



BTX8

Instruction Manual

Android



iGardener

HOLMAN

11 Walters Drive, Osborne Park WA 6017
Ph: 1300 716 188
www.holmanindustries.com.au

WELCOME TO HOLMAN iGARDENER™

Holman presents to you the Smart Control gardener range. We have an ever increasing range of garden watering and irrigation control equipment that are controllable via your smartphone in both iOS and Android formats.

iGardener™ watering control products allow you to use your smartphone to control all the programming and interface functions on your tap timers or irrigation controllers.

Download the app at no cost and you will soon have total control of your garden watering.

Introduction

The Holman iGardener™ app allows you to control up to 8 controllers or tap timers. You are able to fully control up to 8 zones on the BTX8. Each zone can be individually scheduled to suit the exact watering schedule necessary for that zone.

Scheduling for each zone features 7 day watering, interval days, odd days and even days with the option of setting your run time in hours and minutes with up to 3 start times per day.

The BTX8 also features cycle scheduling, which allows a run time and delay time. For example, you could schedule a short burst of water to run for 1 minute every 20 minutes for 3 hours. The cycle feature is great for the Holman GreenWall and for operating misting systems.

Contents

SIMPLE SETUP

Downloading the App	3
Renaming your Controller	4
Unpairing the Controller	4
Manual Operation of the Controller	5
Manual Operation Via the App	5
Locking the Controller	5
Troubleshooting	6
Device Compatibility	6
BTX8 Features	6

OPERATING THE IRRIGATION APP

Key Functions	7
7 Day Watering Schedule	8
Interval Days Watering Schedule	8
Odd Days (-31) Watering Schedule	9
Even Days Watering Schedule	9
Cycle Watering Schedule	10
Syncing Start Times	10
Saving your Schedule	11

CONTROLLER INSTALLATION

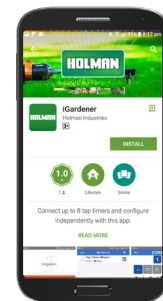
Mounting the Controller	12
Electrical Hook-up	12
Field Wiring Connections	12
Power Supply Connections	12
Pump Start Relay Connection (Water Supply by Pump System)	13
Single Phase Pump Installation	13
Master Valve Installation (Water Supply off Mains Water)	13
Zone Valve Installation	13
Pump Protection (System Test)	14
Servicing the Controller	14
Fault Finding Guide	15

WARRANTY

16

SIMPLE SETUP

Downloading the App



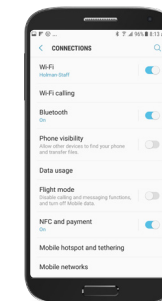
STEP 1

Download the app from Google Play by searching **iGardener**.



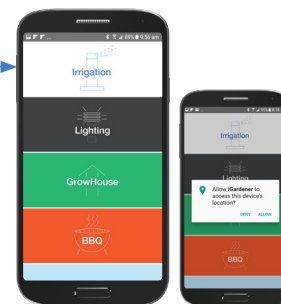
STEP 2

Install a 9V battery (located under the terminal cover). Ensure the controller dial is pointed to **Run & Connect.***



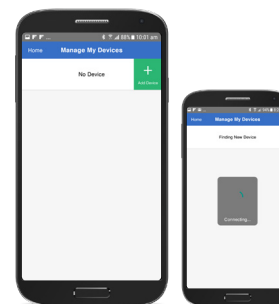
STEP 3

Turn on your Bluetooth on your smartphone and ensure your controller is connected to power.



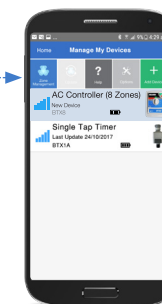
STEP 4

On the iGardener app navigate to **Irrigation**. To operate this app you will need to allow access to your device's location when the pop-up prompt appears.



STEP 5

Press the **+** button to add your tap timer. Wait until your tap timer is found. For security of your watering schedule each tap timer will only pair with one smartphone.



STEP 6

When your controller is found you are ready to set up scheduling. Select **Zone Management** to begin the setup. *If you have multiple controllers or tap timers connected, the device highlighted within the blue bar is the one you are scheduling.*

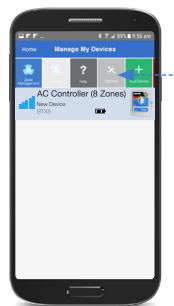


Ensure you check for iGardener app updates and keep the app up to date with the latest version. Not updating your app will limit its functionality.

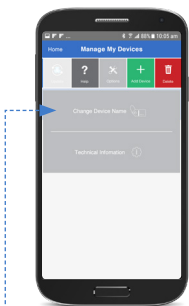
* The battery status is updated each minute. If you replace the battery it can take up to one minute for the battery status to update accordingly.

Renaming your Controller

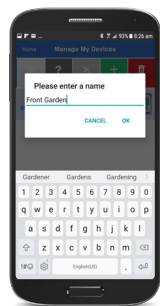
You can rename your controller to distinguish it from other controllers you may have installed. For example, you may have a controller operating the garden and lawns at the front of your house and a separate controller for the backyard.



Select **Options**.



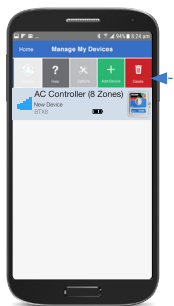
Select **Change Device Name**.



Enter your new name and press **Ok**.

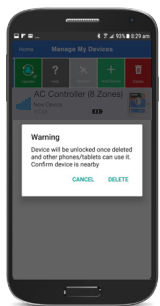
Unpairing the Controller

To connect the controller to a new smartphone you will first need to unpair it from the device it is currently paired to.



VIA THE APP

Slide the menu bar to the left and press **Delete**. This will remove your device from the controller allowing it to be paired with another device.



MANUALLY

Turn the dial to the **Run & Lock** position on the controller. Press and hold the **Start** button for 15 seconds. The controller is now unpaired.

To re-connect to the controller via the app, you will need to return the dial to Run & Connect.

WARNING: Disconnecting the power and removing the battery will reset all watering schedules.

Manual Operation of the Controller



OFF

Switching the controller to **Off** will postpone all scheduled automatic watering. *You can still use the Manual Water function on the mobile app.*



SYSTEM TEST

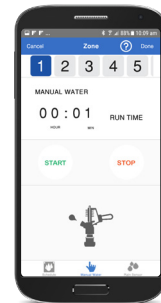
Switch the controller to **System Test** and press **Start**. Only zones with an active watering schedule (updated via the app to the controller) will run for the 2 minute sequential test cycle.



MANUAL OPERATION FROM CONTROLLER

Switch the controller to required zone and press **Start**. After your scheduled run time lapses, the controller will turn off automatically, alternately you can press **Stop**.

Manual Operation via the App



Switch the controller to **Run & Connect**. Use **Manual Water** for a selected zone to start watering for the time entered as a one off event or for a selected zone to have a time set for a manual water from the controller.

To instantly stop a watering schedule in progress, press the **Stop** button under Manual Operation.

