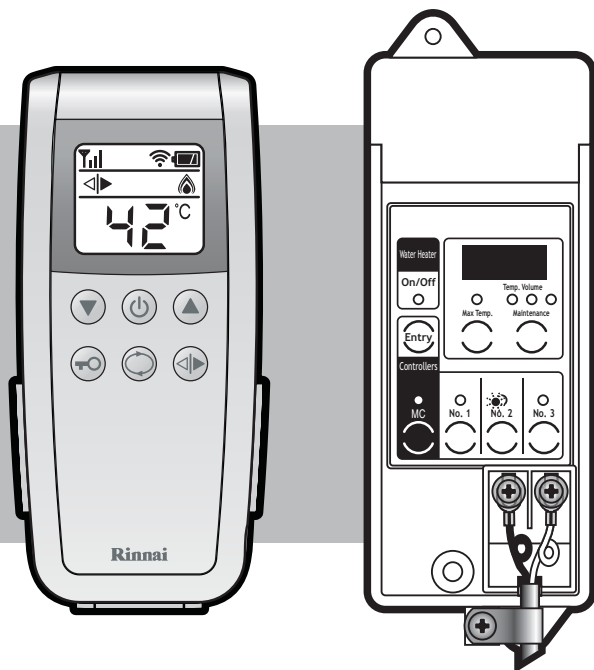


Rinnai

Operation / Installation Manual



Wireless Water Controller Model: MC-503RC

This manual applies **ONLY** to the Rinnai **MC-503RC** wireless water controllers and transceivers.

This manual does **NOT** apply to **MC-502RC** wireless water controllers and transceivers.

This manual must be used in conjunction with the Rinnai Water Heater Operation / Installation Manual supplied with Rinnai water heaters.

MC-503RC water controllers are compatible **ONLY** with Rinnai water heater and remote controller models shown.

Refer to the table on page 2 of this manual to confirm the maximum number and combination of controllers that can be fitted to your Rinnai water heater model.

For information regarding compatibility with other Rinnai water heater and water controller models contact Rinnai.

Compatible Rinnai water heater models:

INFINITY 32	REU-VR3237WG
INFINITY 26	REU-VR2626WG
INFINITY 26 Plus	REU-VRM2630WD
INFINITY 26i	REU-VR2632FFUG
INFINITY 20	REU-VR2024WG
INFINITY 16	REU-VR1620WG
ENVIROSMART	REU-KR2430WG
V1500	REU-VR2426WB
V1200	REU-VR1620WB
HD250e	REU-VRM3237WC
HD200e	REU-VRM2632WC
HD200i	REU-VRM2632FFUC

Refer to the inside front cover for additional Rinnai continuous flow water heater models covered by this manual.

Compatible Rinnai wired remote controller

Universal	MC-91Q
Deluxe Kitchen	MC-100V
Deluxe Bathroom	BC-100V

NOT compatible with Rinnai **MC-502RC** wireless remote controller and transceivers.

This wireless water controller and transceiver must be installed in accordance with the manufacturer's Installation Instructions.



The Australian
Gas Association
All Rinnai gas products
are A.G.A. certified.



N10378



Quality
Endorsed
Company

ISO 9001 Lic 4983
SAI Global

Head Office Certified

Distributed and serviced in Australia under a Quality
System certified as complying with ISO 9001 by
SAI Global

Certified
Product



WaterMark
AS3498 Lic W208
SAI Global



This manual applies to some additional Rinnai continuous flow water heater models not listed on the front cover of this manual.

The following table lists these additional models and their equivalent in terms of wireless controller operation.

Model not listed on the front cover	Equivalent model listed on front cover
REU-V3237WG	REU-VR3237WG
REU-V2626WG	REU-VR2626WG
REU-VM2630WD	REU-VRM2630WD
REU-V2632FFUG	REU-VR2632FFUG
REU-V2024WG	REU-VR2024WG
REU-V1620WG	REU-VR1620WG
REU-K2430WG	REU-KR2430WG
REU-V2426WB	REU-VR2426WB
REU-V1620WB	REU-VR1620WB
REU-V2024WE	REU-VR2024WG
REU-VM3237WC	REU-VRM3237WC
REU-VM2630WC	REU-VR2626WG
REU-VM2632FFUC	REU-VRM2632FFUC



Other Rinnai continuous flow water heater models that are not listed above are therefore not covered by this manual.

OPERATION MANUAL

IMPORTANT INFORMATION	1
INSTALLATION AND SERVICING	1
A WARNING ABOUT HOT WATER	1
RADIO COMMUNICATIONS	1
GENERAL WATER CONTROLLER INFORMATION	2
USING WIRELESS WATER CONTROLLERS.....	3
ABOUT THE WIRELESS WATER CONTROLLER (MC-503RC).....	3
TURNING ON THE WATER HEATER.	3
ADJUSTING TEMPERATURE	3
TRANSFERRING PRIORITY BETWEEN WATER CONTROLLERS.....	4
USING CHILD LOCK FUNCTION	4
WIRELESS WATER CONTROLLERS BATTERIES	5
SMARTSTART® PRE-HEAT OPERATION	6
ABOUT THE SMARTSTART® PRE-HEAT SYSTEM	6
TROUBLESHOOTING.....	7
ERROR CODES	7
SERVICE	7
INSTALLATION MANUAL	8
CONTACT INFORMATION	17

IMPORTANT INFORMATION

INSTALLATION AND SERVICING

Rinnai Wireless Transceivers can be connected to the water heater models listed on the cover page by the end user in accordance with these Instructions. A qualified tradesperson is not required.

Rinnai Wireless Transceivers are also compatible with some older water heater models not listed on the cover page of these Instructions. In this case they must be installed and commissioned by a suitably qualified trades person. Contact Rinnai for information regarding compatibility with older water heaters.

Regardless of water controller or transceiver installation, all Rinnai water heaters must only be installed by an Authorised person.

Water controllers, transceivers and water heaters do not contain user serviceable parts and must only be serviced and repaired by an authorised person.

Keep this manual in a safe place for future reference.

All dimensions referred to in this manual are in millimetres, unless otherwise specified.

A WARNING ABOUT HOT WATER



Excessively hot water is dangerous, especially for young children and the infirm. Rinnai water controllers allow you to control the temperature of hot water to safe levels.

Water temperatures above 50°C can cause severe burns. Those most at risk are children, disabled, elderly and the infirm.

ALWAYS.....

Test the temperature of the water with your elbow before placing your child in the bath, also carefully feel water before bathing or showering yourself.

Supervise children whenever they are in the bathroom.

Make sure that the hot water tap is turned off tightly.

CONSIDER.....

Installing child proof tap covers or child resistant taps (both approaches will prevent a small hand being able to turn on the tap).

Setting your appliance at a maximum temperature of 50°C (contact Rinnai Australia).

NEVER....

Leave a toddler in the care of another child. they may not understand the need to have the water temperature set at a safe level.

RADIO COMMUNICATIONS

Rinnai wireless water controllers are classified as short range radio communications devices and referred to as Low Interference Potential Devices (LIPD's) in AS/NZS 4268:2003*. As such, they operate in the same radio frequency spectrum as many other devices classified as LIPD's such as garage door openers and keyless automobile entry systems. Although interference with other LIPD's is unlikely, it is not guaranteed interference will not occur.

