

**Rinnai**

# Rinnai Touch Wi-Fi Kit

## N-BW2 Installation Manual



APPLY MODULE  
IDENTIFICATION LABEL

HOME OWNER TO RETAIN FOR FUTURE REFERENCE



*Congratulations on the purchase of a Rinnai Touch Wi-Fi Kit that is compatible with Rinnai and Brivis home comfort systems, specifically Ducted Gas Heating, Dual Comfort (Add-On Refrigerated Cooling) or Evaporative Cooling systems with Wired Networker Controller.*

### **Important Note**

Read this manual carefully before installing or operating your Wi-Fi Module. Make sure to save this manual for future reference.

For reliable connection to the Wi-Fi module, router firmware and smart device software should be the latest version.

### **Terms and Conditions**

The Terms and Conditions are available when downloading the Rinnai Touch App used to connect with the Wi-Fi Module. Please read these carefully before proceeding.

### **Disclaimer**

**IMPORTANT NOTICE:** This document is a guide only. Laws, regulations and industry standards can vary between States and Territories. Accordingly, this guide must be read in conjunction with, and subject to, all laws, regulations and industry standards applicable in the State or Territory in which the products are installed. You must ensure that the installation of the products will comply with those laws, regulations and standards, and that the products recommended to customers are fit for the purpose for which they are intended.

### **Privacy Notification**

Rinnai Australia Pty Ltd will collect personal information when warranty and maintenance registration forms are completed.

This personal information is collected under the guidance of the Privacy Information Protection Act 1998.

The purpose of collecting this information is to:

- process customer requests for us to provide service activities;
- register purchases of equipment for warranty;
- register requests for a survey/quotation for heating, ventilation, and air conditioning goods and services.

The intended recipients of the information are:

- employees of Rinnai.
- federal and state governments who may require the information for administration purposes.

While the supply of the information is voluntary, if our customers cannot, or do not wish to provide the information sought, the company may not be able to provide the services requested. If information has already been provided, an application can be made for access or amendment of that information, or to request that it not be used. Customers have a right of access to, and correction of, the information concerning them in accordance with the relevant procedures under the Act.

Enquiries concerning this matter can be addressed to the Business Practices Officer using the “Contacts” on page 20.

With our policy of continuous improvement, we reserve the right to change, or discontinue at any time, specifications or designs without notice.

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**Table 1. Definitions**

Abbreviation	Description
N-BW2	N-BW2 Networker Bridge (Wi-Fi Module)
SSID	Service Set Identifier
WPA	Wi-Fi Protected Access
TCP	Transmission Control Protocol
AP	Access Point
MTSP	Multi-Temperature Set Point
STSP	Single Temperature Set Point
N-PM1	Zone Plus Power Module
NC-3	Networker Controller (pre 2010)
NC-6	Networker Controller (from 2012)
NC-7	Networker Touch Controller
NT-1	Networker Remote Temperature Sensor

**Shall**

Indicates a mandatory requirement of this manual.

**Should**

Indicates a recommended requirement of this manual.

Any deviations from these instructions may, at the discretion of the manufacturer, void the warranty. As a result, the customer and/or installer may be charged a fee for non-product warranty related call outs. Also note that failure to comply with these instructions may preclude company service personnel from being able to service the device.

**GLOSSARY**

**Default Access Point (AP) state.**

All N-BW2 Wi-Fi Modules are defaulted to this state when first powered on. When in this state only the Wi-Fi configuration mode is allowed. The default Access Point is the software state of the Module out of the box. Pressing and holding the AP button while the module is switched on will force the Wi-Fi Module to operate at these factory settings.

**Home Direct**

In this state the N-BW2 Wi-Fi Module operates as an access point which can be associated with the SSID and WPA passphrase defined by the user. When operating in this state a network router is not needed to access the Networker system. By default the N-BW2 Wi-Fi Module will operate in the Networker system access mode. Once configured, re-configuration of the N-BW2 Wi-Fi Module can only be performed by placing the module into its Default Access Point (AP) state.

**Router Mode**

In this state the N-BW2 Wi-Fi Module associates with a router, the SSID and WPA passphrase configured to match that of the router. This is the most common state the Wi-Fi Module operates in. By default the Wi-Fi Module will operate in the Networker system access mode but can revert to the Wi-Fi configuration mode. Once configured, re-configuration of the N-BW2 Wi-Fi Module can only be performed by placing the module into its Default Access Point (AP) state.

