Installation and Maintenance Manual

T9000 Wireless 24VAC Thermostat Remote Control Node (RCN)

For use with any Daikin unit that is able to utilize a standard, single-stage 24VAC remote wall thermostat

• T9000 Wireless RCN Assembly Kit Part No: 910108604

For use with Console Water Source Heat Pump Models WMHC & WMHW

• Heat Pump Kit Part No. 910193783

For Water Source Heat Pumps - Vertical Stack Models WVHC & WVHF

• Heat Pump Kit Part No. 910139783

T9000 Wireless RCN Assembly Kit No. 910108604

Console Model Heat Pump Kit Part No. 910193783

DAIKIN

Contents

Manufacturers Statement

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

This equipment complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The original equipment manufacturer (OEM) must ensure that FCC labeling requirements are met. This includes a clearly visible label on the outside of the final product enclosure that displays the following:

Contains FCC ID: TGD12200/IC: 6120A-12200

Safety Information

The installation of this equipment shall be in accordance with the regulations of authorities having jurisdiction and all applicable codes. It is the responsibility of the installer to determine and follow the applicable codes. This equipment is to be installed only by an experienced installation company which employs trained personnel.

⚠ CAUTION
Installation and maintenance is to be performed only by qualified personnel who are familiar with, and in compliance with state, local and national codes and regulations, and experienced with this type of equipment. Sharp edges and coil surfaces are potential injury hazards. Avoid contact with them.

⚠ DANGER
Disconnect all electrical power before servicing unit. Electrical shock will cause severe injury or death.

⚠ WARNING
To avoid electrical shock, personal injury or death: 1. Installer must be qualified, experienced technician. 2. Disconnect power supply before installation to prevent electrical shock and damage to equipment.

Introduction

The factory supplied Wireless Temperature Control Kit is a field installed option, which requires units set up for remote 24V thermostat control. The stand-alone kit consists of a unit-mounted Remote Control Node (RCN) assembly, and either a Daikin T9000 Wireless Programmable (#68898001) or Daikin T9000 Wireless Non-Programmable (#68898101) thermostat (Thermostats sold separately).

***Note:*** *No other thermostats will function with the T9000 RCN.*

RCN Installation

T9000 Wireless RCN Kit No. 910108604 – Parts Included

1. Metal RCN Housing Box
2. RCN
3. Bezel with Overlay

4. (8) Industrial Tape Strips
5. (4) Self-Tapping Screws

Tools Required

- Wire Strippers-Cutter
- Small Screwdriver
- 1/4" Hex Nut driver
- Low-Voltage Thermostat Wiring

1. Disconnect all power from the unit by: switching off power at the disconnect switch, circuit breaker or unplugging the power cord from the receptacle.

2. Remove the RCN housing assembly screws to access the control module & terminal strip.

3. Remove the RCN box top, bezel/overlay & control module as one piece.

Figure 1: Remove RCN assembly screws to access control module and terminal strip

Screw Locations (3)   Separated Assembly
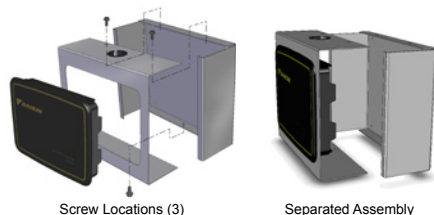
4. Attach the RCN housing back-plate to a temperature sufficient location.

   a. Attach RCN housing back-plate to a suitable location, preferably avoiding extreme temperature conditions and ranges.

Note: *If mounting the RCN to the Daikin HVAC product, be cautious when drilling holes, as not to damage any internal unit components.*

Figure 2: Mounting RCN box with screws
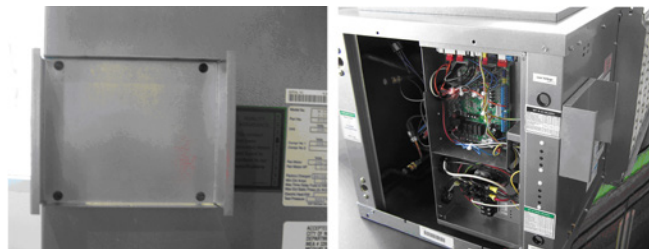
   b. Daikin has also provided double-sided industrial adhesive tape that may alternately be used to secure the RCN housing back-plate. Be sure to sufficiently clean both mating surfaces before applying the tape to achieve a longer-lasting bond. Usage of this fastening method may further limit the temperature range of the unit-mating surface.