Rinnai wireless water controllers must not be used in the vicinity of other devices if radio interference with such devices could result in a dangerous situation, unless it is verified that interference will not occur. Possible examples are medical devices and fire alarms.

*AS/NZS 4268:2003 'Radio Equipment and systems – short range devices – Limits and methods of measurement'.

GENERAL WATER CONTROLLER INFORMATION



The MC-503RC Wireless water controller is a water resistant device, however excessive exposure to water such as immersion may result in damage to the controller.

- **DO NOT** immerse the controller into water.
- **AVOID** direct exposure to water or steam as these conditions may cause a malfunction.
- **ALWAYS AVOID** exposure to water when the battery compartment is open.

When cleaning your water controller use **ONLY** a damp cloth and a mild detergent.

Water controllers allow precise temperature control by the user. When used correctly, the hot water unit will deliver the selected temperature, even when the water flow is varied, or more than one tap is in use. Each remote controller can be individually programmed, however the water heater can only deliver one set temperature at any time. The available temperatures (°C) are as follows:

Master Controller (used in kitchen):

37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 50, 55°C* (60, 65°C HD models only)

Bathroom Controller (used in bathrooms, ensuites, toilets and laundry):

Hot Water Delivery: 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 50°C


Whilst hot water outlets are open the set temperature may be lowered. However the set temperature cannot then be raised above 43°C. In addition transfer of 'priority' between controllers is not possible. These are safety features.

Suggested temperatures are:

Kitchen 50°C ~ 55°C*, Shower 37°C ~ 43°C

** Temperature may not be available on all installations. Rinnai water heaters can be programmed to deliver higher temperatures via the kitchen controller. Contact Rinnai for more details.*

These temperatures are suggestions only. You may find higher or lower temperatures more comfortable. Maintaining lower temperatures helps save energy. To obtain water temperatures lower than 37°C simply add cold water.

The temperature of outgoing hot water is constantly monitored by a built-in sensor. If the temperature of the outgoing hot water rises to more than 3°C above the selected temperature shown on the digital monitor, the burner will automatically go out. The 'In Use'  indicator will also go out. The burner will ignite again once the outgoing hot water temperature falls to that shown on the digital monitor.

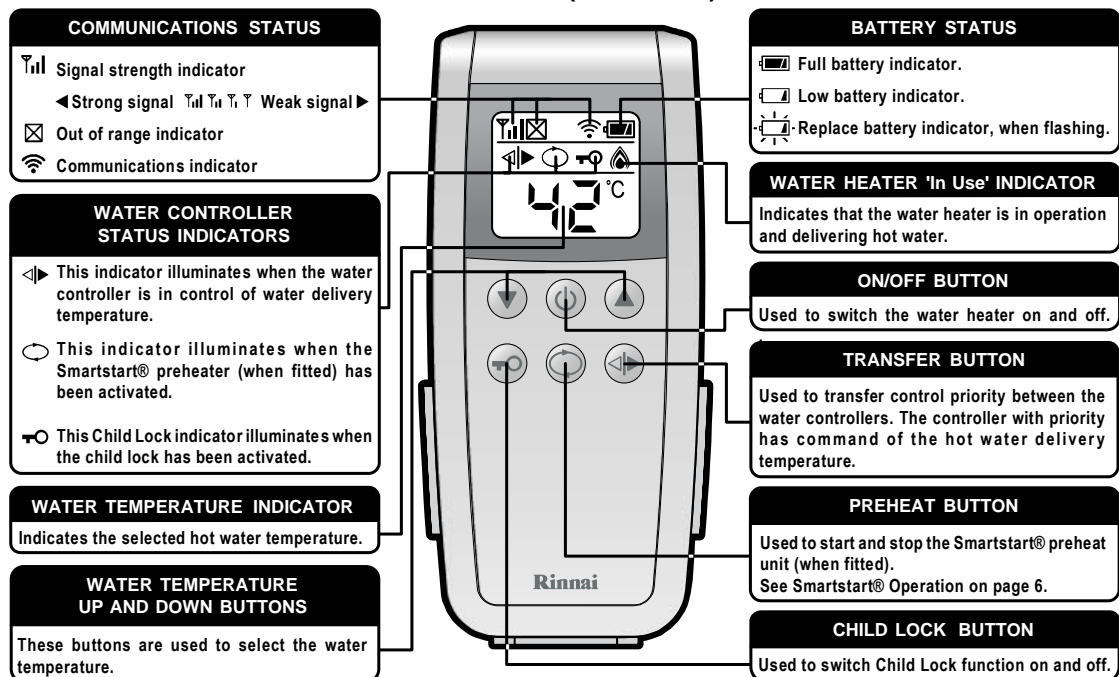
Wireless water controllers can be fitted along with wired 'Universal' and 'Deluxe' water controllers. Wireless and Universal water controllers allow temperature selection only. Deluxe water controllers allow temperature selection, have a clock function and on the Deluxe Bathroom water controller BC-100V a shower saver / bath fill function is also available.

Available configurations for Wireless and Wired Water Controllers :

For Wireless Only Installations	<p>A maximum of 4 wireless water controllers can be fitted with the following limitation:</p> <p>Only <u>ONE</u> MC-503RC can be set as the Master Controller.</p>
For Combination Wired & Wireless Installations	<p>A maximum of 4 water controllers can be fitted. Any combination of deluxe, universal and wireless controllers can be used with the following limitations:</p> <p>Only <u>ONE</u> master controller can be installed. This can be a MC-100V, a MC-91Q (when programmed as a master controller) or a MC-503RC water controller. Note that when a MC-100V is fitted it will always function as a master controller, this is the default setting and can not be changed.</p> <p>Up to <u>TWO</u> BC-100V water controllers can be installed.</p> <p>The <u>FOURTH</u> water controller in any installation MUST BE a MC-503RC or a MC-91Q.</p>

USING WIRELESS WATER CONTROLLERS

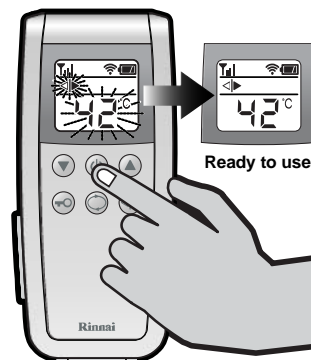
ABOUT THE WIRELESS WATER CONTROLLER (MC-503RC)



TURNING ON THE WATER HEATER.

When the water heater is in the 'Off' condition only the communications and battery status indicators are displayed T1 T2 T3 T4 on the digital monitor. To turn the water heater 'On', press the On/Off button once (if Child lock is activated see page 4). The communications indicator will briefly illuminate to confirm that a signal has been sent to the transceiver connected to the water heater.

The transfer indicator and the water temperature display will flash until communication between the controller and transceiver is complete. When the display stops flashing the water heater is ready to supply hot water.

