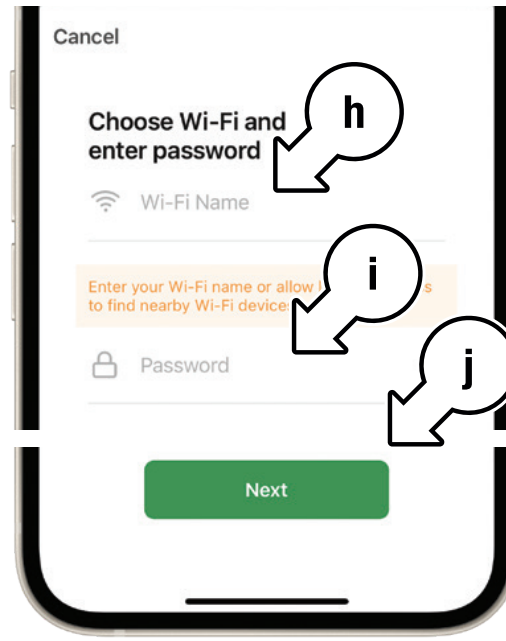


ⓘ ***Holman Home*** will ask to access location data; tap **SET NOW** (f) to share this with ***Holman Home***



ⓘ Alternatively, to connect without sharing location, tap **MANUAL INPUT** (g)–for best results, allow Bluetooth and Location settings when prompted. This is an 'in app' permission, allow only while using app

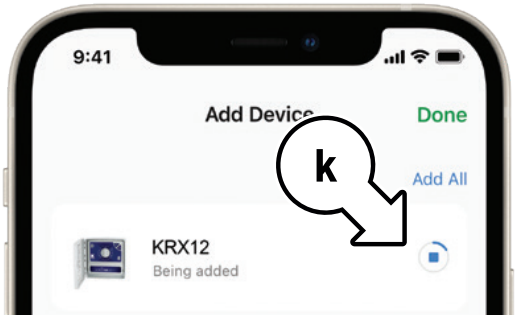
5. Enter the **Wi-Fi NAME** (h) and **PASSWORD** (i) of your Wi-Fi network as necessary and tap **NEXT** (j)



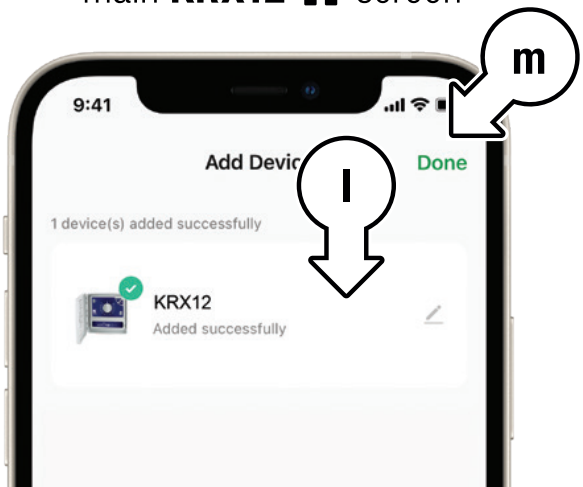
Installation

Adding your KRX12 to Holman Home (continued)

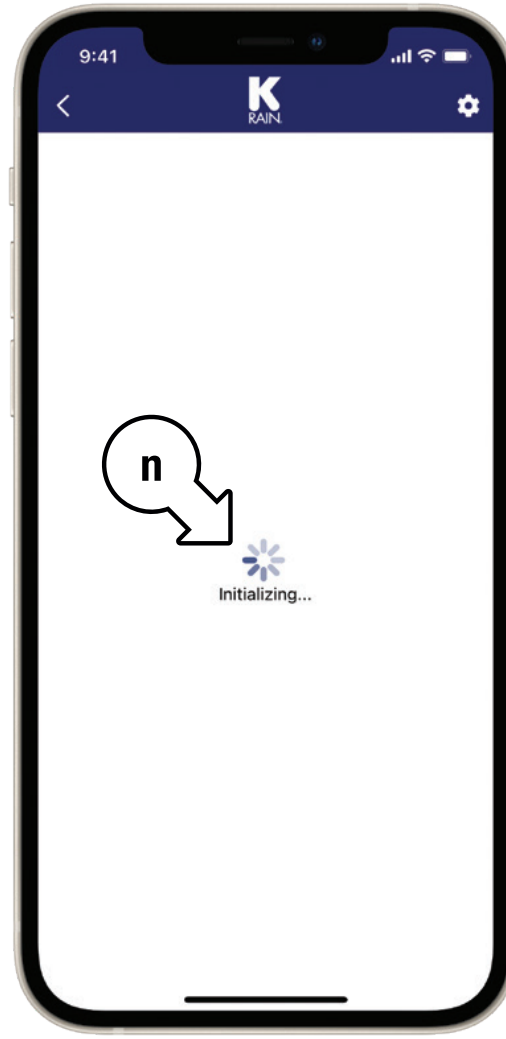
- It may take a few minutes for your ***KRX12*** to add to ***Holman Home***; please wait for the progress dial (k) to finish



6. Once the connection process is complete, ***Holman Home*** will confirm it has successfully added your ***KRX12*** (l); tap **DONE** (m) to access the main **KRX12** screen



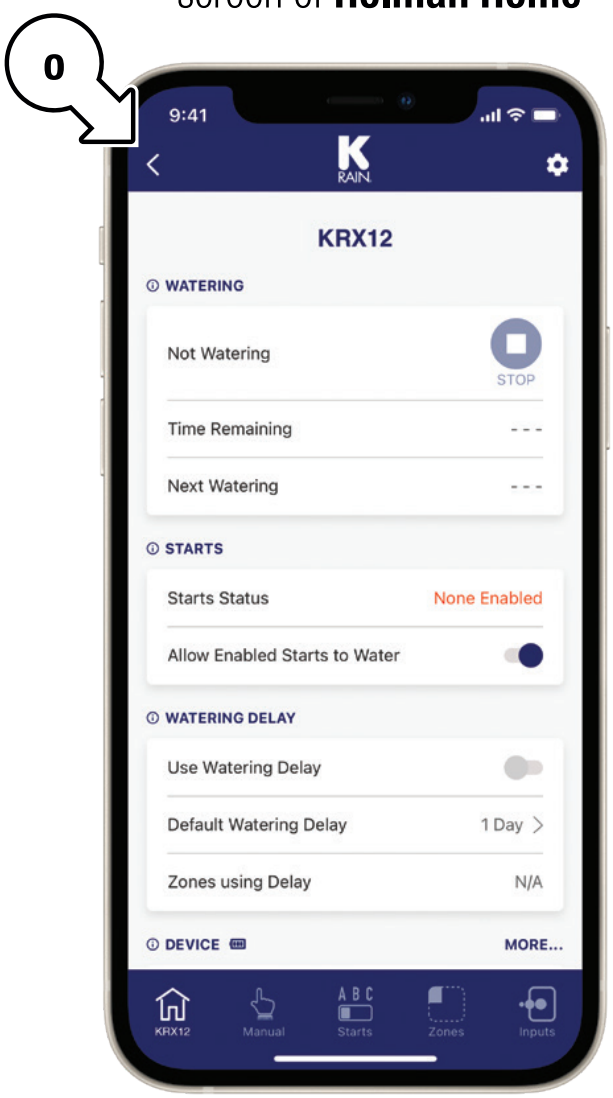
- On first use, the ***KRX12*** interface will need a moment to initialise (n)