Figure 3: Adhesive tape used to secure the RCN box
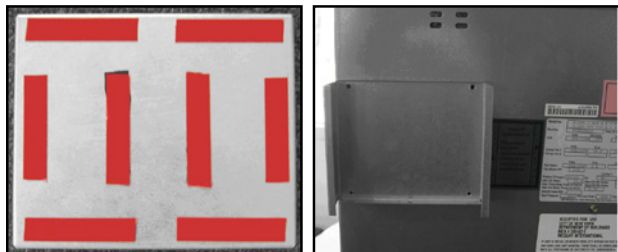
NOTICE

It is recommended that the terminal block on the RCN control module be removed when making terminal connections, to avoid excessive handling of the static sensitive RCN control module.

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5. Remove the green terminal block from the RCN control module, by pulling up & away from the control module.

Figure 4: Remove terminal block from RCN control module

6. Wire all appropriate terminals on the removed Remote Control Node terminal block (RCN), using appropriate lengths of field-supplied low voltage wiring. Make sure to follow all national and local code requirements when routing low voltage control wires.

7. Feed the stripped leads of the thermostat low-voltage wires through the bushing of the RCN housing, to connect to the unit control board or terminal strip/block.

Figure 5: Feed stripped wire leads through bushing on the RCN housing
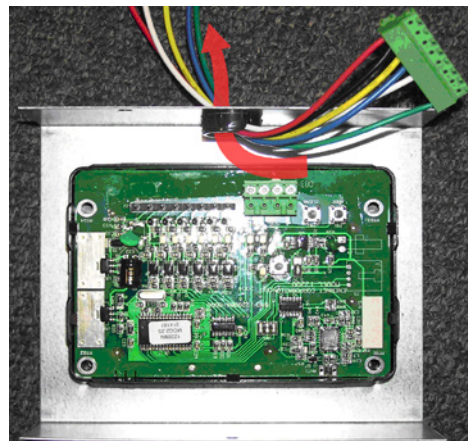
8. Remove screws and/or panels that will allow access to the inside of the unit control box, or locate the remote thermostat terminal strip/block, to connect the RCN to the unit control board.

9. Connect the stripped wire leads from the RCN assembly to the appropriate terminals on the unit control board or remote thermostat terminal strip/block.

Figure 6: RCN wire connections to the MicroTech III unit controller terminal plug
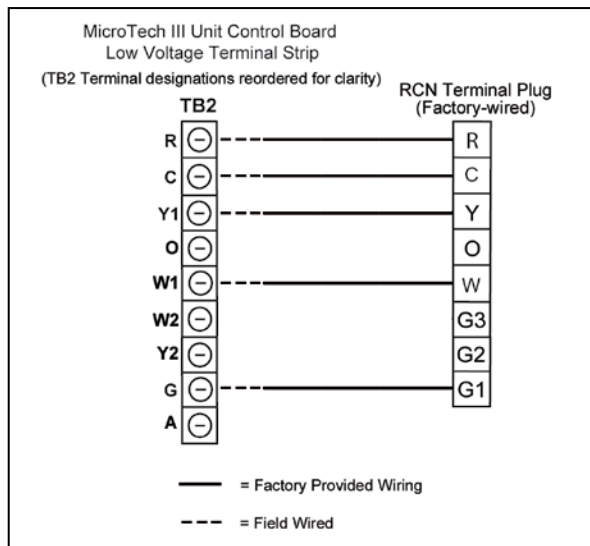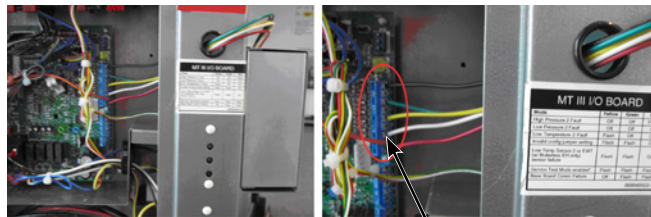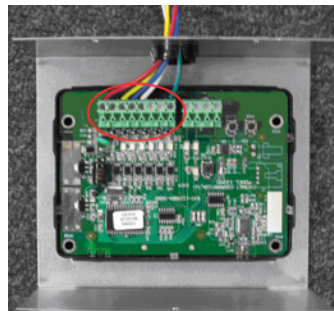