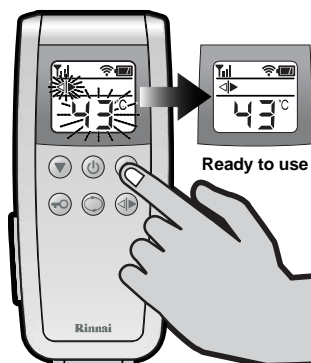


ADJUSTING TEMPERATURE

Simply press the 'hot water temp' ▲ or ▼ buttons until the required temperature is displayed on the digital monitor. The water temperature and any active status ◀▶ indicator will flash until communication between controller and transceiver is complete. **DO NOT** open the hot water tap until the flashing stops and the desired temperature is displayed.

To operate the water heater, open any hot water tap. This will automatically light the burner, providing hot water. The 'In Use' indicator will illuminate on the water controller.

Once the hot water is running, if the set temperature is either too hot or cold press the ▲ or ▼ buttons until the desired temperature is reached.

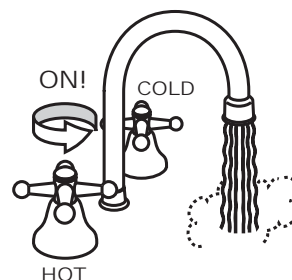


NOTE Whilst hot water outlets are open the set temperature may be lowered to a minimum of 37°C. For safety, it cannot then be raised above 43°C until all hot water taps are closed.

If the water heater is turned 'Off' whilst hot water taps are open it can not be turned back 'On' until all hot water taps have been closed.



CAUTION Always check water temperature at the outlet before use.
A parent or carer should always check the temperature before a child is placed in contact with hot water, see page 1.



USING WIRELESS WATER CONTROLLERS

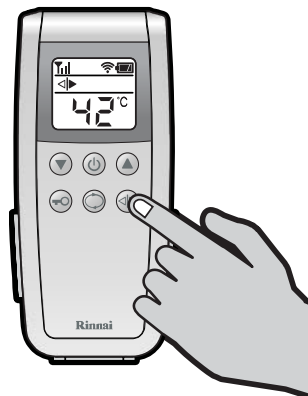
TRANSFERRING PRIORITY BETWEEN WATER CONTROLLERS

To control the water delivery temperatures when using two or more controllers it is necessary to have priority transferred to the water controller you wish to use.

An illuminated Transfer ◀▶ indicator confirms that the desired water controller is in control of the water delivery temperature.

If the Transfer ◀▶ indicator is not illuminated press the 'Transfer' ◀▶ button to transfer priority to the desired water controller.

The Transfer ◀▶ indicator on the water controller will now illuminate to indicating that priority has been transferred and that the water heater is ready to supply hot water once a hot water tap is opened.



Whilst hot water taps are open transfer of 'priority' between controllers is not possible. This is a safety feature.

HOT WATER CONTROL

Temperatures higher than 50°C should only be able to be selected on the controller labelled 'Master' controller (used in the kitchen), not on those labelled 'Bathroom' controllers. This helps minimise the risk of burns.

The wireless transceiver has been incorrectly assigned if temperatures in excess of 50°C are able to be selected on controllers used in bathrooms, ensuites, toilets and laundries. Re-assign the wireless transceiver if this is the case. See "UN-ASSIGNING AND RESETTING WIRELESS WATER CONTROLLERS" on page 14 and "INSTALLING WIRELESS WATER CONTROLLERS" on page 13

USING CHILD LOCK FUNCTION

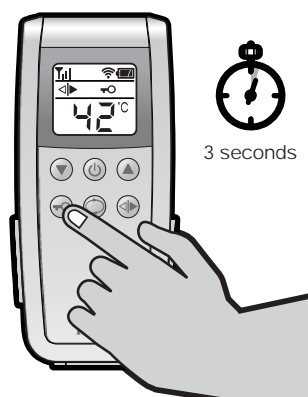
The Child Lock function is designed to prevent small children or the infirm from operating the wireless controllers.

To Activate the Child Lock

To activate the Child Lock function press the 🔒 button for 3 seconds. The Child Lock 🔒 indicator will illuminate to confirm that the function is now active. Once activated only the initiating controller can then deactivate this function?

To Deactivate the Child Lock

To deactivate the Child Lock function press the 🔒 button for 3 seconds. The Child Lock 🔒 indicator will go out to show that the function is no longer active.



Child lock only applies to the water controller initiating the function and can be activated / de-activated regardless of priority ◀▶ status or whether the water heater is in the 'On' or 'Off' condition.

While the child lock is activated only the 'Child Lock' 🔒 control and the 'Off' ⏻ control are functional from that controller.

When the water heater is turned 'Off' while Child lock is activated it can not be turned 'On' again from a controller where the Child lock is activated.

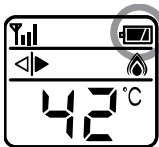
If the water heater is turned 'Off' whilst hot water outlets are open it can not be turned back 'On' until all hot water outlets have been closed.

Child lock is de-activated during a battery change or when batteries fail.

USING WIRELESS WATER CONTROLLERS

WIRELESS WATER CONTROLLERS BATTERIES

Wireless water controllers use 2 x 1.5V AAA batteries. The battery symbol in the display monitor indicates the remaining charge in one of three levels.



Battery charge level OK.

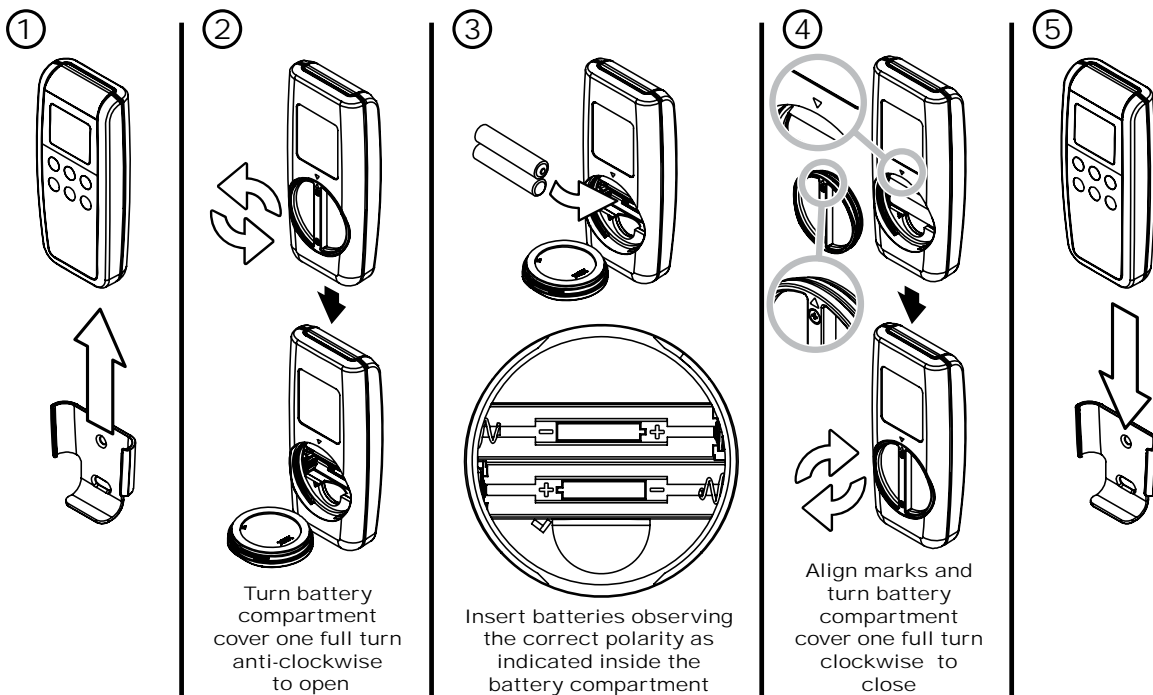
Battery charge level is low.