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## WARNINGS AND IMPORTANT INFORMATION



### **READ ALL INSTRUCTIONS BEFORE USING.**

Always comply with the following precautions to avoid dangerous situations and to ensure optimum performance.

Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

**DANGER:** Indicates an imminently hazardous situation which, if not avoided, will result in personal injury or death.

**WARNINGS:** Indicates a potentially hazardous situation which, if not avoided, could result in personal injury or death.

**CAUTIONS:** Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury or damage to the appliance. It may also be used to alert against unsafe practices.



### **WARNING.**

The Rinnai Touch Wi-Fi Module is supplied with a 12V DC Plug Pack Socket if required. Only this power supply must be used.

The Module must be installed indoors only. Installation must be performed by a qualified person and in accordance with local and national wiring laws.

The Module is **NOT** intended for use by persons (including children) with reduced physical, sensory or mental capacities, or lack of experience and knowledge unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

If any cables are damaged, they shall be replaced by the manufacturer or its service agent or similarly qualified person in order to avoid a hazard.

Stranded conductors shall not be consolidated by lead-tin soldering where they are subject to contact pressure.

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# 1.0 HARDWARE INSTALLATION

## 1.1 KIT CONTENTS

- N-BW2 Wi-Fi Module
- 12V DC Power Pack
- 20m Interconnecting Cable (for use with NC-7 only)
- Screws, Plugs and Mini Screwdriver
- Unique Module Identification Labels
- This installation manual (must be retained by the home owner).

## 1.2 COMPATIBILITY AND REQUIREMENTS

### Product Compatibility

Home Comfort Systems: Rinnai/Bravis Ducted Gas Heating, Dual Comfort (Add-On) or Evaporative Cooling system.

### Existing Wired Networker Controller

Rinnai/Bravis Networker Controller: NC-3, NC-6 or NC-7 Touch.

### Home System Requirements

Working Wireless Wi-Fi connection: 802.11b/g/n @2.4GHz  
(Security: WPA2) where applicable.

### Mobile Device

iOS 8 and Android 4.0.3 (API 15) or higher

## 1.3 SPECIFICATIONS

- Standard: IEEE 802.11b/g/n
- Antenna Type: Internal
- Frequency: Wi-Fi 2.4GHz
- Minimum & Maximum Operating Temperature Range: 0°C to 70°C
- Operating Relative Humidity: 10%–85%
- Power Input: DC 12V/300mA
- Location: Wi-Fi Module shall be within 10m of wireless router where applicable.

## 2.0 MODULE OVERVIEW

Figure 1. Operating Indicator (front view)

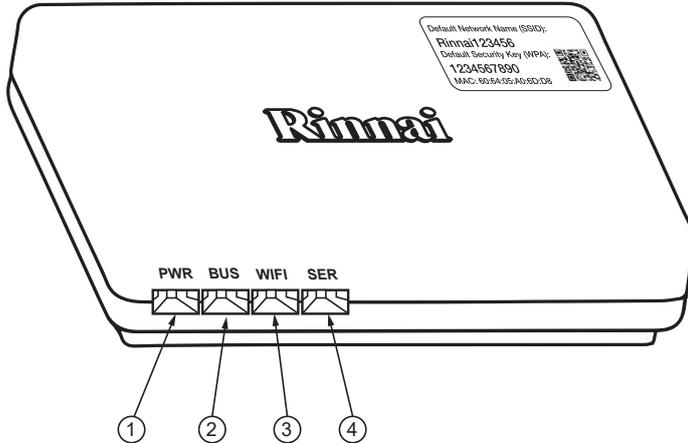
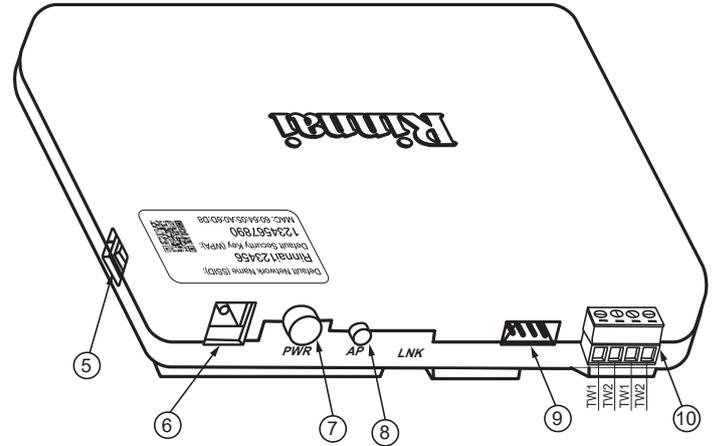