Locking the Controller

The BTX8 controller is automatically locked to only one device at a time. For security of your watering schedule the controller will only pair with one mobile device.



LOCKING THE CONTROLLER

Turn the dial to **Run & Lock**. The controller will run all automatic programs that have been loaded to it, but it cannot be accessed by any smartphone including the one it was originally paired with.

Troubleshooting

If the controller cannot be found

1. Ensure the controller is connected to power.
2. Ensure the smartphone is within the required 20m Bluetooth range.
3. Ensure there is no other smartphone currently paired with the controller.

Accessing the Help screen via the app



ON HOME SCREEN
Select **Help** in scrolling menu.



ON ZONE MANAGEMENT SCREEN
Select the **Question Mark** icon in the blue section at the top of the screen.



Scroll through the Help screen.



The BTX8 is designed to be operated via the HOLMAN iGardener app. Without the app, the controller will be limited in functionality.

Device Compatibility

Apple

iPhone 7 Plus
iPhone 7
iPhone 5S

Samsung

Samsung S5
Samsung Note 3
Samsung S5 mini
Samsung S6
Samsung S7
Samsung S8

Google

Google Pixel

BTX8 Features

Zones: 8

No. of Starts per Program: 3

Watering Schedule: 7 Day, Interval, Odd, Even & Cycle

Season Adjustment: No

Permanent Memory: No

Real Time Clock: Yes

Current Sensing: No

Transformer: Inbuilt transformer

Housing Type: Outdoor with lid

DIY Friendly/ No Electrician Necessary: Yes

Keylockable: Yes

Master Valve/Pump Station: Yes

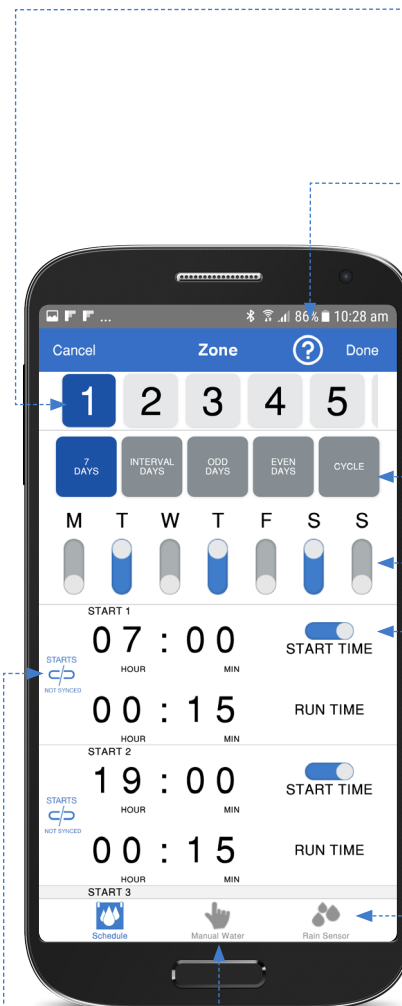
ON/OFF Rain Switch: Yes

Manual Operation: System Test. Single Zone Manual Water.



OPERATING THE IRRIGATION APP

Key Functions



ZONES

The numbers at the top are the zones. The one highlighted blue is the one you are scheduling. The numbers on the app correspond with the numbers on the terminal block. The controller refers to zones as valves.

HELP

You can access the help page throughout the app.

SCHEDULING OPTIONS

Select the scheduling option that best suits your required watering. The one highlighted blue is the one you have selected. You can have a different schedule per zone.

DAY SELECTION

Slide the toggle button if you want that day selected and down to de-select the day.

TIME SELECTION

You can schedule up to three start times with individual run times. Select a run time for each start time.

RAIN SENSOR

This allows you to turn the rain sensor on or off per zone and select an amount of days to delay the watering schedule.

The rain sensor is an accessory that is not included with the controller. Installation instructions on page 13.

MANUAL OPERATION

You can manually operate the selected zone by choosing a run time then pressing start and stop.

This will NOT override the automatic scheduling. If the zone is set to Cycle watering, then the Manual Water Run Time you choose will be the duration your Cycle will run for.

SYNCING START TIMES

You can sync your zone start times to run sequentially.



Please turn to page 10 for more information on how to use this feature.

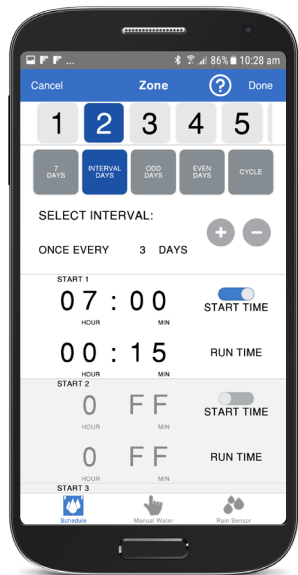
7 Day Watering Schedule



1. Select the zone.
2. Select **7 Days**.
3. Select the day(s) you require.
4. Select your **Start Time**.
You have the option to schedule three start times.
5. Select your **Run Time**.

EXAMPLE
Zone 1 will water on Tuesdays, Thursdays and Saturdays for 15 minutes at 7am and 7pm.

Interval Days Watering Schedule



1. Select the zone.
2. Select **Interval Days**.
3. Select the interval you require by pressing **+** or **-**.
4. Select your **Start Time**.
You have the option to schedule three start times.
5. Select your **Run Time**.

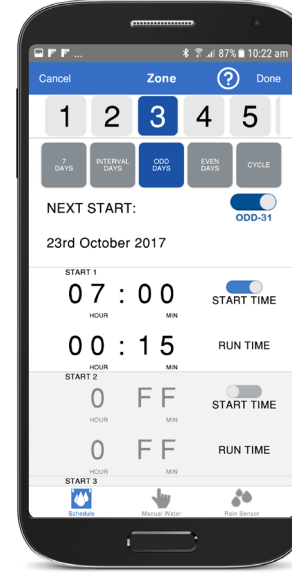
EXAMPLE
Zone 2 will water once every three days for 15 minutes at 7am.

GLOSSARY

Run time: the duration you want to water for. **Start time:** the time you want your watering to begin.

Odd-31: Select this option when using the Odd Days function if you want to skip watering on the 31st of the month.

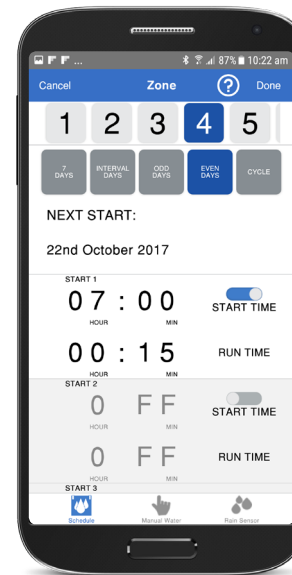
Odd Days Watering Schedule



1. Select the zone.
2. Select **Odd Days**.
3. Select **Odd-31**.
4. Select your **Start Time**.
You have the option to schedule three start times.
5. Select your **Run Time**.