Batteries need replacing (when flashing)

To replace the batteries:

Before attempting to change the batteries first ensure that all moisture has been removed from the water controller. Failure to do so may allow water to enter the water controller causing damage.

1. Remove the controller from the wall mounting bracket.
2. To open the battery compartment turn the battery compartment cover a full turn anti-clockwise.
3. Insert the batteries observing the correct polarity as shown on the rear of the controller.
4. To close the battery compartment align the "Δ" and "▽" marks on the battery compartment cover and the controller body. Then turn the battery compartment cover a full turn clockwise to obtain the correct seal.
5. Return the controller to the wall mounting bracket.



Use only 2 x 1.5V AAA alkaline batteries.

DO NOT

- mix old and new batteries.
- use different types of batteries at the same time.
- heat or expose to flame.
- take apart or short circuit.
- attempt to recharge alkaline batteries.
- use batteries if their covering has been damaged or peeled off.

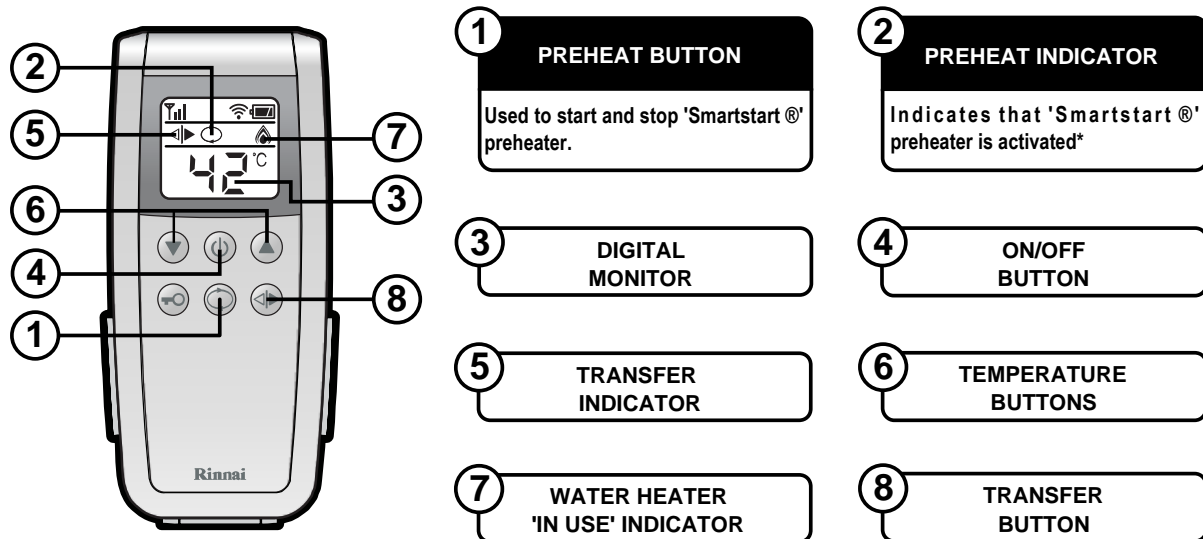
Battery life is approximately 1 year.

- Dispose of used batteries according to the manufacturers instructions.

Remove batteries if the remote control is not going to be used for a long period. This will help avoid damage from leaking batteries.

SMARTSTART® PRE-HEAT OPERATION

ABOUT THE SMARTSTART® PRE-HEAT SYSTEM



Preheat Function

The “preheat” function works in conjunction with various Rinnai water heater models and the separately installed and optional Rinnai “Smartstart®” module.

When the “preheat” function is activated and used in accordance with these instructions, water in the pipework connected between the water heater and the hot water outlets in your house is warmed before any outlets are opened. This results in water savings and added convenience.

The preheat function is activated as follows:

1. Ensure that the hot water unit is on (temperature digits are displayed in the digital monitor ③). If more than one controller is fitted press the ‘Transfer’ ⑧ button to pass on priority to your desired controller. The ‘Transfer’ ⑤ indicator will illuminate to confirm that priority has been assigned to this controller and that the hot water unit is ready to deliver hot water.
2. Select the desired temperature using the ‘Temperature’ ⑥ buttons until the required temperature is displayed in the digital monitor ③.
3. Press the ‘Preheat’ ① button once. The ‘preheat’ ② indicator and the ‘In Use’ ⑦ indicator will illuminate, signifying that the preheat system has been activated.
4. Wait approximately two minutes before opening an outlet. This will allow the water in the pipework to be warmed.



NOTE

The waiting time may be longer or shorter than two minutes depending on your particular installation configuration.

The preheat function is cancelled 5 minutes after activation and the ‘preheat’ indicator will go out. This is to conserve energy. To reactivate, simply repeat steps 2-4 above.

* If the ‘preheat’ button is pressed and the ‘Smartstart®’ preheat unit is not installed, the ‘preheat’ indicator will still light but there will be no preheat function. The ‘preheat’ indicator will go out after a short time and will not affect the other functions of the water controller or water heater.


Other Water Controller Functions

Water controller functions such as temperature control and transfer of priority between multiple controllers are not affected by the operation of the preheat. Such functions are described in the applicable sections of this manual.

TROUBLESHOOTING

ERROR CODES

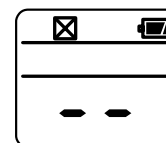
Your Rinnai Continuous Flow water heaters has a self diagnostic capability. If a fault occurs, an Error Code will flash on the digital monitor of your water controllers. This assists with diagnosing the fault, and may enable you to overcome a problem without a service call. Please quote the code displayed when enquiring about service. *Status Monitor available on Infinity 26 (REU-VM2630WD), HD250e, HD200e and HD200i models.

CODE	FAULT	REMEDY
	Wireless water controller is 'Out of Range' due to distance from transceiver or an obstruction.	Move wireless water controller or transceiver or remove the obstruction.
-	Noticeable reduction in water flow.	Inlet water filter needs to be cleaned. Service call.
03	Power interruption during Bath fill (Water will not flow on power reinstatement).	Turn off all hot water taps. Press On/Off twice.
10	Air intake or flue blocked.	Service Call.
11	No ignition / No gas supply.	Check gas is turned on at water heater and gas meter or cylinder.
12	Flame Failure / Low gas flow.	Check gas is turned on at water heater and gas meter or cylinder. Check there are no obstructions to the flue outlet.
14	Remaining Flame Safety Device.	Service Call.
16	Over Temperature Warning.	Service Call.
32	Outgoing Water Temperature Sensor Faulty.	Service Call.
33	Heat Exchanger Outlet Sensor Faulty.	Service Call.
34	Combustion Air Temperature Sensor Faulty.	Service Call.
52	Gas Modulating Valve Faulty.	Service Call.
61	Combustion Fan Failure.	Service Call.
65	Water Flow Control Faulty (Does not stop flow properly).	Service Call.
71	Micro-processor Failure.	Service Call.
72	Micro-processor Failure.	Service Call.
LC	Scale build-up inside the heat exchanger.	Service Call.