Installation

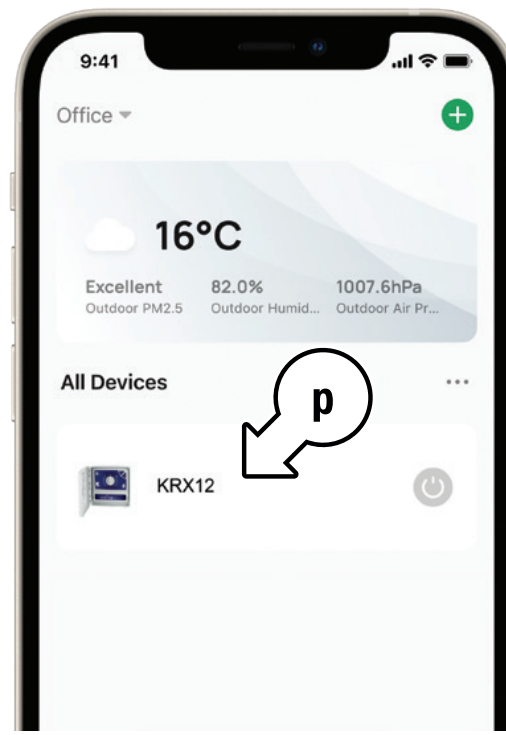
Adding your KRX12 to Holman Home (continued)

7. Once initialisation is complete and the ***KRX12*** is connected, the **KRX12** screen will display; tap ❮ (o) to return to the **HOME** screen of **Holman Home**



8. Your ***KRX12*** will now be shown on the **HOME** screen under **ALL DEVICES** (p)

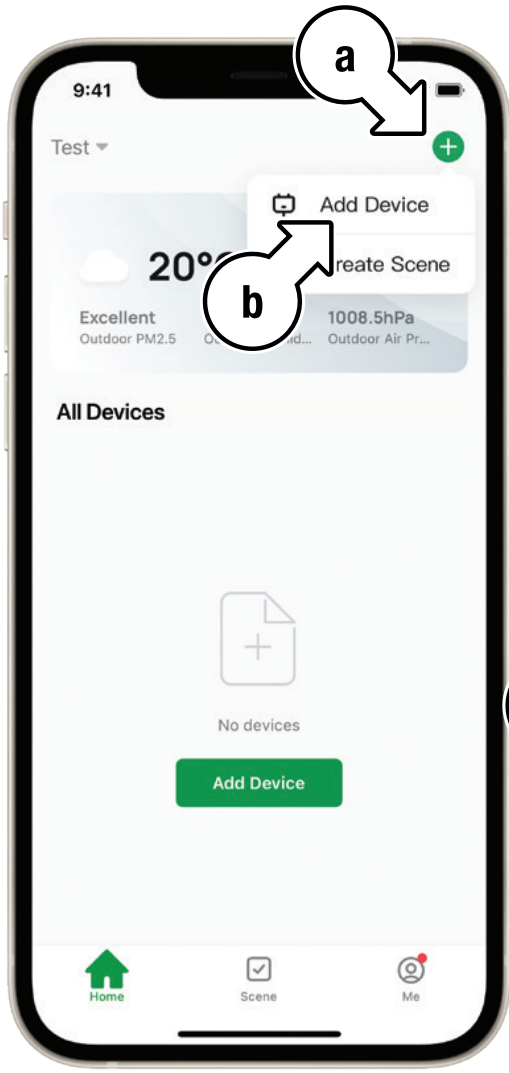
⚠ **Set the MAIN DIAL to the RUN position after pairing is completed**



Installation

Adding your KRX12 using AP Mode

1. Open the **HOME** screen in ***Holman Home*** and tap ⊕ (a) and **ADD DEVICE** (b)



2. If your ***KRX12*** does not appear in the **DISCOVERING DEVICES...** section, under the **Add Manually** menu, tap **K-Rain Products** (c) and select ***KRX12*** (d)

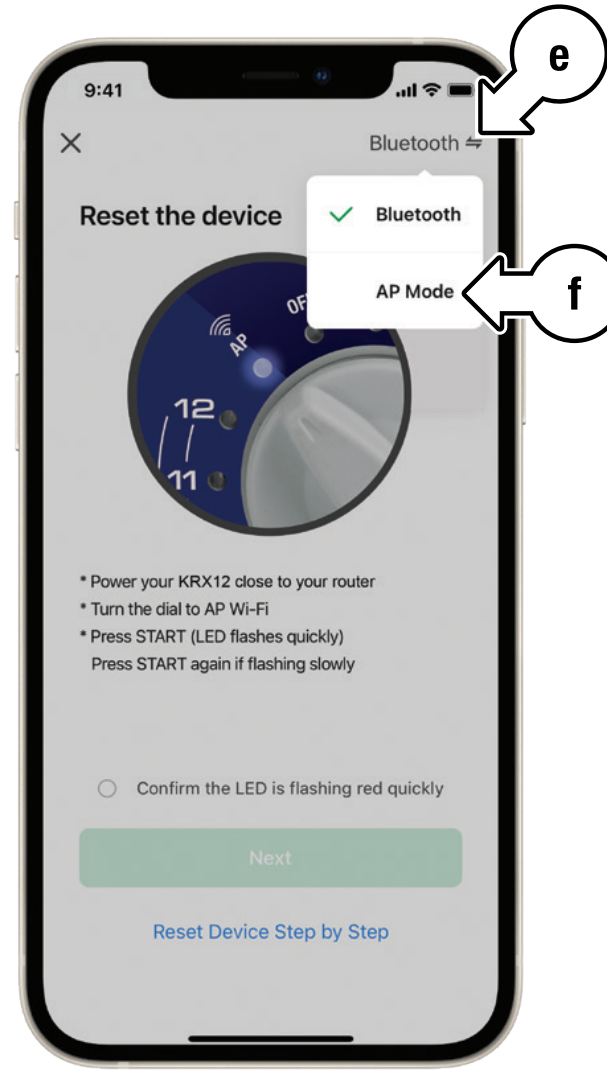
Installation

Adding your KRX12 using AP Mode (continued)