Figure 7: Connect wire leads from RCN to the appropriate terminals on the unit control board

Terminal connections on unit control board or remote thermostat strip/block

10. After making all wire connections, plug the RCN terminal block back onto the RCN board, opposite of removal, in step 5.

Figure 8: Plug the RCN terminal block back onto RCN board

11. Power must be restored to the unit in order for the RCN to be linked to the T9000 Wireless Thermostat, or if the RCN is to be custom programmed.

Notes:

1. *Refer to ""RCN Configuration Table for All WSHP Units" on page 14 for instructions on how to link the RCN(s) to a T9000 Wireless Thermostat.*

2. *Refer to ""RCN Configuration Table for All WSHP Units" on page 14. for instructions on how to program the RCN.*

12. After the RCN has been linked with a T9000 Wireless Thermostat, and any RCN application-configuration programming is completed; re-attach the RCN box top (with bezel, overlay, wire harness & control module) to the unit-mounted RCN back plate, with the 3 previously removed screws (2-top/1-bottom) from step 2.

Figure 9: Re-attach the RCN box top to the RCN back-plate
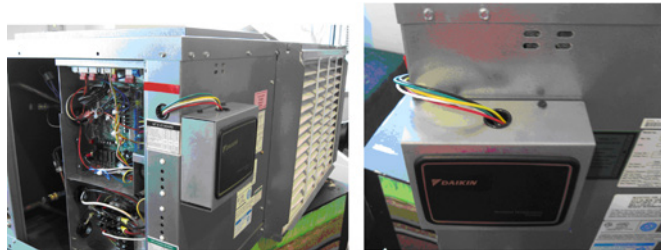
<table>
<tr><td>**NOTICE**</td></tr>
</table>

The Remote Control Node allows for a degree of customized programming by following the "Remote Control Node (RCN) Application – See ""RCN Configuration Table for All WSHP Units" on page 14. RCN must be configured for application prior to completion of installation.

Console Water Source Heat Pump Models WMHC & WMHW - RCN Installation

Heat Pump Kit Part No. 910193783 – Parts Included

1. RCN
2. Wireless Overlay

Introduction

Although the wireless temperature control kit is factory supplied it may also be field installed, which requires units set up for unit-mounted 24V thermostat control. The kit consists of a battery powered wireless remote thermostat and a unit-mounted Remote Control Node (RCN) and wireless remote control decal.

NOTE: The Remote Control Node is configured at the factory. See factory default configurations for Part Number 910193783

Tools Required

- Phillips head screw driver
- Small Phillips head screw driver
- Small (flat head) screw driver

Procedure

1. Disconnect all power from the unit by unplugging the power cord from the receptacle.
2. Lift control access door.
3. Remove the four (4) screws securing the touchpad controller (Figure 10).

Figure 10: Remove four (4) screws
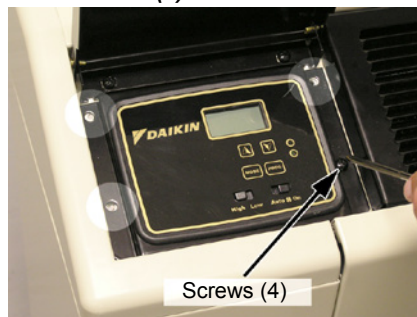
Screws (4)

4. Remove the touchpad control from the unit and carefully release the board from the clips on the bezel holding it (Figure 11).

Figure 11: Release the board from the clips on the bezel

5. Using a small regular screwdriver, loosen the set screws holding the wires to the terminal plug on the touchpad board (Figure 12).

NOTE: Remove one wire at a time and reconnect to the corresponding terminal on the RCN terminal plug. The terminal plug may be removed from the RCN to avoid excessive handling of the board while making wire connections.