In all cases, you may be able to clear the Error Code simply by turning the hot water tap OFF, then ON again. If this does not clear the Error Code, try pushing the On/Off button OFF, then ON again. If the Error Code still remains, contact Rinnai for advice.

No power display

When power to the water heater is disconnected the LCD of all wireless water controllers will display as shown. Check that power is available, the water heater is plugged in and that the power point is turned 'on'.



Faults caused by insufficient gas supply, insufficient water supply, gas quality, water quality, installation errors or operation errors are not covered by the Rinnai warranty. Refer to the separate Warranty Conditions for full warranty details.

SERVICE

Wired and wireless water controllers, transceivers and water heaters do not contain user serviceable parts and must only be serviced and repaired by an authorised person.

Rinnai has a Service and Spare Parts network with personnel who are fully trained and equipped to give the best service on your Rinnai appliance. If your appliance requires service, please call our Hot Water Service Line. Rinnai recommends that this appliance be serviced every 3 years.

INSTALLATION MANUAL

INSTALLATION GENERAL	9
RINNAI WIRELESS WATER CONTROLLERS	9
GENERAL INSTALLATION INFORMATION	9
POSITIONING OF TRANSCEIVER AND WIRELESS WATER CONTROLLERS	10
COMMUNICATION CABLE	11
CONNECTING COMMUNICATION CABLES TO THE WATER HEATER	11
TRANSCEIVER INSTALLATION	12
MOUNTING THE TRANSCEIVER	12
CONNECTING COMMUNICATION CABLE TO THE WIRELESS TRANSCEIVER	12
SETTING THE MAXIMUM TEMPERATURE AT THE TRANSCEIVER	12
WIRELESS WATER CONTROLLER INSTALLATION	13
INSTALLING WIRELESS WATER CONTROLLERS	13
INSTALLING MULTIPLE WIRELESS WATER CONTROLLERS	14
TROUBLE SHOOTING WIRELESS WATER CONTROLLERS CHANNEL ASSIGNMENT	14
UN-ASSIGNING AND RESETTING WIRELESS WATER CONTROLLERS	14
INSTALLING WIRED AND WIRELESS WATER CONTROLLERS	14
MOUNTING THE WIRELESS WATER CONTROLLER	15

INSTALLATION GENERAL

RINNAI WIRELESS WATER CONTROLLERS

A wireless water controller installation utilises a 'transceiver' and up to 4 wireless water controllers. Unlike most remote control systems, there is 'two way' communication between the transceiver and controllers. The 'transceiver' is connected by electrical cable to the water heater. The 'transceiver' transmits control signals received from the wireless controllers operated by the user to the water heater. The 'transceiver' transmits operational 'status' signals from the water heater which are received by individual wireless controllers to ensure controller displays reflect the operational status of the water heater.

Wireless water controllers can be installed in conjunction with Universal and Deluxe wired water controllers and will function as described in the Operation Section of this manual. Refer to page 2 to confirm the maximum number and combination of water controllers that can be fitted.

Master and Sub controllers and temperatures

Only one wireless or wired controller can be designated the 'Master Controller' (MC). This controller is normally used in the kitchen and usually has a maximum temperature of 55°C, is sufficient for almost all kitchen applications. Temperatures higher than 55°C are possible but usually unnecessary and will result in higher gas use and increase the risk of burns. Some conditions regarding Master Controller maximum temperatures are as follows:

- Temperatures of 55°C or higher can only be selected on the controller designated as Master Controller (MC) if the transceiver 'Max Temp' is also programmed to 55°C or higher.
- The temperature of hot water delivered is always limited to the maximum temperature programmed into the water heater itself. For example, if the transceiver maximum temperature is programmed to 55°C and the water heater is limited to 50°C, the maximum temperature that the water heater will deliver is 50°C. In this case 55°C will be displayed on the wireless Master Controller until a tap is opened after which the display will revert to 50°C.



The water heater maximum temperature cannot be adjusted by the user.

These adjustments can only be carried out by a qualified and licensed tradesperson.

The remaining controllers are designated 'sub' controllers and are for use in bathrooms, toilets and laundries. The temperature limit for all 'Sub' controllers is always 50°C to minimise the risk of burns in these areas.

Adhesive labels are included for individual identification of wireless controllers as master (Kitchen) or sub (Bathroom No.) controllers. These labels are usually placed on the top back of the wireless water controller body.



Other manufacturers water controllers are NOT compatible with Rinnai water heaters. Water controllers MUST NOT be used with any Solar Boost water heater. Rinnai water controllers brought in from other countries are not compatible with Rinnai appliances sold in Australia.

GENERAL INSTALLATION INFORMATION

Rinnai Wireless Transceivers can be connected to the water heater models listed on the cover page by the end user in accordance with these Instructions. These water heaters contain the 'Ezi connect' cable connector and a qualified tradesperson is not required.

Rinnai Wireless Transceivers are also compatible with some older water heater models not listed on the cover page of these Instructions. Since older water heater models do not contain the 'Ezi connect' cable connector, wireless water controllers must be installed and commissioned by a suitably qualified and licensed tradesperson. Contact Rinnai for information regarding compatibility with older water heaters.



Regardless of water controller installation, all Rinnai water heaters must only be installed by an Authorised person.

Water controllers, transceivers and water heaters do not contain user serviceable parts and must only be serviced and repaired by an authorised person.

INSTALLATION GENERAL

POSITIONING OF TRANSCEIVER AND WIRELESS WATER CONTROLLERS

The water controllers must be installed in shaded and clean locations. The water controllers and the transceiver should be fitted out of reach of children (suggested height from floor to be at least 1500 mm).

The water controllers are water resistant, however, durability is improved when positioned outside the shower recess. The water controllers must be installed at least 400 mm above the highest part of a sink, basin or bath.



The MC-503RC Wireless water controller is a water resistant device, however excessive exposure to water such as immersion may result in damage to the controller.

- **DO NOT immerse the controller into water.**
- **AVOID direct exposure to water or steam as these conditions may cause a malfunction.**
- **ALWAYS AVOID exposure to water when the battery compartment is open.**

When cleaning your water controller use ONLY a damp cloth and a mild detergent.

The transceiver comes supplied with a 1.5m length of communications cable.

The transceiver's antenna is located in the top. For the best results mount the transceiver so the top of the transceiver is higher than the top of the water heater. If the transceiver is mounted to the side or below the water heater signal strength may be reduced.

The transceiver may be mounted inside metal recess boxes or pipe covers, however this may also reduce signal strength.

In some cases building construction and design can reduce signal strength and it may be necessary to locate the transceiver in a central location inside the building. For such conditions extended lengths of communication cable are available from Rinnai.