EXAMPLE
Zone 3 will water on every odd day beginning the 23rd October 2017. Every odd day it will water for 15 minutes starting at 7am. The 31st of any month will be skipped.

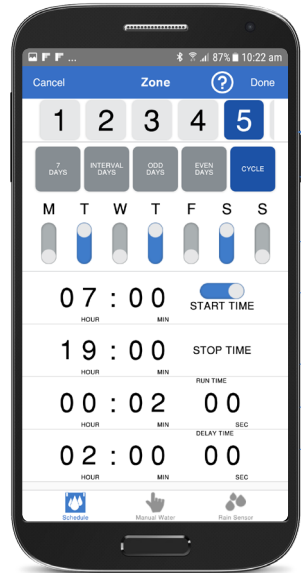
Even Days Watering Schedule



1. Select the zone.
2. Select **Even Days**.
3. Select your **Start Time**.
You have the option to schedule three start times.
4. Select your **Run Time**.

EXAMPLE
Zone 4 will water on every even day beginning the 22nd October 2017. Every even day it will water for 15 minutes starting at 7am.

Cycle Watering Schedule



1. Select the zone.
2. Select **Cycle**.
3. Select the day(s) you require.
4. Select your **Start Time**.
5. Select your **Stop Time**.
6. Select your **Run Time**.
7. Select your **Delay Time**.

EXAMPLE

Zone 5 will water on Tuesdays, Thursdays and Saturdays. It will start the cycle at 7am and finish at 7pm. During this time your watering will run for 2 minutes every 2 hours. This watering schedule option is great for misting greenhouses or green walls that require regular watering throughout the day.

Using the Cycle feature can drain battery life when the run and delay times are set at a high frequency. This should be taken into account when setting watering times. The Run and Delay times need to be set to at least 5 seconds when using Cycle scheduling.

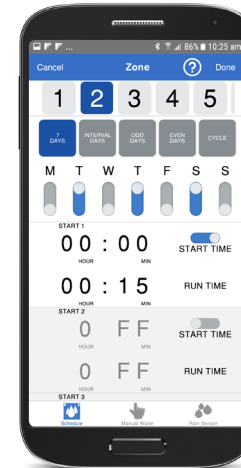
Syncing Start Times

If you need to schedule multiple zones to water throughout the day, you can sync your zone start times to run sequentially via the app.



STEP 1

1. Select the first zone.
2. Select the scheduling option that best suits your watering needs. In this example we are using **7 Days**.
3. Select the day(s) you require.
4. Select your **Start Time**.
You have the option to schedule three start times.
5. Select your **Run Time**.



STEP 2

1. Select the next zone you want to schedule.
2. Toggle **Start Time** button to **on**. Do not select a start time. The start time will automatically sync at the end of Step 3.
3. Select a **Run Time**.

Repeat this step for all other required zones.



STEP 3

1. Select the first zone.
2. Select the **Sync** button. The start times for all consecutive valves will now be populated.

EXAMPLE

Zones 1-2 will water on Tuesdays, Thursdays and Saturdays once a day. Zone 1 will start watering at 7am and water for 15 minutes. Zone 2 will automatically start watering when Zone 1 watering is complete – at 7.15am for 15 minutes.

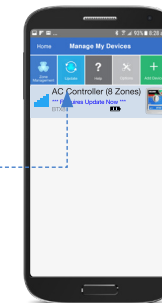
Saving your Schedule

When you have set the watering schedule via the app, you will need to save the schedule and update the controller to reflect the schedule settings.



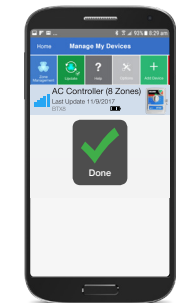
STEP 1

Set your schedule and press **Done**.



STEP 2

Ensure the corresponding controller is selected and press **Update**.



Your schedule is saved.

CONTROLLER INSTALLATION

Mounting the Controller

Install the controller near a 240V AC outlet. Preferably located 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.

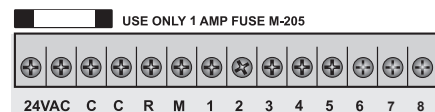
Fasten the controller using the key hole slot positioned externally on the top centre and the additional holes positioned internally under the terminal cover.

Electrical Hook-up

Warning

1. All electrical work must be carried out in accordance with these instructions following all applicable local, state and federal codes pertaining to the country of installation. Failure to do so will void the controller's warranty.
2. Disconnect mains power supply before any maintenance work to the controller or valves is undertaken.
3. Do not attempt to wire any high voltage items yourself (i.e. pumps and pump contactors or hard wiring the controller power supply to the mains). This is the field of a licensed electrician. Serious injury or death could result from improper hook up. If in doubt consult your regulatory body as to what is required.

Terminal Block Layout (8 zone example)



Field Wiring Connections

Preparation

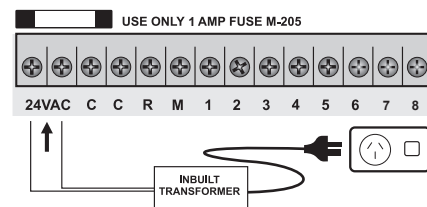
1. Prepare wire for hook-up by cutting the wires to the correct length and stripping approximately 0.25 inches (6mm) of insulation from the end to be connected to the controller.
2. Ensure terminal block screws are loosened sufficiently to permit easy access for wire ends. Insert stripped wire ends into the clamp aperture and tighten screws. Do not over tighten as this may damage the terminal block.
3. A maximum of 0.75 A may be supplied by any output. Check the inrush current of your solenoid coils before connecting more than two valves to any one zone. This can be done by using the Pump Protection (System Test) feature on page 14.

Power Supply Connections

Inbuilt transformer

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

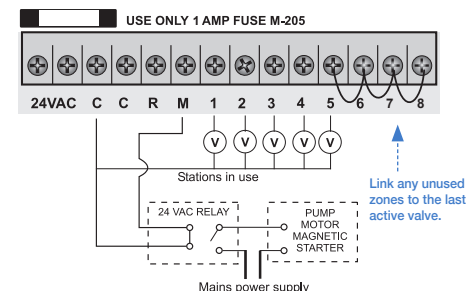
The inbuilt transformer must be installed in an area which is not exposed directly to the weather.



Pump Start Relay Connection (Water supply by pump system)

This controller does not provide mains power to drive a pump. A pump must be driven via an external relay and contactor setup as detailed below. The controller provides a low voltage signal that actuates the relay which in turn enables the contactor and finally the pump.

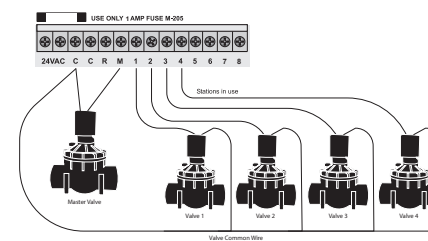
Single Phase Pump Installation



Note: It is recommended to always use a relay between the controller and the pump starter.