Figure 12: Remove wires one at a time and reconnect to corresponding terminals on RCN board terminal plug

Touchpad Control Board

RCN Board Terminal Plug
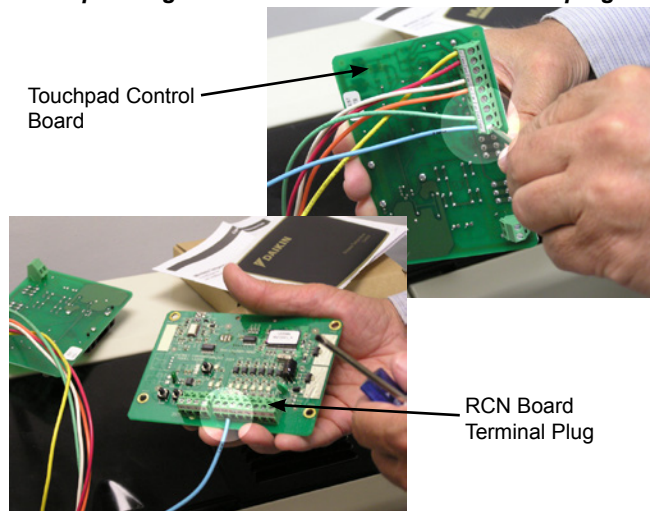
6. After making all wire connections, plug the RCN terminal plug onto the RCN board.

7. Apply the provided wireless remote control decal over the face of the touchpad control (Figure 13).

Figure 13: Apply wireless remote control decal

Routing The RCN Antenna Sensor Wire

1. Uncoil the antenna sensor wire and route it through the hole in the partition plate between the control box and the return air section.
2. Locate the sensor near the lower front corner of the drain pan and secure it using a zip tie, (field-supplied) Figure 14.

Figure 14: Secure the antenna wire sensor

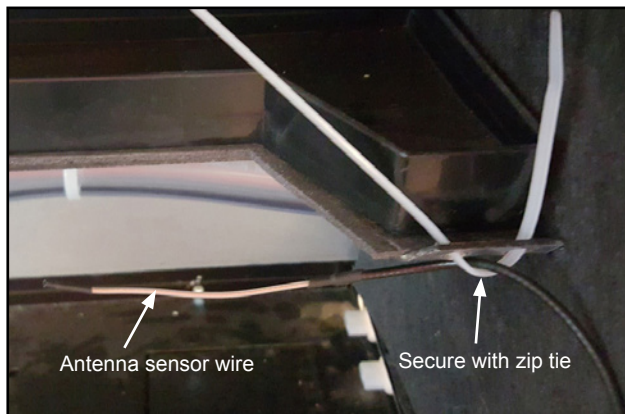Antenna sensor wire   Secure with zip tie

8. Replace panels and restore power to the unit.
9. Introduce the RCN and the wireless temperature control thermostat to each other, following the procedure for "Installing Nodes" in OM 897. Instructions can also be found on the inside of the wireless temperature control thermostat casing.

Vertical Stack Water Source Heat Pump Models WVHC & WVHF - RCN Installation

Heat Pump Kit Part No. 910139783 – Parts Included

1. RCN
2. Bezel with Overlay
3. Wire harness to MTIII Board
4. Wire harness to RCN Board

Introduction

Although the wireless temperature control kit is factory supplied it may also be field installed, which requires units set up for unit-mounted 24V thermostat control. The kit consists of a battery powered wireless remote thermostat and a unit-mounted Remote Control Node (RCN) and wireless remote control decal.