Alternatively two core sheathed (double insulated) flex with minimum crosssectional area of 0.5 mm² may be used. Maximum individual cable runs should not exceed 20m.

Take the signal strength into consideration when determining the best location for both the transceiver and the wireless water controllers.

COMMUNICATION CABLE

CONNECTING COMMUNICATION CABLES TO THE WATER HEATER

Communication cables connect the water heater to any wired water controllers and the wireless transceiver and operate at an extra low voltage (12 Volts DC) which is supplied from the water heater. Communication cables are supplied with the wired controllers (15m) and the transceiver (1.5m) and are fitted with spade terminals for connection to water heater. Up to two cables can be connected directly to the 'Ezi connect' cable connector at the water heater. Extension cables are available from Rinnai. Alternatively, two core sheathed (double insulated) flex with minimum cross sectional area of 0.5mm² may be used. Cable lengths must not exceed 20 metres.

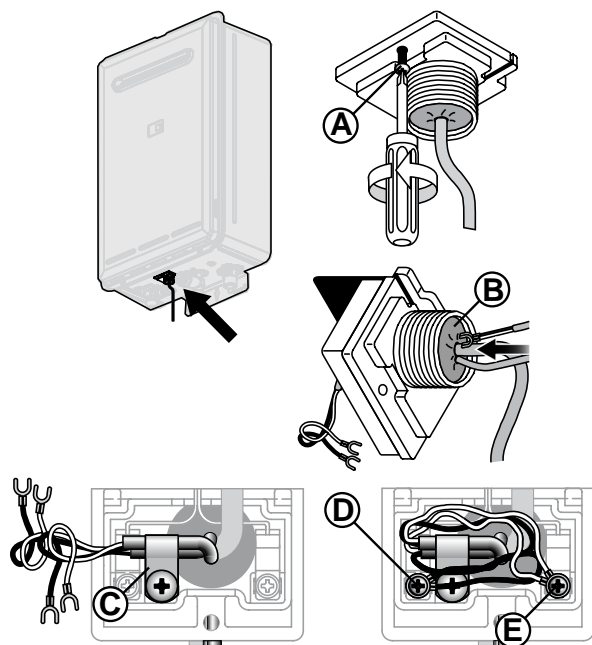


DO NOT attempt to connect cables to the 'Ezi connect' cable connector at the water heater unless the electric power to the water heater is switched 'off' otherwise damage to electrical components may occur.

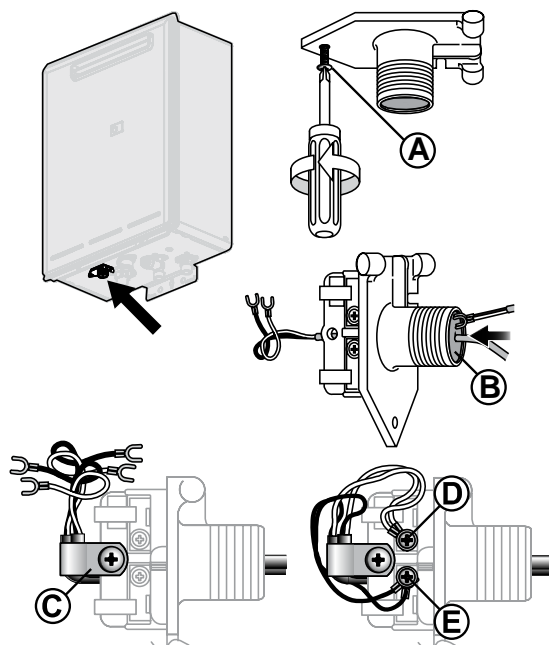
If your water heater is not fitted with an 'Ezi connect' cable connector, installation must be completed by a qualified and licensed tradesperson.

To connect up to two cables to the 'Ezi connect' cable connector

1. Isolate the electric power supply by switching the power point off and removing the power plug of the water heater from the electric power socket.
2. Remove the retaining screw **(A)** of the 'Ezi connect' cable connector at the base of the appliance.
3. Swing the 'Ezi connect' cable connector door open and thread the cable through the weather seal of the cable access hole **(B)** in the direction shown allowing sufficient cable length so that the sheath of the cable can be secured with cable clamp **(C)** supplied with the transceiver.
4. Loosen screw terminals **(D)** and **(E)** and connect the cable spade connectors to these terminals and re-tighten. Polarity is not important, either wire colour can be connected to either terminal.
5. Return the 'Ezi connect' cable connector to the original position taking care not to damage cable wires in the process and replace the retaining screw **(A)**.



'Ezi connect' cable connector for water heater models:
INFINITY 26, 26 Plus, 20, 16, V1500, V1200.
HD 200e (REU-VM2630WC).



'Ezi connect' cable connector for water heater models:
INFINITY 32, 26i, EVIROSMART
HD 250e, 200e (REU-VRM2632WC), 200i



To connect three or four cables to the 'Ezi connect' cable connector, consult the "CONNECTING WATER CONTROLLERS" section of the water heater Operation / Installation manual supplied with the water heater.

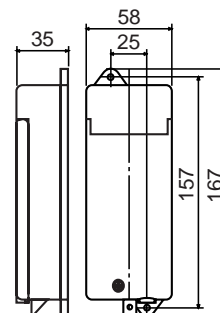
TRANSCEIVER INSTALLATION

MOUNTING THE TRANSCEIVER



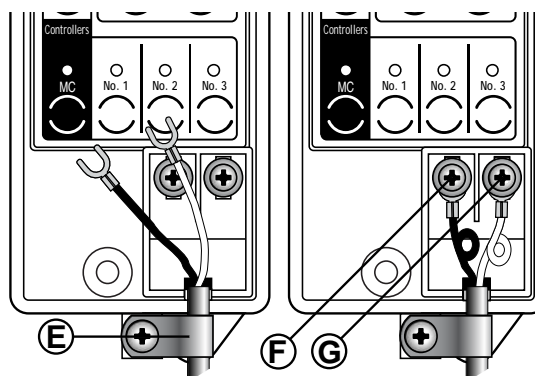
- The distance between the water heater and the transceiver must not exceed 20m.
- Metallic structures, appliances or magnetic fields in the vicinity of transceiver or wireless water controllers may reduce signal strength.
- Do not install transceiver near a heat source, such as a cook top, stove or oven. Heat, steam, smoke and hot oil may cause damage.
- The transceiver **MUST NOT** be installed where chemicals such as benzene, alcohol, turpentine, hydrogen sulphide, ammonia, chlorine or similar chemicals are in use.

1. Determine the most suitable position for the transceiver (see "POSITIONING OF TRANSCEIVER AND WIRELESS WATER CONTROLLERS" on page 10).
2. The transceiver can be mounted to the wall using suitable screws or mounted to the side of the water heater via the strip of adhesive tape glued to the back of the receiver case.
3. If the transceiver is to be wall mounted, use the screws and/or anchors provided. Avoid over-tightening of fixings as this may cause damage. **DO NOT** use powered tools to tighten fittings
4. If the transceiver is to be mounted to the side of the water heater perform the following steps:
 - a. Clean the side of the water heater where the transceiver is going to be mounted using a clean rag with some methylated spirits or alcohol.
 - b. Remove the paper strip from the adhesive tape glued to the back of the receiver case to expose the adhesive surface.
 - c. Push the adhesive surface to the side of the water heater in the desired location. Press the receiver into the side of the water heater for a couple of seconds to allow the adhesive to bind.