Master Valve Installation (Water supply off mains water)

The purpose of the master valve 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's used like a back-up valve or fail safe device and is installed at the start of the irrigation system where it is connected to the water supply line.



Zone Valve Installation

Up to two 24V AC solenoid valves can be connected to each zone output and wired back to the Common (COM) connector. When using long runs of cables, be aware that voltage drop can play a significant role, especially when more than one coil is wired to a single 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 you are using multiple valves per zone the common wire needs to be much larger as it needs 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.

Rain Sensor Installation

You can connect a rain sensor to the controller which will delay scheduled watering when it detects rainfall. You can enable the rain sensor and set how many days of watering will be delayed on the app.*

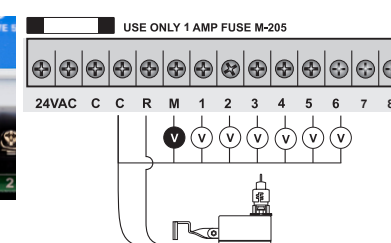
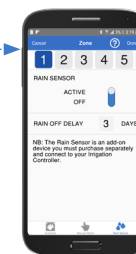
The sensor switch, accessed on the fascia, must be up in the ON position. To over-ride the sensor when it is wet, simply move the sensor switch down to the OFF position. This will allow automatic and manual watering cycles to operate.

Connecting the rain sensor wires:

- a) Remove the link connector by loosening both screws and slide out. (Link located under the terminal cover).
- b) Connect the two sensor wires into the terminal block and replace where the link was. Fasten one wire into C and the second to R.

Rain Sensor Installation

On the app, select the zone you wish to enable the rain sensor for. Switch toggle to 'Active'. Scroll to the number of days required to delay. Select 'Done'. Select 'Update' on the Manage My Devices screen. Repeat for other zones if necessary.



* The rain delay commences when the rain sensor dries out.

GLOSSARY

24 VAC: 24V AC power supply connection. **C:** Common wire connection to field wiring. **R:** Input for rain switch. **M:** Master valve or pump start output. **Z1–Z8:** Zone (valves) field connections.

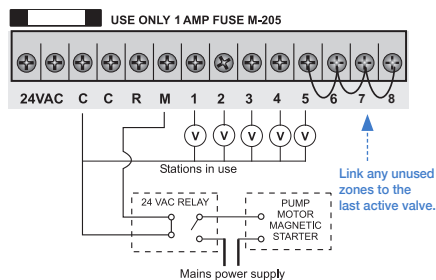
Pump Protection (System Test)

In some circumstances not all operational zones might be hooked up. For example, if the controller was capable of running 8 zones but there were only 6 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. In the above example this would mean zones 6 through to 8 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 the above example, the connector block should be wired as per the diagram below.



Electrical Power Supply: Input 24V AC 50/60 Hz
Electrical Outputs: Maximum of 1.0 A

To solenoid valves:

24V AC 50/60 Hz 0.75 A max

Up to 2 valves per zone on the inbuilt model.

To the master valve/pump start:

24V AC 0.25 A max

Transformer and fuse capacity must be compatible with output requirements.

Overload Protection: Standard 20mm M-205 1.0 A fast blow glass fuse, protects against power surges.

Power Failure

The BTX8 does not have a permanent memory. If AC and the 9V battery are not connected all programmed settings will be lost. The 9V Alkaline battery maintains the display during power outs, and can be used for remote programming where no AC power is available.

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

Servicing the Controller

The controller should always be serviced by an authorised agent.

Follow these simple steps to return the unit:

1. Turn the mains power OFF to the controller.
 - a) If the controller is hardwired, a qualified electrician will be required to remove the entire unit depending on the fault.
 - b) Proceed to either unplug and return the entire controller with transformer or disconnect the panel assembly only for servicing or repair.
2. Disconnect the 24V AC leads at the controller 24V AC terminals on the very left hand side of the terminal block.
3. Clearly mark or identify all valve wires according to the terminals they are connected to, (1-8). This allows you to easily wire them back to the controller, maintaining your valve watering scheme.
4. Disconnect valve wires from the terminal block.
- 5a) 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).
- b) Remove the complete controller from the wall unplugging the lead.
6. Carefully wrap the panel or controller in protective wrapping and pack in a suitable box and return to your service agent or the manufacturer.
7. Replace your controller panel by reversing this procedure.

Note: Tampering with the unit will void the warranty.

Fault Finding Guide

Symptom	Possible Cause	Suggestion
LED Lights are Red	9V battery is flat.	Replace 9V Battery.
Single zone not working	Faulty solenoid coil, or break in field wire. Check fault indicator in display.	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	Programming error or blown fuse or transformer.	If unit works manually then check the programming. If not then check the fuse, wiring and transformer.
Buttons not responding	Short on button or programming not correct. Unit may be in sleep mode and no AC power.	Ensure programming is correct. If buttons still not responding then return panel to supplier or manufacturer.
More than one zone coming on at once	Possible faulty driver triac.	Check wiring and swap faulty valve wires on the controller terminal block with known working zones. If the same outputs are still locked on, return panel to supplier or manufacturer.
Pump start chattering	Faulty relay or pump contactor.	Electrician to check voltage on relay or contactor.
Sensor input not working	Sensor enable switch in the OFF position or faulty wiring.	Slide switch on front panel to the ON position, test all wiring and make sure the sensor is a normally closed type. Check programming to make sure sensor is enabled.
Pump not working on a specific zone or program	Programming error with pump enable routine.	Check programming using the manual as a reference and correct mistakes.

WARRANTY

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

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

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

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

1. A copy of your original invoice.
2. A description of any fault.

It is the purchaser's responsibility to return the controller to the manufacturer or their agent by prepaid freight.



HEAD OFFICE / SERVICE

11 Walters Drive
Osborne Park WA 6017
Ph: +61 8 9416 9999
Fax: +61 8 9416 9920

VICTORIAN WAREHOUSE

Ph: 03 8335 4444
Fax: 03 8335 4414

Email: service@holmanindustries.com.au
www.holmanindustries.com.au

Copyright 2017 Holman Industries



BTX8

Instruction Manual

iPhone



iGardener

HOLMAN

11 Walters Drive, Osborne Park WA 6017
Ph: 1300 716 188
www.holmanindustries.com.au

WELCOME TO HOLMAN iGARDENER™

Holman presents to you the Smart Control gardener range. We have an ever increasing range of garden watering and irrigation control equipment that are controllable via your smartphone in both iOS and Android formats.

iGardener™ watering control products allow you to use your smartphone to control all the programming and interface functions on your tap timers or irrigation controllers.

Download the app at no cost and you will soon have total control of your garden watering.

Introduction

The Holman iGardener™ app allows you to control up to 8 controllers or tap timers. You are able to fully control upto 8 zones on the BTX8. Each zone can be individually scheduled to suit the exact watering schedule necessary for that zone.