Figure 2. Operating Features (back view)



**Table 2. Operating Indicators**

FRONT VIEW		
1	PWR	Power on/Primary module operation indication
2	BUS	Networker system communication indication
3	Wi-Fi	Wi-Fi module operation indication
4	SER	Not used
REAR VIEW		
5	USB	Not used
6	Plug Pack Socket 12V DC	Supplied in the kit is a power adaptor which steps down the supplied voltage from 240VAC to 12V DC. The 12V DC terminal end inserts into the 'Plug Pack Socket' on the Wi-Fi Module. In NC-7 based systems if three or less NC-7 Touch controllers are installed the power adaptor is not required.
7	PWR	The Power ON/OFF button isolates power to the device, disabling system control through the App. The DC power supplied from the TW1 & TW2 terminals on the Wi-Fi module is not impacted from this power isolation.
8	AP	This button allows the Wi-Fi Module to be forced to its Default AP State. To do this follow the procedure as outlined below. <ol style="list-style-type: none"><li>1. Switch Power OFF to the Wi-Fi Module</li><li>2. Press the AP button.</li><li>3. While pressing the AP button, switch power ON to the Wi-Fi Module.</li><li>4. Keep pressing the AP button until the Wi-Fi LED flashes orange.</li></ol>
9	Networker NC-7 Touch Connection	When three or less NC-7 Touch controllers are installed the loom supplied with the Wi-Fi kit provides both the power and communication connections. One end of the 20m loom connects to the 'Touch Connection' socket on the Wi-Fi Module and the other to a spare socket on the NC-7 Interface Module in Figure 4 on Page 12.
10	2-Wire Bus Connections	The 2-wire bus connection terminal block facilitates 2-wire bus connection of heating/cooling appliances, NC-3/NC-6 Networker controls and NT-1 Sensors.

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## 3.0 PRE-INSTALLATION

The following sequence of tasks will assist with configuration and installation of your Wi-Fi module.

1. Position the Wi-Fi Module and install in accordance with Section 4.
2. Affix the loose supplied Unique Identification Label onto the backing plate of the Master Networker Controller. See Section 5.
3. Turn power onto your system.
4. Download the latest Rinnai Touch Owner's Manual from [www.rinnai.com.au](http://www.rinnai.com.au).
5. Download the Rinnai Touch App from the Apple Store or Google Play.
6. Launch the App and follow the prompts to install.

## 4.0 INSTALLATION

### 4.1 WI-FI MODULE LOCATION

The Wi-Fi Module shall be positioned in a waterproof environment within 10m of your wireless router (where applicable) to ensure reliable communication. If this distance is more than 10m the transmitting signal may be predisposed to interruption. Please consult your installer in the first instance if this issue is identified. The environment must not exceed a temperature of 70°C and relative humidity of 85%.

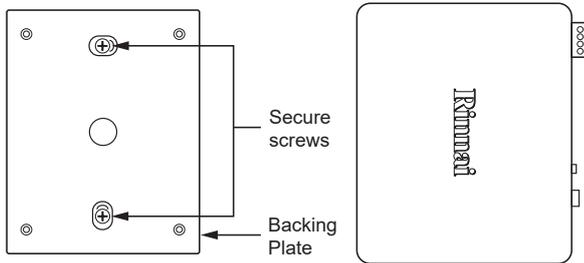


**The Wi-Fi Module **MUST NOT** be installed inside any appliance cabinet as this will adversely affect the Wi-Fi connection.**

## 4.2 SECURING THE WI-FI MODULE

With the supplied screws secure the Wi-Fi Module backing plate to a truss within the ceiling or joist beneath the floor. Figure 3 shows the recommended orientation of the Wi-Fi Module backing plate and Wi-Fi Module.