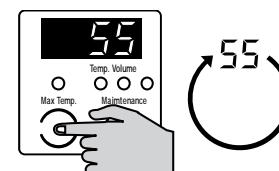
CONNECTING COMMUNICATION CABLE TO THE WIRELESS TRANSCEIVER

1. With the electric power supply still isolated, unscrew the transceiver access cover to reveal control keypad and terminals.
2. Thread the transceiver cable through the cable clamp (E), allowing sufficient cable length so that the sheath of the cable can be secured.
3. Loosen screws terminals (F) and (G) of the transceiver and connect the spade connectors of the cable to these terminals and re-tighten. Polarity is not important, either wire colour can be connected to either terminal.



SETTING THE MAXIMUM TEMPERATURE AT THE TRANSCEIVER

1. Ensure the power to the water heater is switched 'on'.
2. Set the transceiver's maximum water temperature to 55°C by pressing the 'Max Temp' button until 55 is displayed.



Refer to "Master and Sub controllers and temperatures" on page 9 for information regarding using of the maximum temperatures with wireless water controllers.

WIRELESS WATER CONTROLLER INSTALLATION

INSTALLING WIRELESS WATER CONTROLLERS

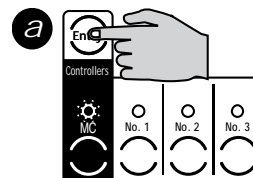


This installation procedure applies to wireless water controller installations only. For combined wired and wireless water controller installations refer to “INSTALLING WIRED AND WIRELESS WATER CONTROLLERS” on page 14.





Up to 4 wireless water controllers can be installed. Only one of these can be designated as a 'Master Controller' (MC), others will be designated as 'Sub' controllers.

Only one wireless water controller can be installed at a time. DO NOT insert batteries until step 3.

1. Ensure the power to the water heater is switched 'on'.
2. Press the 'Entry' button **a** on the transceiver for approximately 2 seconds to select a wireless controller channel for tuning. The first unassigned wireless controller channel LED will begin a fast flash, signifying that this channel has been selected for tuning.

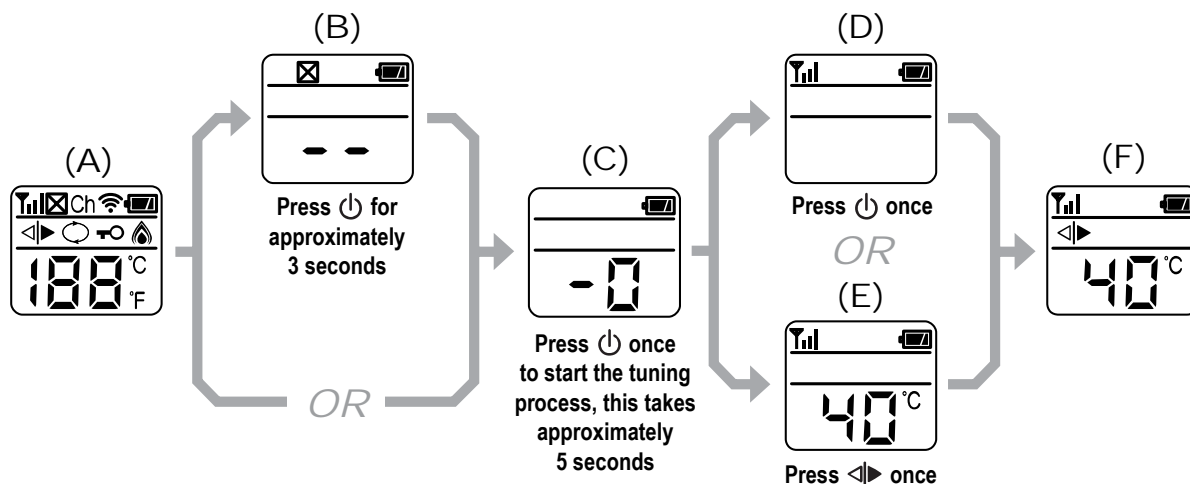
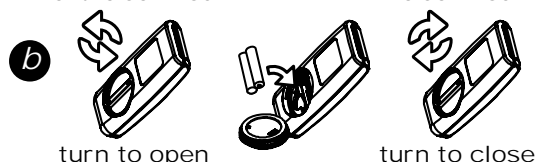


The default order of channel selection is as follows: → MC → No. 1 → No. 2 → No. 3 →
The wireless Master Controller is the only wireless controller capable of selecting maximum delivery Temperatures exceeding 50°C. Ensure that the Master Controller (Kitchen) label provided is placed on the top rear of the assigned controller.

3. Select a wireless water controller for tuning to the unassigned transceiver channel and remove the controller from it's wall mounting bracket. Open the battery compartment with a full turn anti-clockwise. Insert the batteries observing the correct polarity. Close the battery compartment with a full turn clockwise **b**
4. After battery installation the wireless controller will momentarily display an initialisation screen (A), which will then switch to screen (B) or (C).
5. If screen (B) is displayed press and hold the 'On/Off'  button until screen (C) is displayed. This takes approximately 2 seconds.
6. From screen (C) press the 'On/Off'  button once to start the tuning process which will take approximately 5 seconds. Once the controller is tuned the controller channel LED on the transceiver will become steady and the controller LCD will switch to screen (D) or (E).
7. From screen (D) press the 'On/Off'  button once or from screen (E) press the 'Transfer'  button once to complete the tuning of this channel. At this point screen (F) will be displayed by the controller. The wireless water controller is now tuned and ready to control the delivery temperature of the water heater.
8. Apply one of the self-adhesive identification stickers to the rear of the controller, ensuring that the Master Controller sticker is only applied to the wireless water controller tuned to channel MC.

Full turn
anti-clockwise

Full turn
clockwise



WIRELESS WATER CONTROLLER INSTALLATION

INSTALLING MULTIPLE WIRELESS WATER CONTROLLERS

To install subsequent wireless water controllers repeat steps 2 to 8 for each additional wireless water controller.

Once all wireless water controllers are installed re-secure the transceiver access cover.

TROUBLE SHOOTING WIRELESS WATER CONTROLLERS CHANNEL ASSIGNMENT

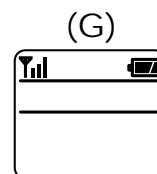
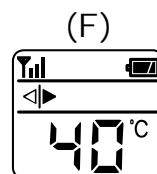
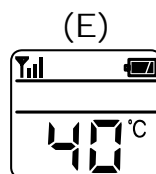
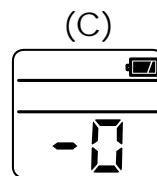
If at the end of the installation process screen (C) is displayed do the following:

Confirm first that the power is still on at the water heater.

If power is off turn it back on. If the channel has been correctly assigned then the display should show either screens (E), (F) or (G).