***NOTE:** The Remote Control Node is configured at the factory. See factory default configurations for Part Number 910139783.*
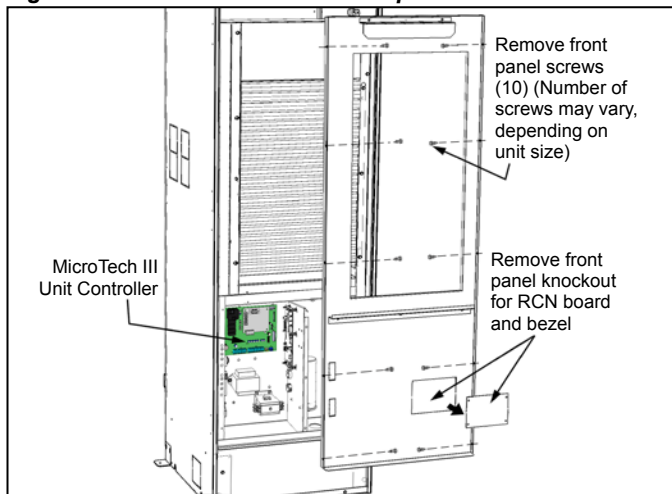
Tools Required

- Phillips head screw driver
- Small Phillips head screw driver
- Small (flat head) screw driver

Procedure

1. Disconnect all power from the unit by unplugging the power cord from the receptacle.

2. Disconnect all power from the unit by unplugging the unit power cord from the receptacle.

3. Remove the filter and then the front panel/filter rack (Figure 15).

Figure 15: Remove filter and front panel/filter rack

Remove front panel screws (10) (Number of screws may vary, depending on unit size)

MicroTech III Unit Controller

Remove front panel knockout for RCN board and bezel

4. Remove the knockout plate in the front panel/filter rack and cut away the insulation within the knockout opening (Figure 15).

NOTE: *For clarity, not all unit components are shown in illustrations.*

5. Feed the provided RCN wire harness through the knockout opening and snap the RCN bezel and board assembly into the knockout (Figure 16).

NOTE: *Feed RCN wire harness into the control box through the top wire hole.*

Figure 16: Feed RCN wire harness through front panel knockout

Feed RCN wire harness into the control box through the top wire hole.

MicroTech III Unit Controller

Snap-in RCN board and bezel into knockout
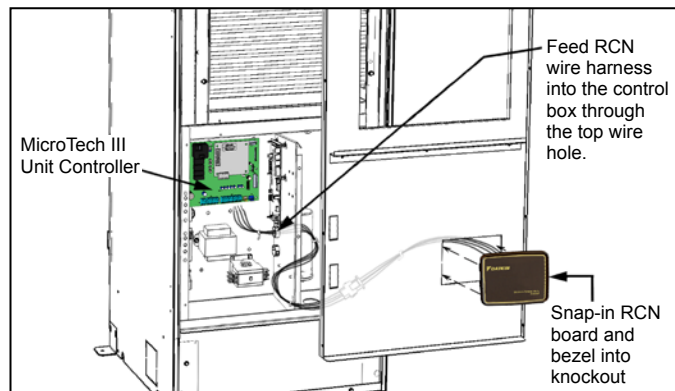
6. Remove the existing wires from the unit control board terminal plug (TB2), R, C, W, Y, G2.

7. Connect the provided (pre-stripped) RCN wire harness wires to the unit control board plug on terminals R, C, W, Y & G2 as shown in Figure 17 on page 12.

Figure 17: RCN wire harness connections to the MicroTech III unit controller terminal plug
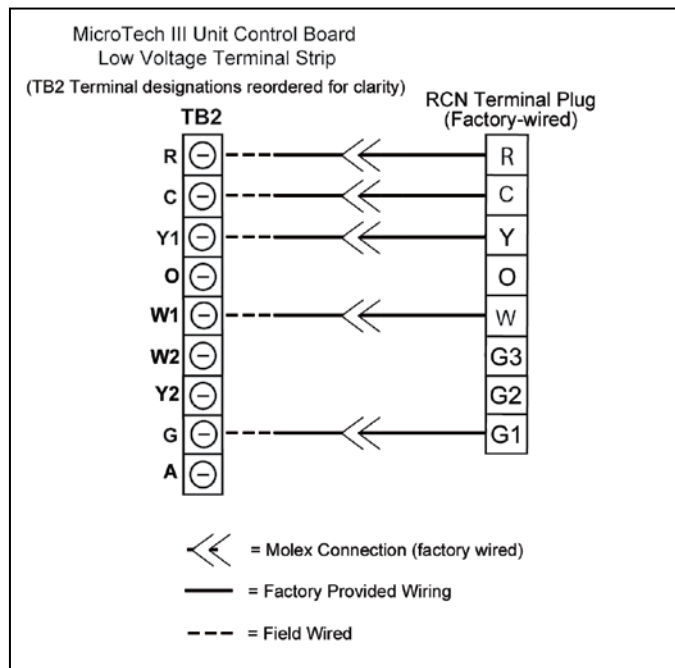
RCN Application – Configuration

Remote control nodes are factory-programmed to default settings. Settings can be changed for special applications by following the directions below. While programming, refer to Figure 18 and the "RCN Configuration Table for All WSHP Units" on page 14.