**Figure 3. Mounting Wi-Fi Module**



**NOTE** We recommend mounting to backing plate once configuration is complete. As once mounted, removal may be difficult.

## 4.3 ELECTRICAL CONTROL WIRING

Use “Figure 4. Control Configuration” on page 12 to determine the power requirements and control wiring configuration for your system.

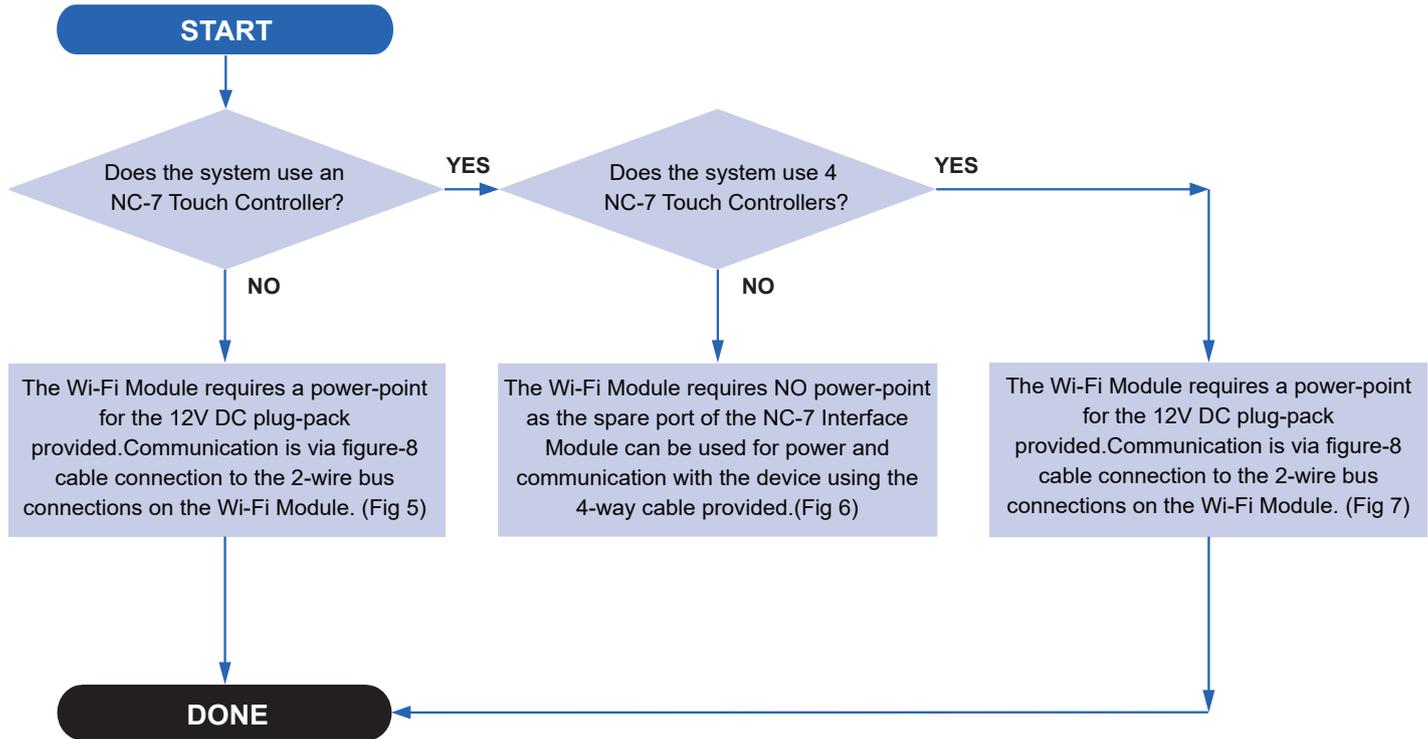
Once completed, with all power **OFF** to the system, connect the Wi-Fi Module as shown in Figures 5, 6 or 7. Once wiring of the system is complete the power should be turned **ON** in the below sequence:

1. 506 or 516 Zone Module (if connected)
2. Ducted Gas Heater, Evaporative Cooler or Add-On
3. N-PM1 Power Module (if connected)
4. Wi-Fi Module