3. Ensure your smartphone mobile data is switched off before trying **AP MODE**

4. In the connection screen, tap **BLUETOOTH** ⇄ (e) and select **AP MODE** (f) from the subsequent drop-down menu

5. Work through the following prompts in ***Holman Home*** to complete the **AP MODE** connection process



⚠ **Set the MAIN DIAL to the RUN position after pairing is completed**

Installation

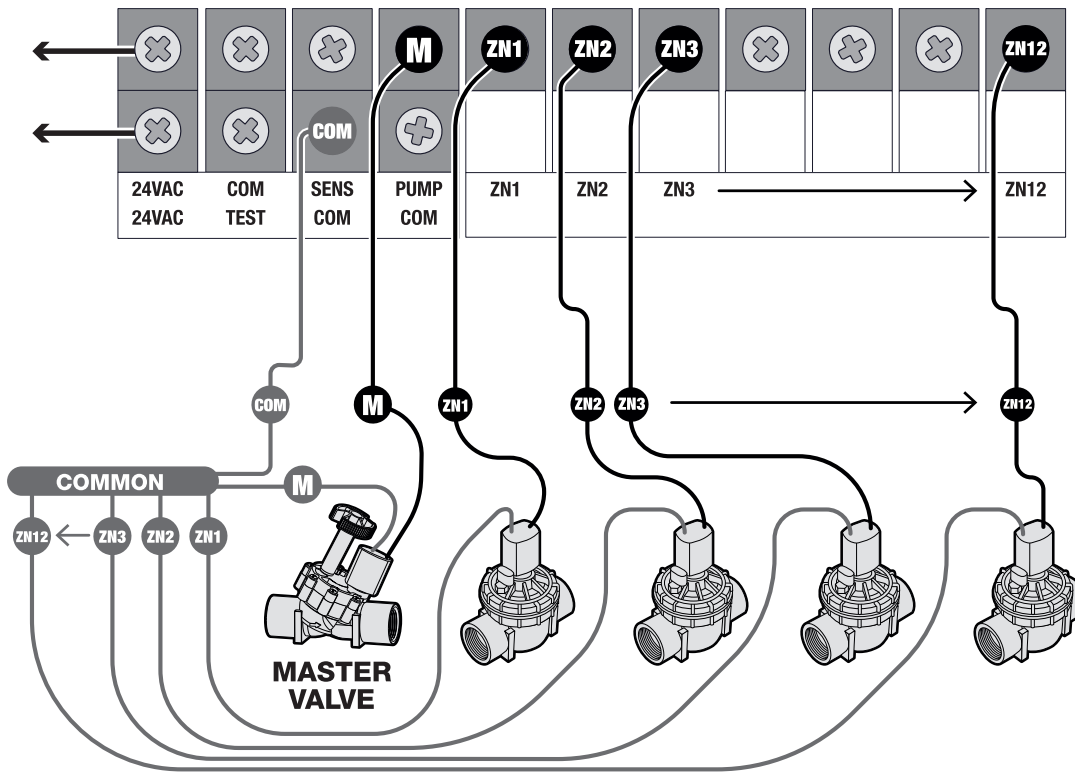
Field Wiring

⚠ Disconnect all 240V AC power before commencing any field wiring or solenoid valve connection

✓ Strip approx. 6mm of insulation and place under the loosened screw, tighten gently and check the cable is firmly held

1. Connect one cable from each solenoid valve to a zone terminal, one to the **COMMON** (**C**) terminal

2. Complete the circuit by *looping* a common cable to all valves and connecting to the **COMMON** (**C**) terminal



Installation

Setting up your KRX12 in Holman Home

1. Set up the **ZONES**

    i. Name each **ZONE**

    ii. Choose the **WATERING MODE**–**NORMAL** (default) or **MISTING**

ⓘ For **MISTING**, set the desired **ON TIME** and **DELAY TIME**

    iii. Decide which **ZONES** are to be included in a **WATERING DELAY** (not included by default)–refer to ZONE SETTINGS for more information

2. Set up the **STARTS**

    i. Enable each **START** to be programmed

    ii. Choose the **START TIME** and **WATERING ROSTER**

ⓘ For **INTERVAL DAYS**, note the ***KRX12*** home the next watering day (date). Further watering information is available via 'Device' at the bottom of the ⌂ screen, tap 'MORE…' to see full Device Information

ⓘ Select the appropriate **ZONES** and amend the **RUN TIMES**

Installation

Setting up your KRX12 in Holman Home (continued)

3. Set up the **MANUAL WATERING** run time for each **ZONE**

ⓘ This run time is used when you press **START** on-board the controller for each **ZONE**

ⓘ This run time is used in **SCENE AUTOMATION** when you switch a **ZONE** on

4. Set the **MAIN DIAL** position–for **STARTS** to water, ensure it is set to **RUN**, otherwise ensure it is **OFF**

5. Set up any **INPUTS** (sensors) including rain or humidity sensors– refer to INPUTS for more information

ⓘ Automations are required to enable the sensor to trigger the watering delay. Automations will not work without a consistent Wi-Fi signal.

6. Set up either **TAP-TO-RUN** or **AUTOMATIONS** to enable the **WATERING DELAY** where appropriate

Installation

Mounting the Unit

- Position the unit in a place that is convenient for valve wiring and near a power source

- Install near a 240V AC outlet

- We recommend mounting the unit at eye level

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, ensuring it is properly seated

3. Optional: Remove the terminal cover to add additional screws through the holes in the lower corners for extra stability

Installation

Checking Connected Zones

1. Open ***Holman Home***, enable **START A** and select the **ZONES** to be tested

2. Turn the **MAIN DIAL** to **TEST**

3. Press **START** on the controller

    - Activated **ZONES** in any **START** will run for 2 minutes, sequentially from **ZONE 1** to **12**

    - If no **ZONES** are activated in any **STARTS**, the test function will not run