1. To enter the setup mode press and hold PB3 until the LED indicator lamps flash alternately.

2. D4 will flash once indicating, '"Table 1 - Control Mode" on page 14 and Figure 18; followed by D3 flashing 1 time, indicating the configuration that is active (1 flash for WSHP).

3. Pressing PB2 will advance the configuration value by 1 until the D3 flash count corresponds to the desired configuration in the '"RCN Configuration Table for All WSHP Units" on page 14.

4. Pressing PB1 advances the table value until the D4 flash count corresponds to the desired table (1-6).

5. At any time in the set up process, PB3 can be pressed to return to normal operation, saving any changes made.

8. Reinstall the front panel/filter rack and filter and restore power to the unit.

Figure 18: RCN LED Indicator Lamp Locations
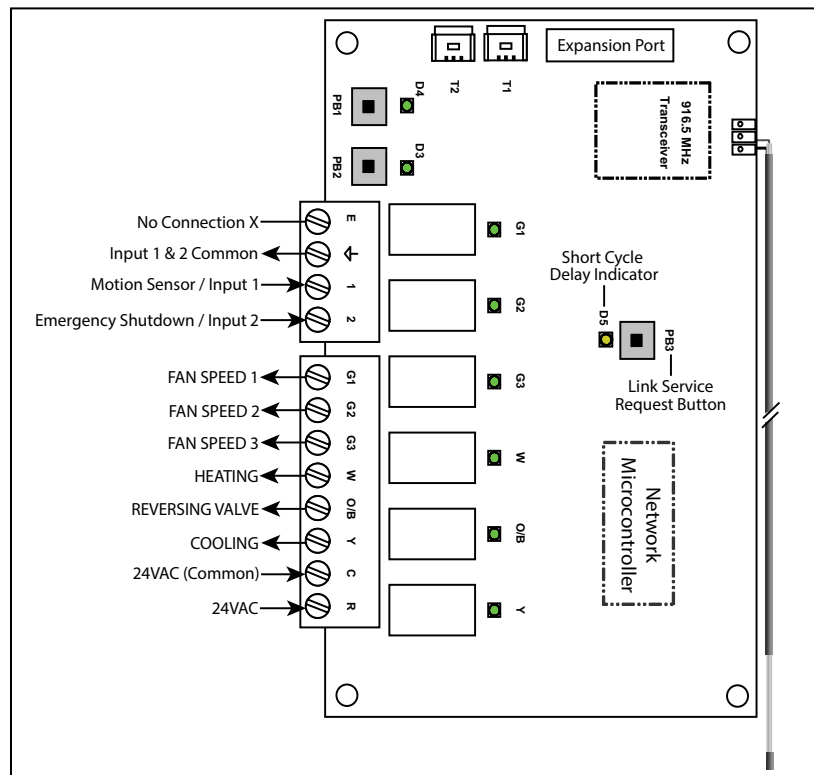
RCN Configuration Table for All WSHP Units