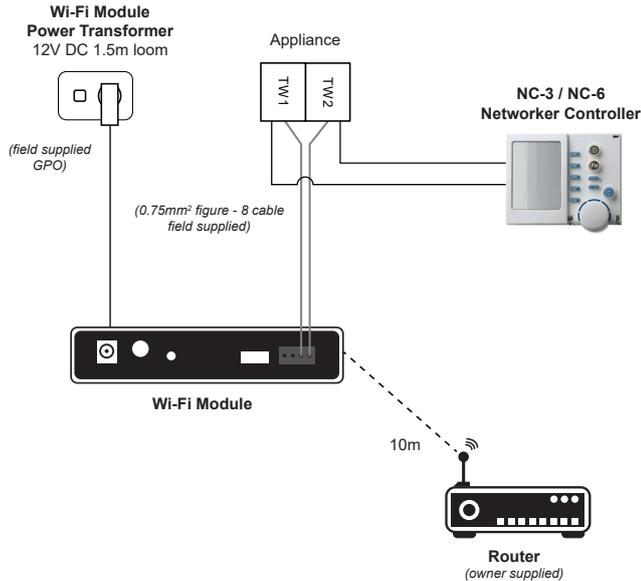


**NOTE** Every system must have at least one NC-3, NC-6 or NC-7 Master Controller. Other connected devices may include NC-3, NC-6, NC-7 and NT-1.