Scheduling for each zone features 7 day watering, interval days, odd days and even days with the option of setting your run time in hours and minutes with up to 3 start times per day.

The BTX8 also features cycle scheduling, which allows a run time and delay time. For example, you could schedule a short burst of water to run for 1 minute every 20 minutes for 3 hours. The cycle feature is great for the Holman GreenWall and for operating misting systems.

Contents

SIMPLE SETUP

Downloading the App	3
Renaming your Controller	4
Unpairing the Controller	4
Manual Operation of the Controller	5
Manual Operation Via the App	5
Locking the Controller	5
Troubleshooting	6
Device Compatibility	6
BTX8 Features	6

OPERATING THE IRRIGATION APP

Key Functions	7
7 Day Watering Schedule	8
Interval Days Watering Schedule	8
Odd Days (-31) Watering Schedule	9
Even Days Watering Schedule	9
Cycle Watering Schedule	10
Syncing Start Times	10
Saving your Schedule	11

CONTROLLER INSTALLATION

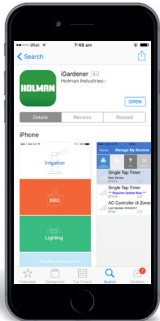
Mounting the Controller	12
Electrical Hook-up	12
Field Wiring Connections	12
Power Supply Connections	12
Pump Start Relay Connection (Water Supply by Pump System)	13
Single Phase Pump Installation	13
Master Valve Installation (Water Supply off Mains Water)	13
Zone Valve Installation	13
Pump Protection (System Test)	14
Servicing the Controller	14
Fault Finding Guide	15

WARRANTY

16

SIMPLE SETUP

Downloading the App



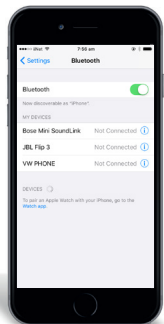
STEP 1

Download the app from the App Store by searching **iGardener**.



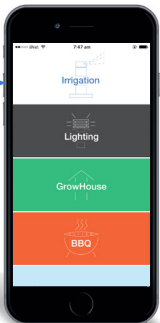
STEP 2

Install a 9V battery (located under the terminal cover). Ensure the controller dial is pointed to **Run & Connect**.*



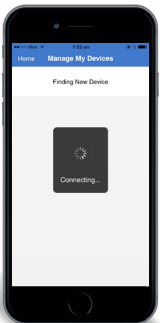
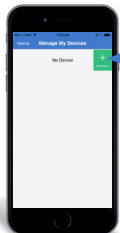
STEP 3

Turn on your Bluetooth on your smartphone and ensure your controller is connected to power. The tap timer won't show up in the My Devices list.



STEP 4

On the iGardener app navigate to **Irrigation** and press the **+** button to add your controller.



STEP 5

Wait until your controller is found. For security of your watering schedule each tap timer will only pair with one smartphone.



STEP 6

When your controller is found you are ready to set up scheduling. Select **Zone Management** to begin the setup. *If you have multiple controllers or tap timers connected, the device highlighted within the blue bar is the one you are scheduling.*

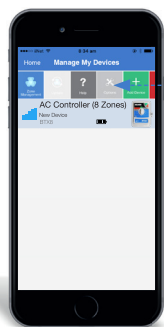


Ensure you check for iGardener app updates and keep the app up to date with the latest version. Not updating your app will limit its functionality.

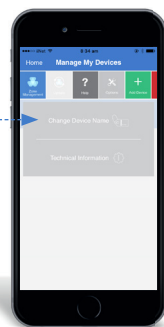
* The battery status is updated each minute. If you replace the battery it can take up to one minute for the battery status to update accordingly.

Renaming your Controller

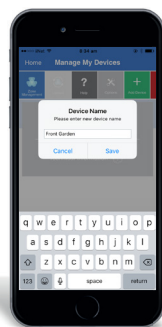
You can rename your controller to distinguish it from other controllers you may have installed. For example, you may have a controller operating the garden and lawns at the front of your house and a separate controller for the backyard.



Select **Options**.



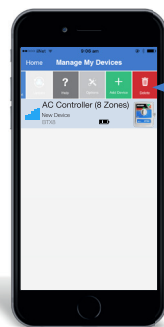
Select **Change Device Name**.



Enter your new name and press **Save**.

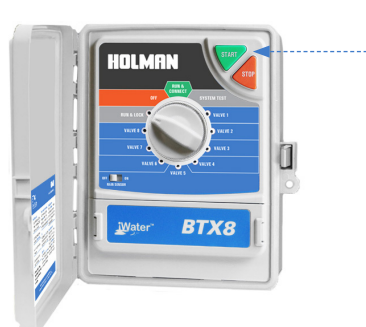
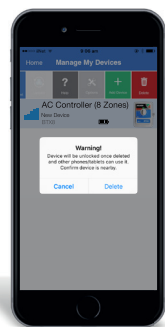
Unpairing the Controller

To connect the controller to a new smartphone you will first need to unpair it from the device it is currently paired to.



VIA THE APP

Slide the menu bar to the left and press **Delete**. This will remove your device from the controller allowing it to be paired with another device.



MANUALLY

Turn the dial to the **Run & Lock** position on the controller. Press and hold the **Start** button for 15 seconds. The controller is now unpaired.

To re-connect to the controller via the app, you will need to return the dial to Run & Connect.

WARNING: Disconnecting the power and removing the battery will reset all watering schedules.

Manual Operation of the Controller



OFF

Switching the controller to **Off** will postpone all scheduled automatic watering. *You can still use the Manual Water function on the mobile app.*



SYSTEM TEST

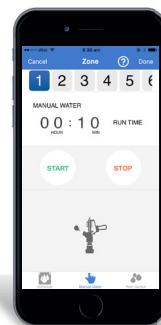
Switch the controller to **System Test** and press **Start**. Only zones with an active watering schedule (updated via the app to the controller) will run for the 2 minute sequential test cycle.



MANUAL OPERATION FROM CONTROLLER

Switch the controller to required zone and press **Start**. The zone will water for the run time setup in the Manual Water section of the app. The default is 1 minute.

Manual Operation via the App



Switch the controller to **Run & Connect**. Use **Manual Water** for a selected zone to start watering for the time entered as a one off event or for a selected zone to have a time set for a manual water from the controller.

To instantly stop a watering schedule in progress, press the **Stop** button under Manual Operation.

Locking the Controller

The BTX8 controller is automatically locked to only one device at a time. For security of your watering schedule the controller will only pair with one mobile device.



LOCKING THE CONTROLLER

Turn the dial to **Run & Lock**. The controller will run all automatic programs that have been loaded to it, but it cannot be accessed by any smartphone including the one it was originally paired with.

Troubleshooting

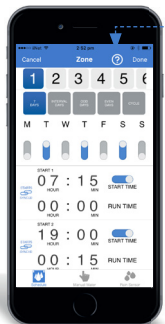
If the controller cannot be found

1. Ensure the controller is connected to power.
2. Ensure the smartphone is within the required 20m Bluetooth range.
3. Ensure there is no other smartphone currently paired with the controller.