⬜ = WSHP Configuration

D4 Flash Count	Function Selection	D3 Flash Count	Description
	Table 1 - Control Mode		**Description**
1	WSHP	1	Fan will speed-hunt in AUTO. Fan speed 1, 2, or 3 may be manually selected to run continuously at that selected speed.
	Heat Pump	3	Fan will speed-hunt in Auto. Fan speed 1, 2 or 3 may be manually selected to run continuously at that selected speed. Only control mode where O/B terminal will ever be energized.
	Table 2 - Short Cycle		
2	Short Cycle - Active	1	The "Y" terminal/control line output signal is delayed by 3-minutes after a compressor run cycle or upon unit power-up
	Short Cycle - Inactive	2	The "Y" terminal/control line output signal is allowed to energize immediately after a compressor run cycle or upon unit power-up.
	Table 3 - Fan Speed [1]		
3	Fan Speed 1 Only	1	Fan will speed-hunt in AUTO. Fan speed 1 or 2 may be selected to run continuously.
	Fan Speeds 1 and 2 Enabled	2	Fan will speed-hunt in AUTO. Fan speed 1, 2 or 3 may be selected to run continuously.
	Fan Speeds 1, 2 & 3 Enabled	3	Fan speed 1, 2 or 3 may be manually selected to run, continuously at that speed.
	Hi/Low Fan Speed Operation	4	Fan speed 1 = Low, Fan speed 2 = High

[1] Multiple fan speeds not available on all units. Refer to unit specific Installation and Maintenance manual.

RCN Configuration Table (Continued)

| | = WSHP Configuration

D4 Flash Count	Function Selection / Table 3 - Fan Speed	D3 Flash Count	Description
4	Off/Disabled	**1**	System will not respond to unoccupied status conditions.
	2°F drift from set-point	**2**	Temp will drift 2 degrees (↓ in Heating, ↑ in Cooling), when unoccupied mode is in effect (Contacts Closed = Unoccupied).
	4°F drift from set-point	**3**	Temp will drift 4 degrees (↓ in Heating, ↑ in Cooling), when unoccupied mode is in effect (Contacts Closed = Unoccupied).
	6°F drift from set-point	**4**	Temp will drift 6 degrees (↓ in Heating, ↑ in Cooling), when unoccupied mode is in effect (Contacts Closed = Unoccupied).
	8°F drift from set-point	**5**	Temp will drift 8 degrees (↓ in Heating, ↑ in Cooling), when unoccupied mode is in effect (Contacts Closed = Unoccupied).
	10°F drift from set-point	**6**	Temp will drift 10 degrees (↓ in Heating, ↑ in Cooling), when unoccupied mode is in effect (Contacts Closed = Unoccupied)

RCN Configuration Table (Continued)

| | = WSHP Configuration

D4 Flash Count	Function Selection / Table 5 - Occupancy Timeout	D3 Flash Count	Description
5	2-Minute Delay	1	System responds to an unoccupied status condition within 2-minutes.
	1-Hour Delay	2	System responds to an unoccupied status 1-hour after condition is sensed.
	4-Hour Delay	3	System responds to an unoccupied status 4-hours after condition is sensed.
	8-Hour Delay	4	System responds to an unoccupied status 8-hours after condition is sensed.
	16-Hour Delay	5	System responds to an unoccupied status 16-hours after condition is sensed.
	24-Hour Delay	6	System responds to an unoccupied status 24-hours after condition is sensed.
	Table 6 - Reversing Valve Logic		
6	B - Reversing Valve Logic	1	Heat Pump Control Mode: Reversing valve output active in call for HEATING.
	O - Reversing Valve Logic	2	Heat Pump Control Mode: Reversing valve output active in call for COOLING.

Notes:

1. The D5 LED will light during the short-cycle delay period.

2. The D3 LED will flash when the RCN has gone into unoccupied status.

3. This device should be powered with a Class 2, UL-listed transformer.

4. The output from G1, G2, G3, W, O/B & Y switches is 24VAC (R terminal potential) @ 0.50 amps each, max.

5. Speed-hunt: Automatically sets the fan speed based on departure from the set-point temperature. 1º from set-point = Fan 1, 2º from set-point = Fan 2, 3º from set-point = Fan 3.

Installing and Removing Nodes

A T9000 wireless thermostat and remote control node will not operate as a system until they are linked together through the installation process. The linking process binds one or more control nodes to a thermostat so that they will communicate with each other as a control system. Up to eight nodes can be linked to a single thermostat. Until linked, the control node will not operate. Once linked, a control mode will only respond to its specific thermostat. The thermostat and RCN that have been linked will not interfere with, or be affected by, any other thermostat or RCN in the adjacent rooms, apartments, or neighboring homes. Linking information is stored in non-volatile memory – it is not necessary to re-link the thermostat and RCN if the thermostat batteries are removed, or after a power outage.