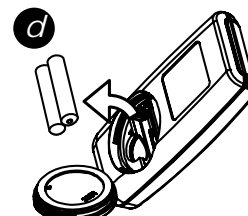
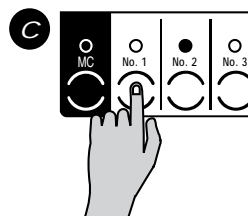


If screen (C) is still displayed un-install and reset the wireless controller and repeat the installation procedure.



UN-ASSIGNING AND RESETTING WIRELESS WATER CONTROLLERS

1. Press the desired controller channel button **(C)**.
The LED will go out to signify that this channel is now un-assigned.
2. Removing the batteries **(d)** from the wireless controller will reset the wireless controller and complete the un-install process.



INSTALLING WIRED AND WIRELESS WATER CONTROLLERS



When installing combinations of both wired and wireless controllers, all wired water controllers **MUST BE connected before the wireless water controllers are assigned to a transceiver channel.**

Refer to page 1 to confirm the maximum number and combination of water controllers that can be fitted

Wired water controllers can **ONLY be added to an existing wireless installation when:**

- All wireless transceiver channels have been un-assigned.
- All wireless controllers have been reset.

See “UN-ASSIGNING AND RESETTING WIRELESS WATER CONTROLLERS” above.

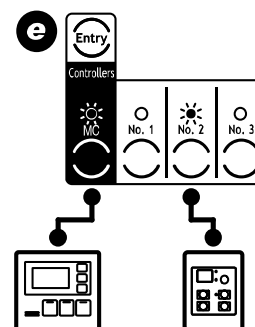
When the wireless transceiver is installed it automatically detects any wired water controllers already connected to the water heater.

The LEDs of the channels assigned to wired controllers **(e)** will slow flash. The channels for wired water controllers are assigned in sequence as follows:

MC100V or MC91 (programmed as a Master Controller) will automatically be assigned to the MC channel.

BC100V or MC91 (not programmed as a Master Controller) will automatically be assigned to an available channel other than the MC channel.

Install the wireless water controllers to any of the unassigned channels following steps 1 to 9 on page 13.





WIRELESS WATER CONTROLLER INSTALLATION


MOUNTING THE WIRELESS WATER CONTROLLER




- Metallic structures, appliances or magnetic fields in the vicinity of transceiver or wireless water controllers may reduce signal strength.
- Do not install wireless water controllers near a heat source, such as a cook top, stove or oven. Heat, steam, smoke and hot oil may cause damage.
- Do not install wireless water controllers in direct sunlight.
- Do not install wireless water controllers outdoors unless protection from dust ingress and sunlight are provided.
- Wireless water controllers **MUST NOT** be installed where chemicals such as benzene, alcohol, turpentine, hydrogen sulphide, ammonia, chlorine or other similar chemicals are in use.

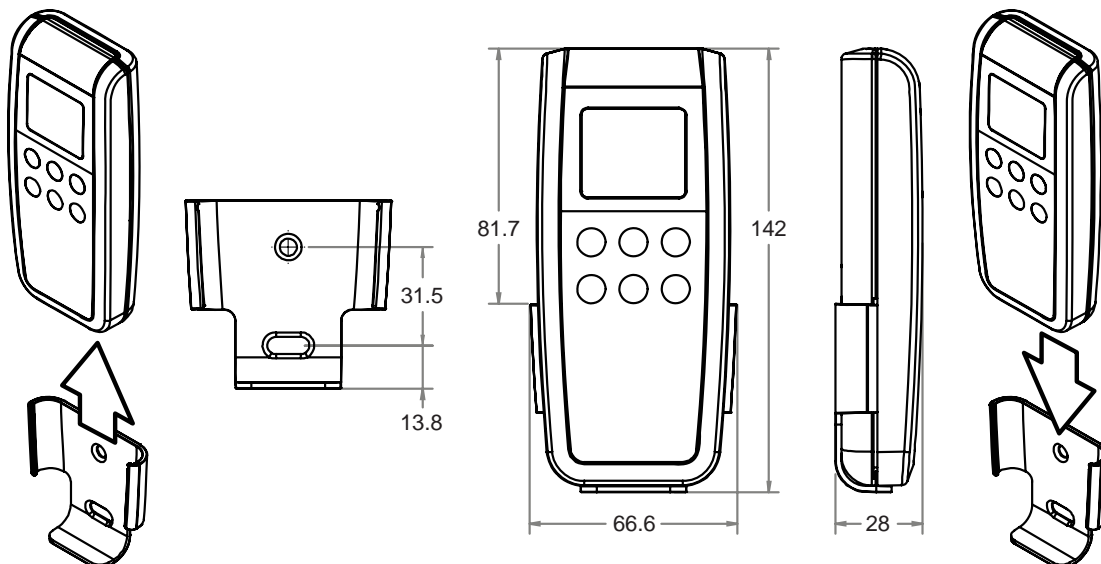
1. Determine the most suitable position for the water controller (see "POSITIONING OF TRANSCEIVER AND WIRELESS WATER CONTROLLERS" on page 7).

The 'Signal Strength'  indicator displays one of four levels. ◀ **Strong**  **Weak** ▶

The 'Out Of Range'  indicator displays when the wireless water controller is out of range of the transceiver or when an object is obstructing the radio signal.

Wireless water controllers should be positioned such that the signal strength indicator displays at least '2 bars' next to the antenna symbol  during installation. Signal strength varies with atmospheric and other conditions. If the signal strength is weaker than '2 bars' during installation, there may be other times when the signal is too weak to allow operation.

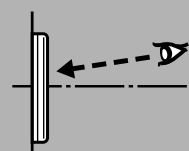
2. Slide the wireless water controller from its' wall mounting bracket.
3. Use the wall mounting bracket as a template to mark off and drill 2 holes for use with mounting fixings.
4. Secure the wall mounting bracket to the wall with the screws and or anchors provided. Avoid over-tightening of fixings as this may cause damage. DO NOT use powered tools to tighten fixings.
5. Slide the wireless water controller back into its' wall mounting bracket.



ADDITIONAL WATER CONTROLLER MOUNTING CONSIDERATIONS.

The MC-503RC uses a Liquid Crystal Display (LCD) for the digital monitor. Light reflections can make the LCD difficult to see at direct eye level.

For best results when installing the MC-503RC mount the remote controller lower than your eye-level to avoid these light reflections.



NOTES

Rinnai

Model: MC-503RC

Rinnai Australia Pty. Ltd. ABN 74 005 138 769

Head Office

10-11 Walker Street,
Braeside, Victoria 3195
P.O. Box 460
Tel: (03) 9271 6625
Fax: (03) 9271 6622

Rinnai has a Service and Spare Parts network with personnel who are fully trained and equipped to give the best service on your Rinnai appliance. If your appliance requires service, please call our Hot Water Service Line. Rinnai recommends that this appliance be serviced every 3 years.

Internet: www.rinnai.com.au E-mail: enquiry@rinnai.com.au

National Help Lines

Sales & Service

Tel: 1300 555 545* Fax: 1300 555 545*

Spare Parts & Technical Info

Tel: 1300 366 388* Fax: 1300 300 141*

**Cost of a local call Higher from mobile or public phones.*

Hot Water Service Line

Tel: 1800 000 340



Printed in Japan 2008.12