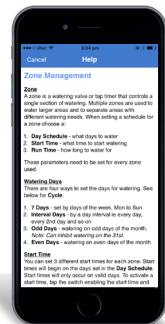
Accessing the Help screen via the app



ON HOME SCREEN
Select **Help** in scrolling menu.



ON ZONE MANAGEMENT SCREEN
Select the **Question Mark** icon in the blue section at the top of the screen.



Scroll through the Help screen.



The BTX8 is designed to be operated via the HOLMAN iGardener app. Without the app, the controller will be limited in functionality.

Device Compatibility

Apple

iPhone 7 Plus
iPhone 7
iPhone 5S

Samsung

Samsung S5
Samsung Note 3
Samsung S5 mini
Samsung S6
Samsung S7
Samsung S8

Google

Google Pixel

BTX8 Features

Zones: 8

No. of Starts per Program: 3

Watering Schedule: 7 Day, Interval, Odd, Even & Cycle

Season Adjustment: No

Permanent Memory: No

Real Time Clock: Yes

Current Sensing: No

Transformer: Inbuilt transformer

Housing Type: Outdoor with lid

DIY Friendly/ No Electrician Necessary: Yes

Keylockable: Yes

Master Valve/Pump Station: Yes

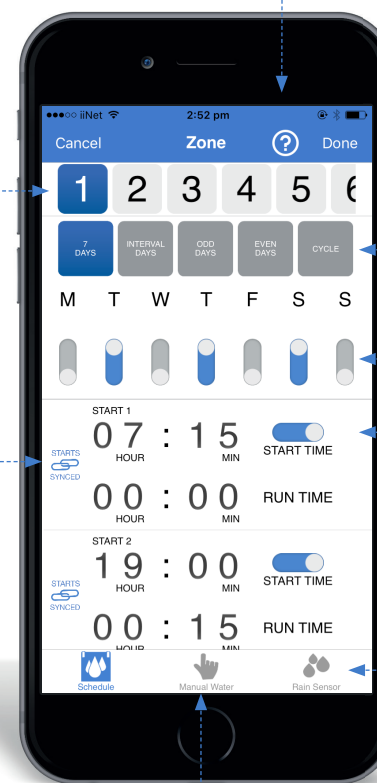
ON/OFF Rain Switch: Yes

Manual Operation: System Test, Single Zone Manual Water.



OPERATING THE IRRIGATION APP

Key Functions



ZONES

The numbers at the top are the zones. The one highlighted blue is the one you are scheduling. The numbers on the app correspond with the numbers on the terminal block. The controller refers to zones as valves.

HELP

You can access the help page throughout the app.

SCHEDULING OPTIONS

Select the scheduling option that best suits your required watering. The one highlighted blue is the one you have selected. You can have a different schedule per zone.

DAY SELECTION

Slide the toggle button if you want that day selected and down to de-select the day.

TIME SELECTION

You can schedule up to three start times with individual run times. Select a run time for each start time.

RAIN SENSOR

This allows you to turn the rain sensor on or off per zone and select an amount of days to delay the watering schedule.

The rain sensor is an accessory that is not included with the controller. Installation instructions on page 13.

MANUAL OPERATION

You can manually operate the selected zone by choosing a run time then pressing start and stop.

This will NOT override the automatic scheduling. If the zone is set to Cycle watering, then the Manual Water Run Time you choose will be the duration your Cycle will run for.

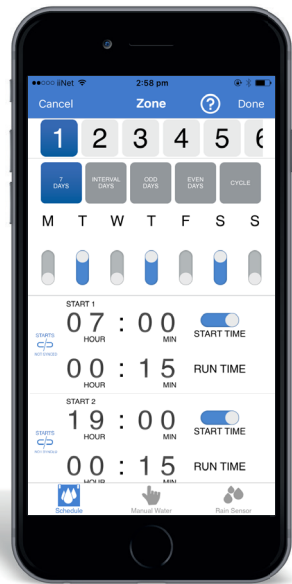
SYNCING START TIMES

You can sync your zone start times to run sequentially.



Please turn to page 10 for more information on how to use this feature.

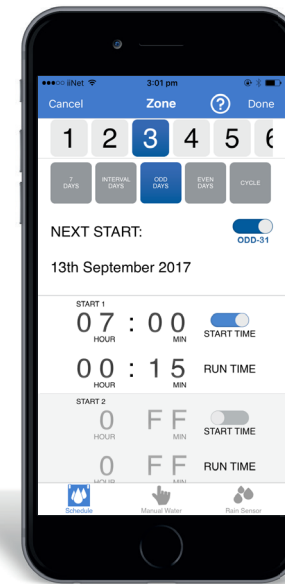
7 Day Watering Schedule



1. Select the zone.
2. Select **7 Days**.
3. Select the day(s) you require.
4. Select your **Start Time**.
You have the option to schedule three start times.
5. Select your **Run Time**.

EXAMPLE
Zone 1 will water on Tuesdays, Thursdays and Saturdays for 15 minutes at 7am and 7pm.

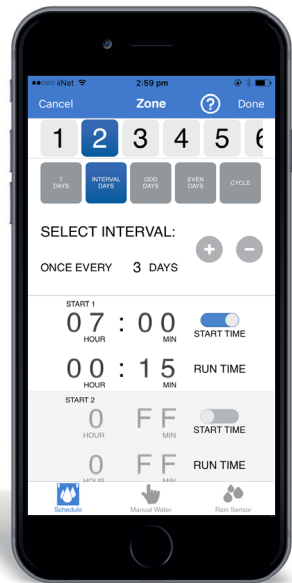
Odd Days Watering Schedule



1. Select the zone.
2. Select **Odd Days**.
3. Select **Odd-31**.
4. Select your **Start Time**.
You have the option to schedule three start times.
5. Select your **Run Time**.

EXAMPLE
Zone 3 will water on every odd day beginning the 13th September 2017. Every odd day it will water for 15 minutes starting at 7am. The 31st of any month will be skipped.

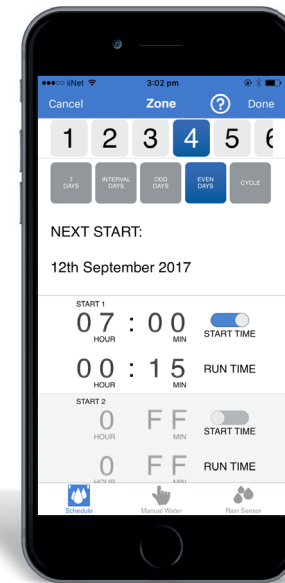
Interval Days Watering Schedule



1. Select the zone.
2. Select **Interval Days**.
3. Select the interval you require by pressing **+** or **-**.
4. Select your **Start Time**.
You have the option to schedule three start times.
5. Select your **Run Time**.

EXAMPLE
Zone 2 will water once every three days for 15 minutes at 7am.