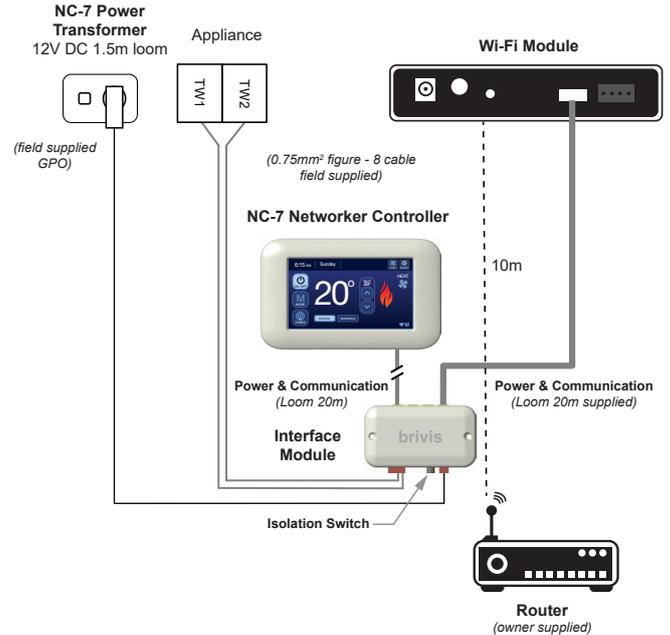
Figure 4. Control Configuration



**Figure 5. Up to two NC-3 or NC-6 controllers**



**Figure 6. Up to three NC-7 Touch controllers**

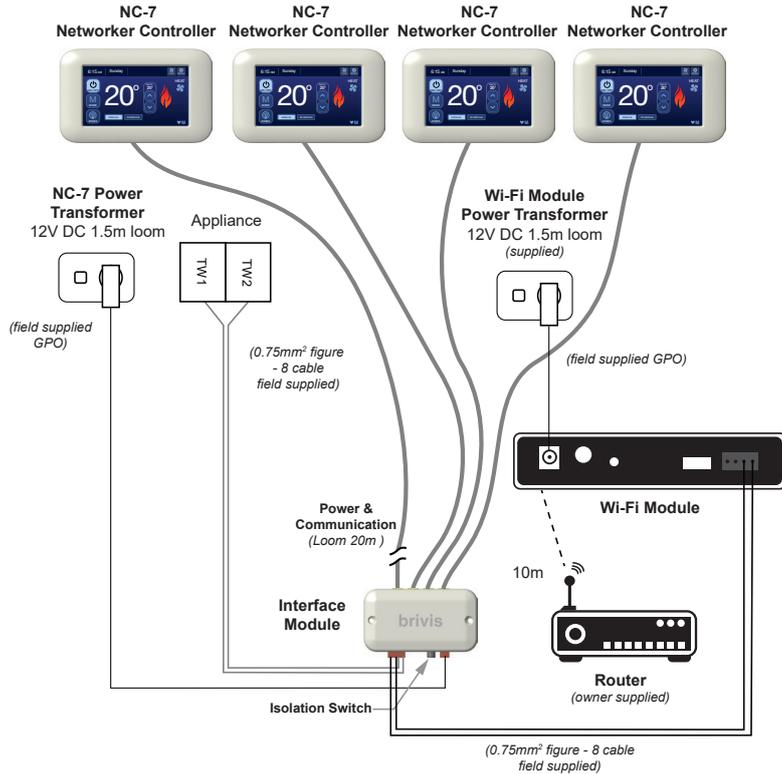


**NOTE** Every system must have at least one NC-3, NC-6 or NC-7 Master Controller. Other connected devices may include NC-3, NC-6, NC-7 and NT-1.



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**Figure 7. Four NC-7 Touch controllers**



**NOTE** Every system must have at least one NC-3, NC-6 or NC-7 Master Controller. Other connected devices may include NC-3, NC-6, NC-7 and NT-1.

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## 5.0 WI-FI MODULE UNIQUE IDENTIFICATION LABELS

The Touch Wi-Fi Kit contains three identical labels unique to the Wi-Fi Module.

- Label 1: Affixed to the Wi-Fi Module.
- Label 2: Affixed to the front cover of this Installation Manual (home owner to retain for future reference).
- Label 3: It is recommended that this label be affixed to the backing plate of the Wired Networker Controller configured as the Master.

## 6.0 POWERING ON

After you power on the Wi-Fi Module you will see various coloured indicators flashing.

**Table 3. Operating Indicators**

Operating Indicators	Colour	Indication	Description
PWR	<b>Power on/Primary module operation indication</b>		
	Orange	Flash Fast Continuous	Primary module is saving operational/configuration settings to memory.
		Solid	Primary module is clearing the configuration settings to their default values.
	Green	Flash Fast Continuous	Primary module is loading configuration settings from memory.
		Solid	Primary module is idle (indicates power on).
BUS	<b>Networker system communication indication</b>		
	Green	Flash Once	When a Networker System communication packet has been received.
Wi-Fi	<b>Wi-Fi Module operation indication</b>		
	Orange	Flash Fast Continuous	Wi-Fi Module is saving configuration settings to memory.
			Wi-Fi Module is configuring itself for Default AP state operation due to AP push button being pressed (on power up).
		Flash Slow Continuous	Wi-Fi Module is in the Default AP state with no client associated with it.
		Flash Once	Wi-Fi Module is in the Default AP state and a packet transfer has occurred.
		Flash 'N' Times Repeatedly	Wi-Fi Module has experienced a fault, the number of flashes indicates the fault. Refer to Table 4.
	Solid	Wi-Fi Module is waiting for switch over to the Default AP state after being in the Router Mode with no connection to the named router occurring for 3 minutes.	
	Green	Flash Fast Continuous	Wi-Fi Module is loading configuration settings from memory.
		Flash Slow Continuous	Wi-Fi Module is in the Home Direct Mode with no client associated with it OR in the user configured Router Mode and not associated with the named router.
		Flash Once	Wi-Fi Module is in the Home Direct/Router Mode and a packet transfer has occurred.
Solid		Wi-Fi Module is waiting for switch over to the Default AP state after being in the Router Mode for at least 3 minutes without being able to connect with the named router.	

## 7.0 WI-FI MODULE ERROR CODES

The Wi-Fi Module error codes will not disrupt operation of your appliance and may clear after some time. This error will remain visible on your App or Networker until your Wi-Fi Module resumes operation. Table 4 details the error number, description, flashes and corrective action. If you are unable to resolve the issue and if the problem persists contact Rinnai.