ⓘ To skip a **ZONE** during the process, press **START** on the controller

4. Once completed, turn the **MAIN DIAL** to **RUN** or **OFF**

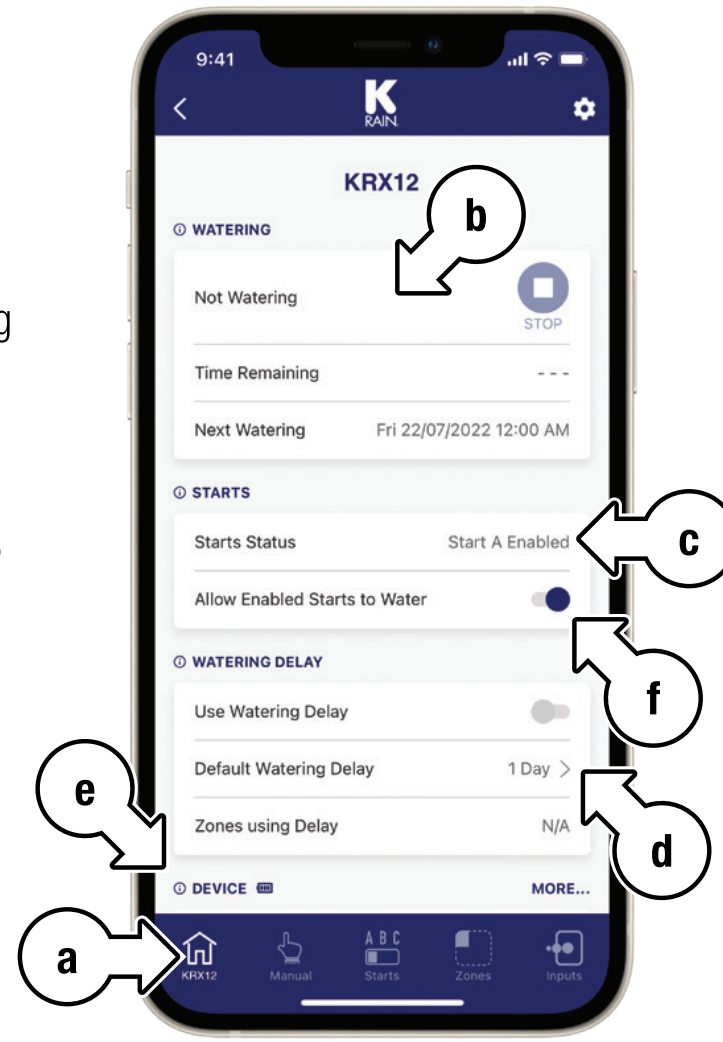
Controls

KRX12 Home Screen

- Within the ***KRX12*** interface, tap **KRX12** (a)

- This page displays info for your ***KRX12***, including **WATERING** status (b), **STARTS** status (c), **WATERING DELAY** settings (d), and **DEVICE** status (e)–note the icon will turn red when your battery needs replacing

- Enable or disable all **STARTS** by using the **ALLOW ENABLED STARTS TO WATER** switch (f)



- All **STARTS** can also be globally enabled or disabled by setting the **MAIN DIAL** to **RUN** or **OFF** respectively

Controls

Start Settings

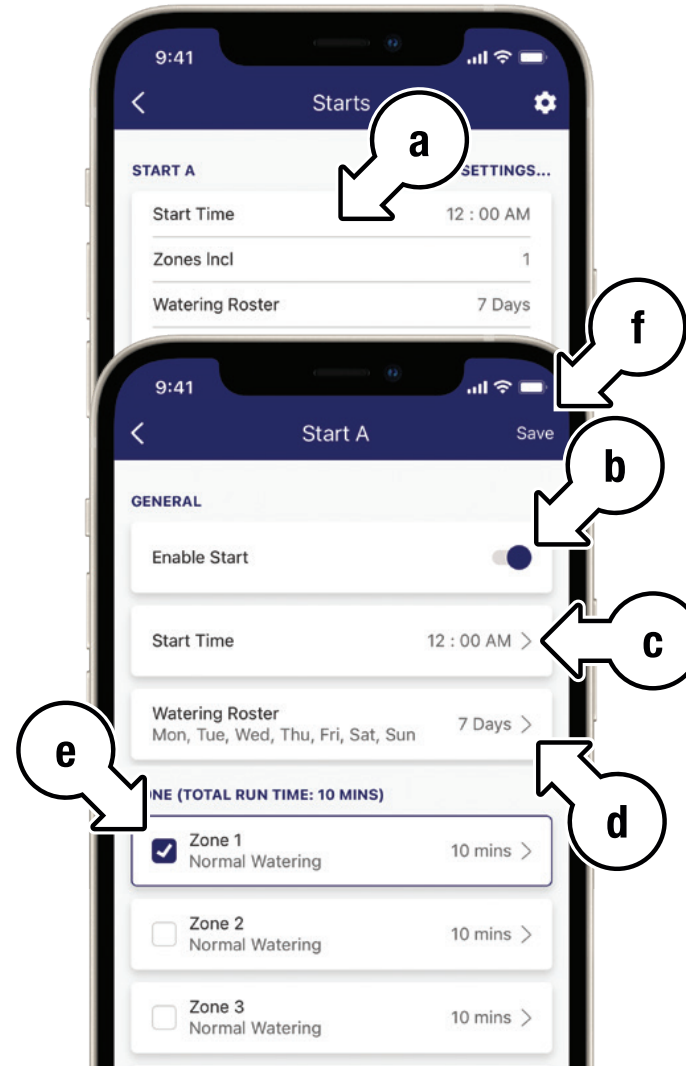
- Within the ***KRX12*** interface, tap **STARTS** in the main footer menu

- Tap the desired **START** (a) for the following settings:

  - **ENABLE** (b)
  - Set a **START TIME** (c)
  - **WATERING ROSTER** (d)
  - Activate a **ZONE** using the check box ☑ (e)
  - Set **RUN TIME** by tapping the **ZONE**

- If **STARTS** are queued for the same time, they will run sequentially from **START A**

- Queued **STARTS** will be skipped if they are run manually during the queue process



- Be sure to tap **SAVE** (f) after finalising your **START** settings

Controls

Zone Settings

- Within the ***KRX12*** interface, tap **ZONES** (a)
- Tap the desired **ZONE** for the following settings:
  - **ZONE NAME** (b)
  - **WATERING DELAY** on or off (c)
- Also includes **MISTING**:
  - **WATERING MODE** (d)
  - **ON TIME** (e)
  - **DELAY TIME** (f)
- **RUN TIMES** for each **START** (g)
- Be sure to tap **SAVE** (h) after finalising your **ZONE** settings

Controls

Manual Watering

- Within the ***KRX12*** interface, tap **MANUAL** (a)
- Use the selector ● (b) to select a **START** to water
- Tap **START** ▶ (c) to begin watering as per the pre-set **START** settings
- Tap **STOP** ■ (d) to end the watering session
- Tap **ZONES** (e) to water **ZONES** individually
- Tap a **ZONE** (f) to access its manual controls
- Tap a check box ☑ (g) to activate a **ZONE** for your manual watering session