Even Days Watering Schedule



1. Select the zone.
2. Select **Even Days**.
3. Select your **Start Time**.
You have the option to schedule three start times.
4. Select your **Run Time**.

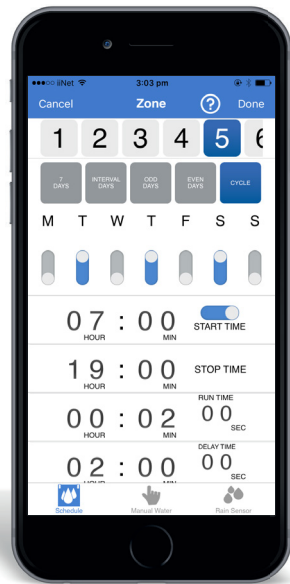
EXAMPLE
Zone 4 will water on every even day beginning the 12th September 2017. Every even day it will water for 15 minutes starting at 7am.

GLOSSARY

Run time: the duration you want to water for. **Start time:** the time you want your watering to begin.

Odd-31: Select this option when using the Odd Days function if you want to skip watering on the 31st of the month.

Cycle Watering Schedule



1. Select the zone.
2. Select **Cycle**.
3. Select the day(s) you require.
4. Select your **Start Time**.
5. Select your **Stop Time**.
6. Select your **Run Time**.
7. Select your **Delay Time**.

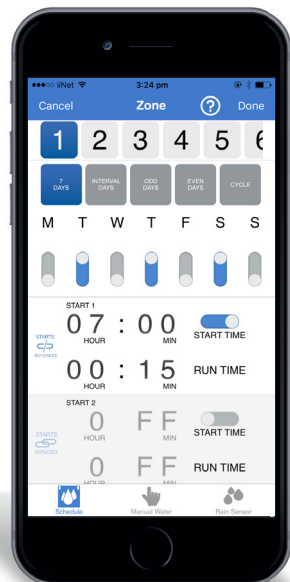
EXAMPLE

Zone 5 will water on Tuesdays, Thursdays and Saturdays. It will start the cycle at 7am and finish at 7pm. During this time your watering will run for 2 minutes every 2 hours. This watering schedule option is great for misting greenhouses or green walls that require regular watering throughout the day.

Using the Cycle feature can drain battery life when the run and delay times are set at a high frequency. This should be taken into account when setting watering times. The Run and Delay times need to be set to at least 5 seconds when using Cycle scheduling.

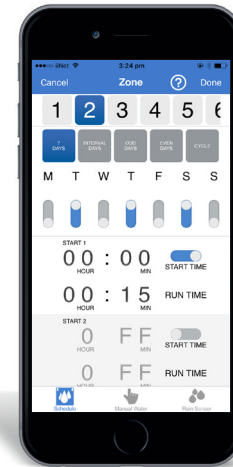
Syncing Start Times

If you need to schedule multiple zones to water throughout the day, you can sync your zone start times to run sequentially via the app.



STEP 1

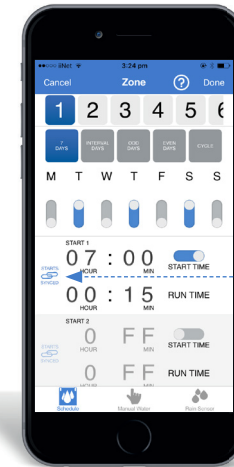
1. Select the first zone.
2. Select the scheduling option that best suits your watering needs. In this example we are using **7 Days**.
3. Select the day(s) you require.
4. Select your **Start Time**.
You have the option to schedule three start times.
5. Select your **Run Time**.



STEP 2

1. Select the next zone you want to schedule.
2. Toggle **Start Time** button to **on**. Do not select a start time. The start time will automatically sync at the end of Step 3.
3. Select a **Run Time**.

Repeat this step for all other required zones.



STEP 3

1. Select the first zone.
2. Select the **Sync** button. The start times for all consecutive valves will now be populated.

EXAMPLE

Zones 1-2 will water on Tuesdays, Thursdays and Saturdays once a day. Zone 1 will start watering at 7am and water for 15 minutes. Zone 2 will automatically start watering when Zone 1 watering is complete – at 7.15am for 15 minutes.

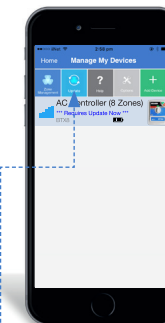
Saving your Schedule

When you have set the watering schedule via the app, you will need to save the schedule and update the controller to reflect the schedule settings.



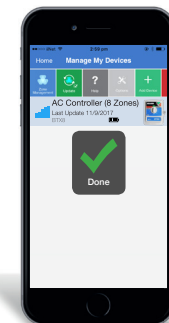
STEP 1

Set your schedule and press **Done**.



STEP 2

Ensure the corresponding controller is selected and press **Update**.



Your schedule is saved.

CONTROLLER INSTALLATION

Mounting the Controller

Install the controller near a 240V AC outlet. Preferably located 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.

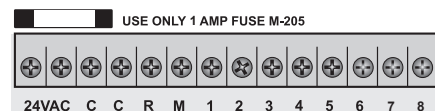
Fasten the controller using the key hole slot positioned externally on the top centre and the additional holes positioned internally under the terminal cover.

Electrical Hook-up

Warning

1. All electrical work must be carried out in accordance with these instructions following all applicable local, state and federal codes pertaining to the country of installation. Failure to do so will void the controller's warranty.
2. Disconnect mains power supply before any maintenance work to the controller or valves is undertaken.
3. Do not attempt to wire any high voltage items yourself (i.e. pumps and pump contactors or hard wiring the controller power supply to the mains). This is the field of a licensed electrician. Serious injury or death could result from improper hook up. If in doubt consult your regulatory body as to what is required.

Terminal Block Layout (8 zone example)



Field Wiring Connections

Preparation

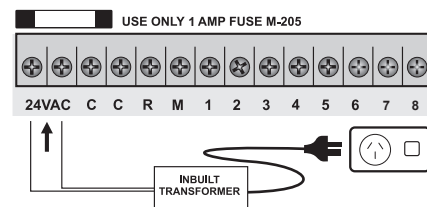
1. Prepare wire for hook-up by cutting the wires to the correct length and stripping approximately 0.25 inches (6mm) of insulation from the end to be connected to the controller.
2. Ensure terminal block screws are loosened sufficiently to permit easy access for wire ends. Insert stripped wire ends into the clamp aperture and tighten screws. Do not over tighten as this may damage the terminal block.
3. A maximum of 0.75 A may be supplied by any output. Check the inrush current of your solenoid coils before connecting more than two valves to any one zone. This can be done by using the Pump Protection (System Test) feature on page 14.

Power Supply Connections

Inbuilt transformer

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

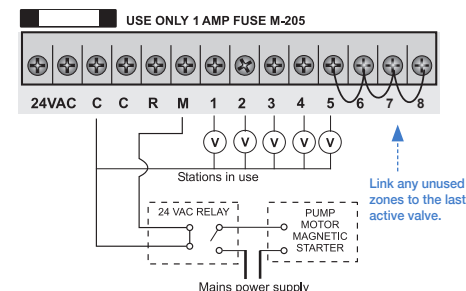
The inbuilt transformer must be installed in an area which is not exposed directly to the weather.