**Table 4. Error Description**

Networker Error Code	Wi-Fi Operating Indicator Flashes	Description	Corrective Action
<b>Error Code 50</b>	1	No configuration data detected.	Replace the Wi-Fi Module.
<b>Error Code 51</b>	3	Wi-Fi Module configuration error.	Check SSID/password entry otherwise replace the Wi-Fi Module.
<b>Error Code 52</b>	3	Wi-Fi Module connection error. Cannot connect to assigned router after 30 seconds.	The Wi-Fi Module will try to connect to the assigned router for 3 minutes. After 30 seconds if the assigned router is not located this error code is registered. Check router and check distance between router and Wi-Fi Module.
<b>Error Code 53</b>	N/A	The Wi-Fi Module has been forced to operate in its Default AP State because the assigned router could not be located.	This is the code to look for when the customer has changed their router. The Wi-Fi Module will operate in this mode for 2 minutes before switching back to trying to connect to the assigned router.
<b>Error Code 54</b>	N/A	The Wi-Fi Module has been forced to operate in its Default AP State because it is yet to be configured.	This is the code to look for when the customer has not configured their Wi-Fi Module yet. As such it will operate indefinitely in AP mode using its default SSID/password combination. There is no access to the networker system when in this mode.
<b>Error Code 55</b>	4	Internal type 1 communication error.	This error will not allow the Wi-Fi Module initial configuration or system access in-house. If problem persists replace the Wi-Fi Module.
<b>Error Code 56</b>	5	Internal type 2 communication error.	This error will not allow system access in-house. If problem persists replace the Wi-Fi Module.

Networker Error Code	Wi-Fi Operating Indicator Flashes	Description	Corrective Action
<b>Error Code 57</b>	2	Remote access error: Security type 1 error.	This error will not allow system access out of house. If problem persists replace the Wi-Fi Module.
<b>Error Code 58</b>	2	Remote access error: Security type 2 error.	This error will not allow system access out of house. If problem persists replace Wi-Fi Module.
<b>Error Code 59</b>	6	Remote access error: Server type 1 configuration error.	This error will not allow system access out of house. If problem persists replace the Wi-Fi Module.
<b>Error Code 60</b>	7	Remote access error: Server type 2 error.	This error will not allow system access out of house. If problem persists replace Wi-Fi Module.
<b>Error Code 61</b>	7	Remote access error: Server type 2 connection type 1 error.	This error will not allow system access out of house. If problem persists replace the Wi-Fi Module.
<b>Error Code 62</b>	7	Remote access error: Server type 2 connection type 2 error.	This error will not allow system access out of house. If problem persists replace the Wi-Fi Module.

**NOTE:** Some of these error codes will only display once the App has been downloaded and correctly configured.

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## 8.0 WARRANTY

### **WARRANTY: Rinnai Touch Wi-Fi Kit**

This product is warranted for a period of one (1) year from the date of purchase, in accordance with the Terms and Conditions of Warranty detailed below.

### **IMPORTANT – TO BE READ IN CONJUNCTION WITH THE TERMS AND CONDITIONS OF WARRANTY**

- The fitness for purpose of the Wi-Fi Kit and ensuring suitable Wi-Fi connectivity is the sole responsibility of the Qualified Installer and or Purchaser.
- The Wi-Fi Kit must be installed by a suitably Qualified Installer in accordance with local and national wiring codes, otherwise the warranty will be void.
- Always refer to the Installation and Owner's Manuals to ensure the correct installation and operation procedures have been followed.
- The Wi-Fi Module is to be installed indoors only; warranty excludes damage caused by the elements such as rain, wind, lightning, or harmful environmental conditions.
- Warranty on the Wi-Fi Kit is separate from the warranty on associated appliances, equipment and ancillary components.
- Before placing a warranty call, refer to the Troubleshooting Guide or FAQs listed in the Owner's Manual 'Connecting and Navigating the App' to assist in finding a resolution.
- For further information go to the Rinnai website, [www.rinnai.com.au](http://www.rinnai.com.au) and follow the Wi-Fi links.

The Rinnai logo consists of the word "Rinnai" in a white, bold, sans-serif font, centered within a red square.

**Rinnai Australia Pty. Ltd.**

ABN 74 005 138 769

100 Atlantic Drive, Keysborough, Victoria 3173

P.O. Box 460, Braeside, Victoria 3195

AU45204

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 National Help Line.

With our policy of continuous improvement, we reserve the right to change, or discontinue at any time, specifications or designs without notice.

**Product Sales & Service National Help Line**

Tel: **1300 555 545\*** Fax: **1300 555 655**

\*Monday to Friday, 8.00am to 5.30pm EST

For further information visit [www.rinnai.com.au](http://www.rinnai.com.au)  
or email [enquiry@rinnai.com.au](mailto:enquiry@rinnai.com.au)