Controls

Manual Watering (continued)

- If multiple **ZONES** are selected they will water sequentially starting with **ZONE 1**

- **ZONES** will run as **NORMAL** or **MISTING** watering depending on pre-set **ZONE** settings

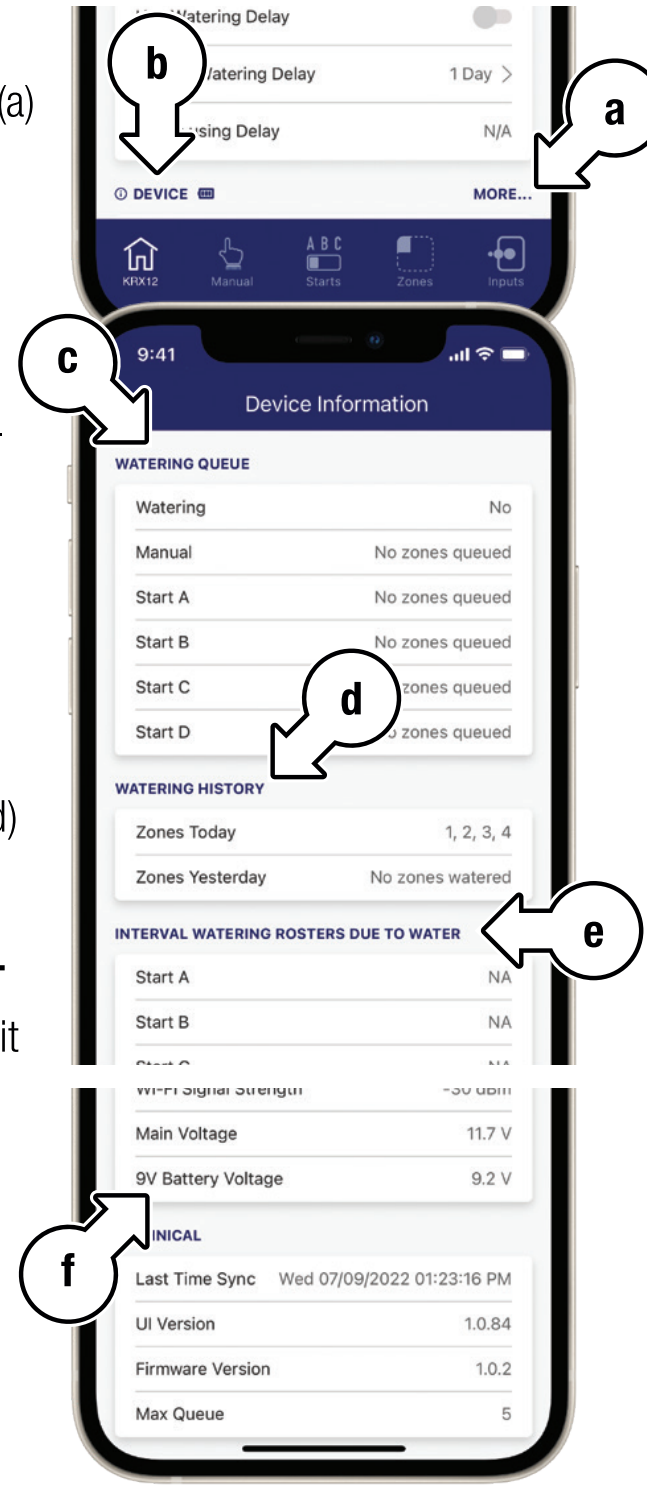
- It is not possible to choose multiple **STARTS** for manual watering

- If your ***KRX12*** is already watering a schedule, you will need to stop this to be able to water manually

Controls

Device Information

1. To access **DEVICE INFORMATION**, tap **MORE** (a) next to **DEVICE** (b) in the **KRX12** page–this contains the following:



   i. **WATERING QUEUE** (c)–it is possible to have zones in all the queues. Your ***KRX12*** will water in order of the queues shown on screen

   ii. **WATERING HISTORY** (d)

   iii. **INTERVAL WATERING ROSTER** (e)–if a **START** uses **INTERVAL DAYS**, it displays how many days until the next watering

   iv. 9V battery level (f)

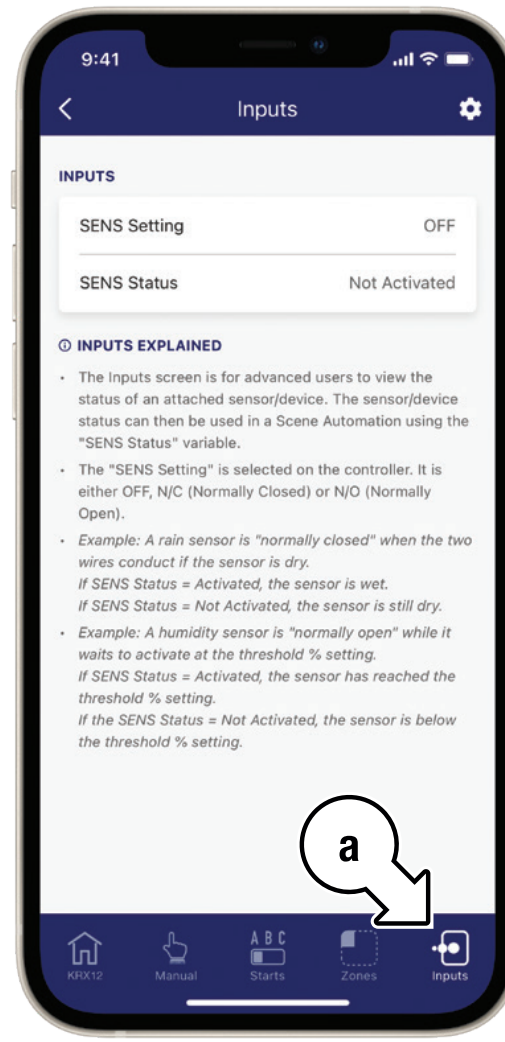
Inputs/Outputs

App Integration

- Within the ***KRX12*** interface, tap **INPUTS** (a)