Pump Start Relay Connection (Water supply by pump system)

This controller does not provide mains power to drive a pump. A pump must be driven via an external relay and contactor setup as detailed below. The controller provides a low voltage signal that actuates the relay which in turn enables the contactor and finally the pump.

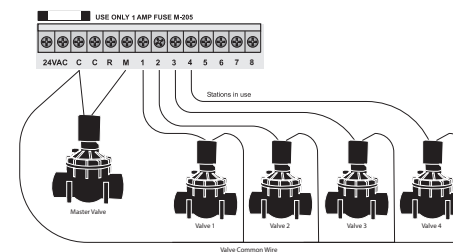
Single Phase Pump Installation



Note: It is recommended to always use a relay between the controller and the pump starter.

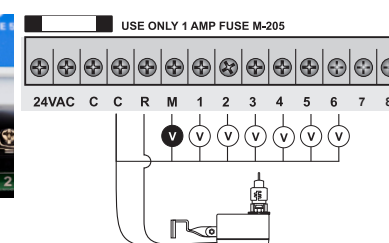
Master Valve Installation (Water supply off mains water)

The purpose of the master valve 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's used like a back-up 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 Installation

On the app, select the zone you wish to enable the rain sensor for. Switch toggle to 'Active'. Scroll to the number of days required to delay. Select 'Done'. Select 'Update' on the Manage My Devices screen. Repeat for other zones if necessary.



Zone Valve Installation

Up to two 24V AC solenoid valves can be connected to each zone output and wired back to the Common (COM) connector. When using long runs of cables, be aware that voltage drop can play a significant role, especially when more than one coil is wired to a single zone.

As a good rule of thumb select your cable as follows:

0–50m	0.5mm cable dia
50–100m	1.0mm cable dia
100–200m	1.5mm cable dia
200–400m	2.0mm cable dia

When you are using multiple valves per zone the common wire needs to be much larger as it needs 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.

Rain Sensor Installation

You can connect a rain sensor to the controller which will delay scheduled watering when it detects rainfall. You can enable the rain sensor and set how many days of watering will be delayed on the app.*

The sensor switch, accessed on the fascia, must be up in the ON position. To over-ride the sensor when it is wet, simply move the sensor switch down to the OFF position. This will allow automatic and manual watering cycles to operate.

Connecting the rain sensor wires:

- a) Remove the link connector by loosening both screws and slide out. (Link located under the terminal cover).
- b) Connect the two sensor wires into the terminal block and replace where the link was. Fasten one wire into C and the second to R.

GLOSSARY

24 VAC: 24V AC power supply connection. **C:** Common wire connection to field wiring. **R:** Input for rain switch. **M:** Master valve or pump start output. **Z1–Z8:** Zone (valves) field connections.

* The rain delay commences when the rain sensor dries out.

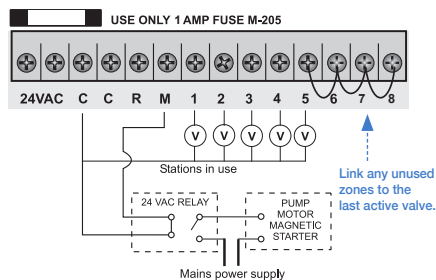
Pump Protection (System Test)

In some circumstances not all operational zones might be hooked up. For example, if the controller was capable of running 8 zones but there were only 6 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. In the above example this would mean zones 6 through to 8 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 the above example, the connector block should be wired as per the diagram below.



Electrical Power Supply: Input 24V AC 50/60 Hz
Electrical Outputs: Maximum of 1.0 A

To solenoid valves:

24V AC 50/60 Hz 0.75 A max

Up to 2 valves per zone on the inbuilt model.

To the master valve/pump start:

24V AC 0.25 A max

Transformer and fuse capacity must be compatible with output requirements.

Overload Protection: Standard 20mm M-205 1.0 A fast blow glass fuse, protects against power surges.

Power Failure

The BTX8 does not have a permanent memory. If AC and the 9V battery are not connected all programmed settings will be lost. The 9V Alkaline battery maintains the display during power outs, and can be used for remote programming where no AC power is available.

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

Servicing the Controller

The controller should always be serviced by an authorised agent.

Follow these simple steps to return the unit:

1. Turn the mains power OFF to the controller.
 - a) If the controller is hardwired, a qualified electrician will be required to remove the entire unit depending on the fault.
 - b) Proceed to either unplug and return the entire controller with transformer or disconnect the panel assembly only for servicing or repair.
2. Disconnect the 24V AC leads at the controller 24V AC terminals on the very left hand side of the terminal block.
3. Clearly mark or identify all valve wires according to the terminals they are connected to, (1-8). This allows you to easily wire them back to the controller, maintaining your valve watering scheme.
4. Disconnect valve wires from the terminal block.
- 5a) 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).
- b) Remove the complete controller from the wall unplugging the lead.
6. Carefully wrap the panel or controller in protective wrapping and pack in a suitable box and return to your service agent or the manufacturer.
7. Replace your controller panel by reversing this procedure.

Note: Tampering with the unit will void the warranty.

Fault Finding Guide

Symptom	Possible Cause	Suggestion
LED Lights are Red	9V battery is flat.	Replace 9V Battery.
Single zone not working	Faulty solenoid coil, or break in field wire. Check fault indicator in display.	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	Programming error or blown fuse or transformer.	If unit works manually then check the programming. If not then check the fuse, wiring and transformer.
Buttons not responding	Short on button or programming not correct. Unit may be in sleep mode and no AC power.	Ensure programming is correct. If buttons still not responding then return panel to supplier or manufacturer.
More than one zone coming on at once	Possible faulty driver triac.	Check wiring and swap faulty valve wires on the controller terminal block with known working zones. If the same outputs are still locked on, return panel to supplier or manufacturer.
Pump start chattering	Faulty relay or pump contactor.	Electrician to check voltage on relay or contactor.
Sensor input not working	Sensor enable switch in the OFF position or faulty wiring.	Slide switch on front panel to the ON position, test all wiring and make sure the sensor is a normally closed type. Check programming to make sure sensor is enabled.
Pump not working on a specific zone or program	Programming error with pump enable routine.	Check programming using the manual as a reference and correct mistakes.

WARRANTY

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

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

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

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

1. A copy of your original invoice.
2. A description of any fault.

It is the purchaser's responsibility to return the controller to the manufacturer or their agent by prepaid freight.



HEAD OFFICE / SERVICE

11 Walters Drive
Osborne Park WA 6017
Ph: +61 8 9416 9999
Fax: +61 8 9416 9920

VICTORIAN WAREHOUSE

Ph: 03 8335 4444
Fax: 03 8335 4414

Email: service@holmanindustries.com.au
www.holmanindustries.com.au

Copyright 2017 Holman Industries