- Refer to the **INPUTS** screen for details on this function

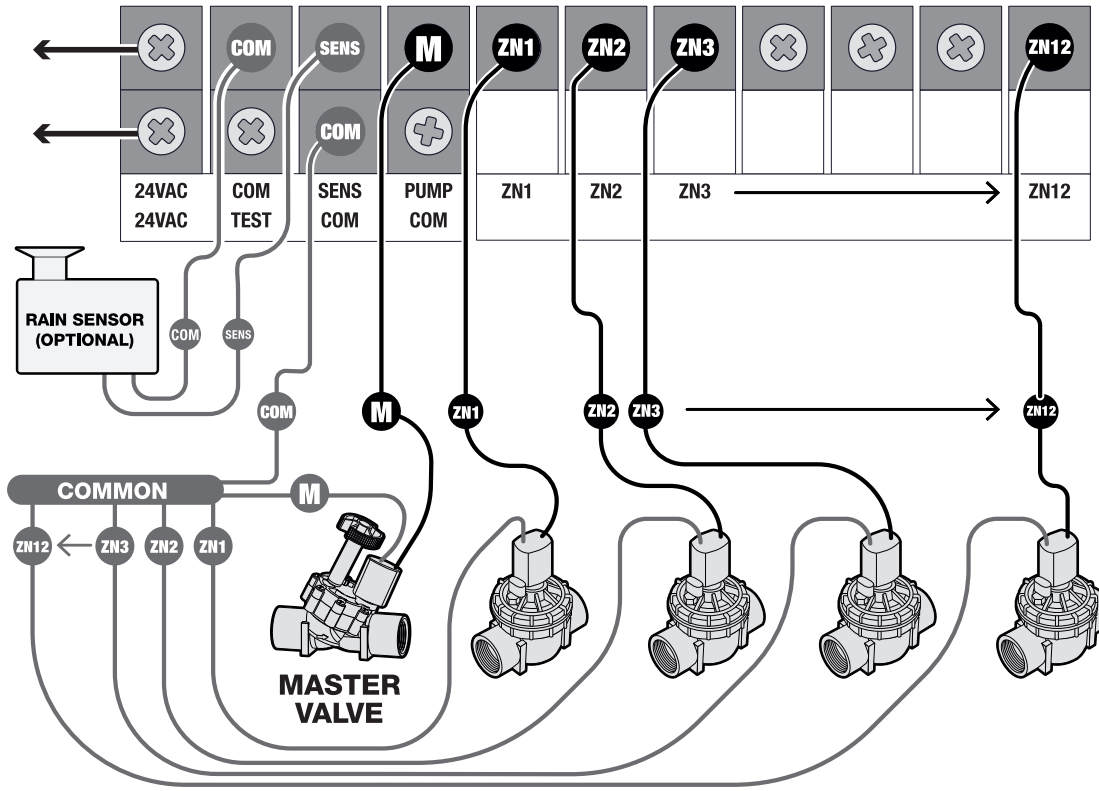
- **Disconnect all 240V AC power before commencing any field wiring or solenoid valve connection**



Inputs/Outputs

Rain Sensor

- A rain sensor suspends watering during rainfall, resuming after the sensor dries out
- This is only available once a rain sensor has been added and **SCENE AUTOMATIONS** have been set–smart automations will not run if Wi-Fi signal is absent
- Ensure the **SENSOR** switch is set to **N/C**
- To install a rain sensor, wire as shown below– when installing, remove metal bridge between **C** and **SENS.** The **AP** light on the controller will flash green LED to confirm the rain sensor.



Inputs/Outputs

Pump 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 good practice 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
- In some circumstances not all operational zones may be hooked up—for example, your ***KRX12*** is capable of running 12 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

Inputs/Outputs

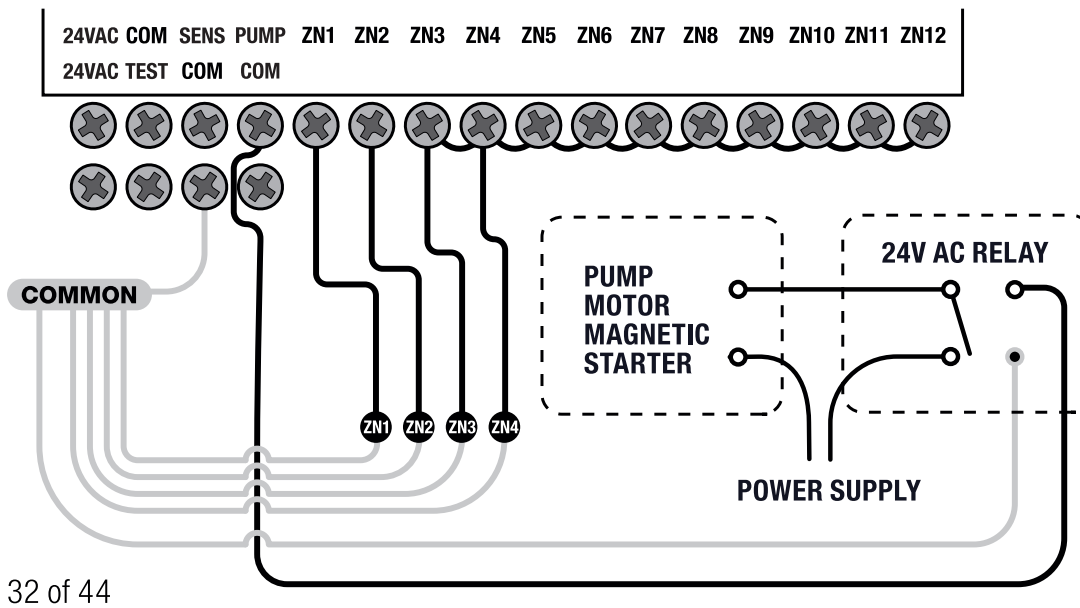
Pump Connection (continued)

- In the above example this would mean zones 5 through to 12 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

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



Additional Notes

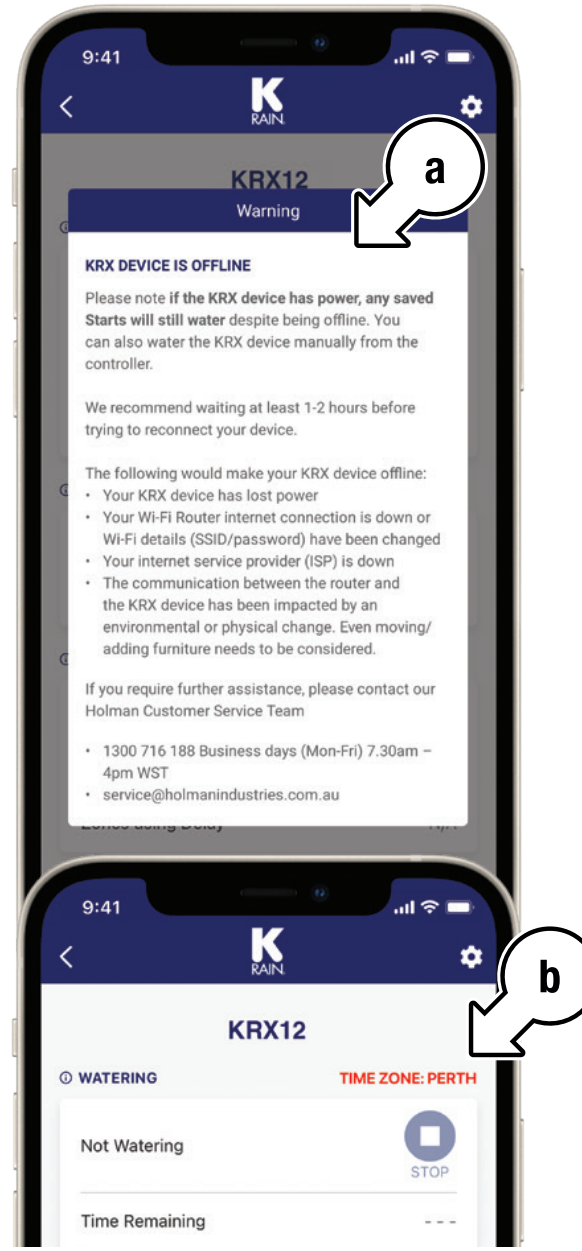
Offline Device

- A warning message (a) will be displayed if your ***KRX12*** is not connected to the internet

- If your ***KRX12*** still has a connection to power, it will still water the saved **STARTS** despite being offline from ***Holman Home***–it will still be possible to water manually using the on-board controls

Time Zones

- When in a different time zone to your ***KRX12***, ***Holman Home*** will highlight which time zone the ***KRX12*** is using (b)



Additional Notes

Holman Home Automations

- **STARTS** run from a ***Holman Home*** automation will behave the same as a manually run **START**

- **WATERING DELAYS FROM A SENSOR-**Zone settings are used to opt in or out of the delay, **ZONES** using the delay will be shown on the ***KRX12*** page. After you have set the delay, go to **SCENE** at the bottom middle of the ***Holman Home*** app page, you will find a recommended **SCENE** for the ***KRX12*** to trigger the delay when your sensor is activated (opened/closed). This can be edited as required.

- Using this **SCENE** will automatically activate your sensor triggered **WATERING DELAY**.

- Automations will not work without a consistent Wi-Fi signal.

- To exclude **ZONES** using the **WATERING DELAY** function, this will need to be set using two automations–for example:

- If the time is 1:00 am and ***WATERING DELAY*** is **ON**, then water **ZONE 1** and, if the time is 1:00 am and ***WATERING DELAY*** is **OFF**, then water **ZONE 1**, **2** and **3**

Additional Notes

Test Function

1. To test the ***KRX12*** system, turn the **MAIN DIAL** to **TEST**

2. Press **START** on board the controller

- Activated **ZONES** in any **START** will run for 2 minutes, sequentially from **ZONE 1** to **12**

- If no **ZONES** are activated in any **STARTS**, the test function will not run

- To skip a **ZONE** during the process, press **START** on board the controller

Additional Notes

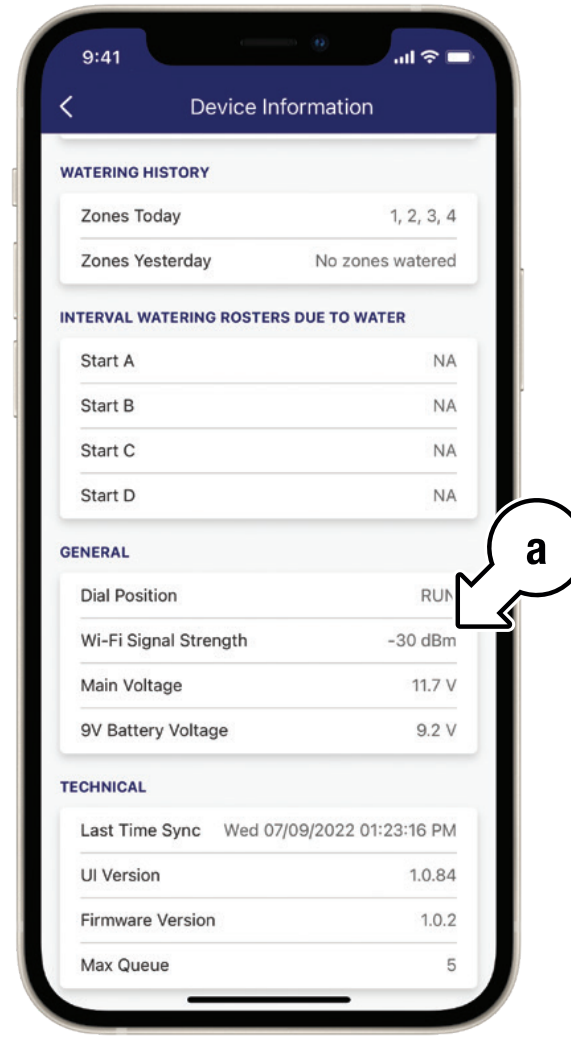
Wi-Fi Signal Strength

- **Wi-Fi SIGNAL STRENGTH** can be accessed on the **DEVICE INFORMATION** page–refer to DEVICE INFORMATION on how to access this

- This signal (a) determines if your internet connection is reliable enough for your ***KRX12*** to function correctly

- The stronger the signal, the more reliable your connection will be

- The higher the number the stronger the signal–for example; a signal strength of -30 dBm (decibel milliwatts) is considered a perfect signal. A Wi-Fi signal strength of -90 dBm is considered not connected. -60 dBm is considered the minimum connection strength



Additional Notes

9V Battery Notification

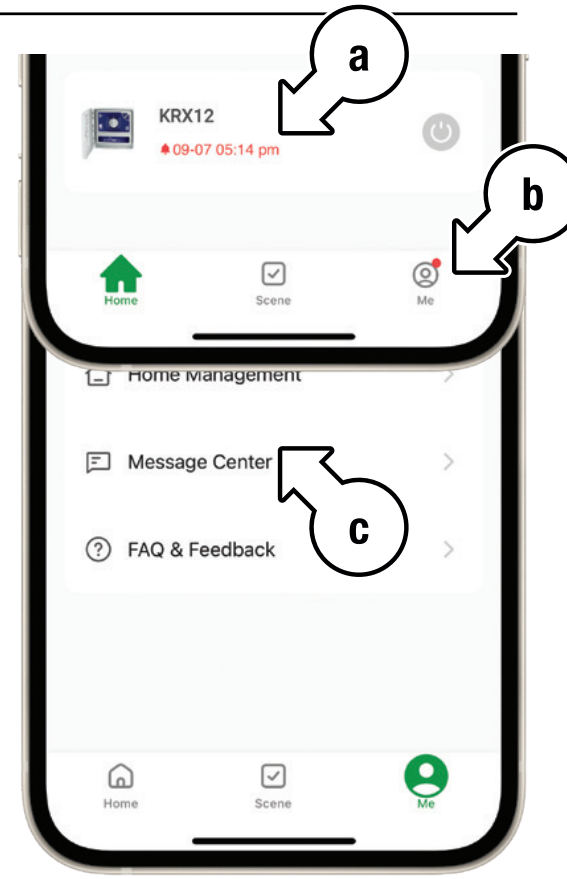
- If the 9V battery needs to be replaced, a notification will display (a) in ***Holman Home*** in the device list–if the ***KRX12*** interface is opened, this will be dismissed

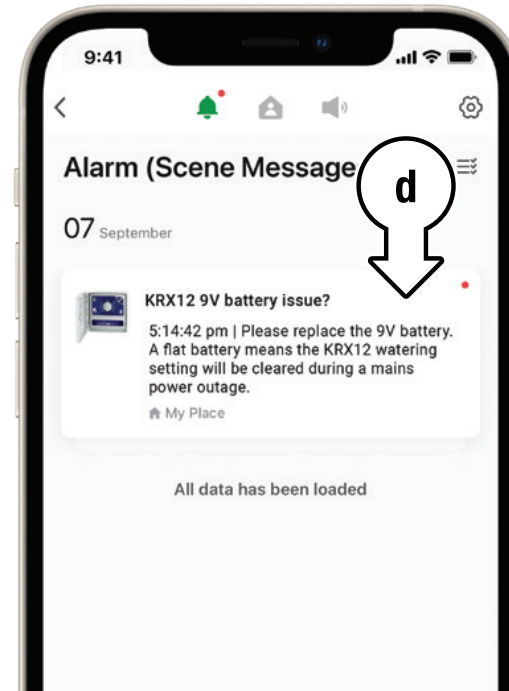
- To review the notification:

  i. Tap **ME** below the ***Holman Home*** device list (b)

  ii. Tap **MESSAGE CENTRE** (c) and your ***Holman Home*** notifications will display as shown (d)

- To display these as notifications on your smartphone, ensure notification permissions are enabled for ***Holman Home*** in your smartphone system settings





Troubleshooting

Symptom	Suggestion
KRX12* cannot connect to *Holman Home	When adding your ***KRX12*** to ***Holman Home***: 1. Confirm your ***KRX12*** is powered **ON** 2. Confirm both your ***KRX12*** and smartphone are within Wi-Fi range 3. Ensure Bluetooth® is turned on and permissions are approved for ***Holman Home*** 4. Make sure the network functions of your Wi-Fi router and smartphone are unblocked; firewalls can block certain ports 5. Confirm your Wi-Fi network name (SSID) has been entered correctly, including spaces. Note this is case sensitive 6. Confirm your Wi-Fi network password has been entered correctly 7. Confirm your ***KRX12*** is connected to a 2.4GHz Wi-Fi network (not 5GHz), enable the broadcast and do not allow the Wi-Fi network to be hidden 8. Confirm your Wi-Fi router encryption method is WPA2-PSK and authentication type is AES, or both are set to automatic 9. If the number of connected devices to the Wi-Fi has reached the amount limit (usually 16 or 50 devices), turn off other Wi-Fi devices and configure again 10. If your Wi-Fi router enables the MAC address filter, remove the device from MAC filter list and make sure the Wi-Fi router is allowing your ***KRX12*** to be connected 11. Make sure that the Wi-Fi router has the DHCP service enabled. If it is not enabled, the address will be occupied 12. Your Wi-Fi router may not compatible with your ***KRX12***. It is recommended that you replace the Wi-Fi router and try again

Troubleshooting

Symptom	Suggestion
KRX12 **was connected is now not connecting after mounting in desired position**	This indicates a lack of Wi-Fi signal. You will need to move your ***KRX12*** and Wi-Fi router closer to each other
No LED lights on	This indicates that there is no power to the unit. Your controller will not operate if there is an AC fault. Please check the power point. Check and replace the fuse if necessary
Single zone not working	Faulty solenoid coil, or break in field wire. Check solenoid coil (a good solenoid coil should read around 33Ω on a multi meter). Test field cable for continuity. Test common cable for continuity
No automatic start	Setup error, MAIN DIAL is in OFF position, blown fuse or power issue. If there are no lights on the controller check your fuse and then power point (refer to 'Fuse keeps blowing' below). If the unit works manually, check your program set up and dial position. The dial should be in the RUN position for regular use
Buttons not responding	Please contact our Customer Service team at info@k-rain.com.au
Multiple zones watering at once	Solenoids may be dirty: clean and flush solenoids to remove debris. Possible faulty driver triac, incorrect field wiring or broken or lost common wire in field. Check wiring and swap faulty valve wires on the controller terminal block with known working zones. If the same outputs are still locked on, please contact our Customer Service team

Troubleshooting

Symptom	Suggestion
KRX12 **is not connecting in AP MODE**	Ensure mobile data is switched off
Rain sensor not working	For third party sensors, this could be faulty wiring or sensor. Check rain sensor information on ***Holman Home*** and check the wiring on sensor
Fuse keeps blowing	The 1amp glass fuse is installed in the controller to protect the board from being damaged as a result of something wrong in the field wiring (this is the wiring from the solenoid to the controller). If your fuse has blown, check that your wiring on each station is in tack and not damaged in any way. If your fuse is continuously blowing, remove all wires from your zones. Reconnect each station one at a time to help determine which station is causing the fault. Our irrigation controllers use a 5mm × 20mm 1amp glass fuse

Warranty

5 Year Replacement Guarantee

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.

In addition to the rights and remedies you have under laws relating to your K-Rain product, we also provide you with a K-Rain warranty.

K-Rain warrants this product against defects caused by faulty workmanship and materials for 5 years from the date of purchase. During this warranty period K-Rain will replace any defective product.

In the event of a product being replaced during the warranty period, the warranty 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 and without limiting the consumer guarantee, this K-Rain Replacement Warranty only covers products that have been put to domestic use, and 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 advice, visit our customer service website:

support.holmanindustries.com.au

If you consider that this warranty covers your defective product, present your defective product and your receipt as proof of purchase to the place of purchase, where the retailer will replace the product for you on our behalf.

Notes

RAIN®

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
for more info

K-RAIN AUSTRALIA