Installing Nodes

If multiple installation teams are installing and linking thermostats at the same time, coordinate the activity to avoid the possibility of installers simultaneously attempting to perform the linking process. Because this is an RF system, possible RF overlap could exist, if simultaneous installations are occuring in nearby rooms/areas. This could result in the RCN of 1 installer being linked with the 2nd installer's thermostat. Installation and linking activity going on around a system already installed will not interfere with the installing process.

Refer to Figure 19 for internal thermostat buttons, and jumper locations and functions.

Step 1

Press the SW4-INSTALL button inside the thermostat. The display will change to the install session screen shown in Figure 19, with the "install" icon blinking.

The display always blinks the item that is active and can be changed.

Figure 19: Internal Thermostat Buttons

Internal T9000 Buttons

PB1 - NETWORK
Used to uninstall the thermostat from node(s) it has been linked to.

SW12 - RESET
Master Reset - Returns thermostat to all factory defaults.

SW4 - INSTALL
Starts an installation session.

SW9 - LINK
Used to Link the thermostat to control nodes.

Program Jumper
JP3 = Programmable
JP4 = Non-Programmable
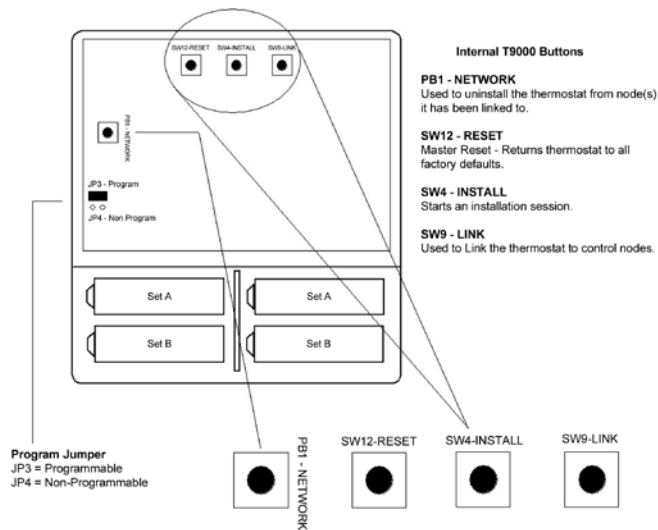
Step 2

The UP button on the front of the thermostat is used to toggle between the following two choices:
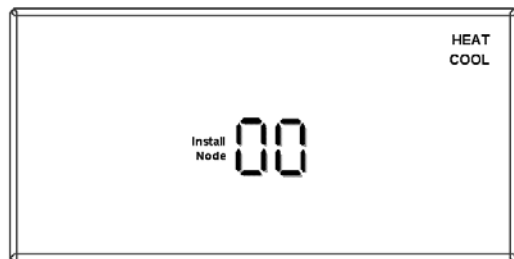
Install - Install a Node

Remove - Uninstall ALL Nodes

(The Remove option will be discussed later.)

Figure 20: Install Setup Display

Press the HEAT/COOL to select install.

Step 3

The node number digits will now flash. Use the UP button to set the node number you wish to install 0-7. If this is the first node or only node to be installed to this thermostat, leave the node number at zero.

Press the HEAT/COOL button to select the node number.

Step 4

The control node can be installed to a thermostat as a HEAT only, COOL only or HEAT & COOL node. After selecting the node number, the HEAT and/or COOL icon will flash in the upper right hand quarter of the display as shown in Figure 20. Press the UP button to scroll through the following three choices:

Heat - Install node as a heating only control

Cool - Install node as a cooling only control

Heat/Cool - Install node as a heating and cooling control

Press the HEAT/COOL button when the appropriate icon is displayed.

At this point all selections have been made and nothing on the display should be blinking. You are now ready to install a node.

Step 5

Press the SW9-LINK button on the back of the thermostat printed circuit board. Within 5-seconds, activate the link service request on the remote control node you are installing by the following method: Apply power to the RCN (apply power to the unit) or press PB3 if power has been applied to the RCN before the link request has been initiated from a T9000 wireless thermostat. See Figure 21 on page 19.

*Figure 21: Wireless Control Node*
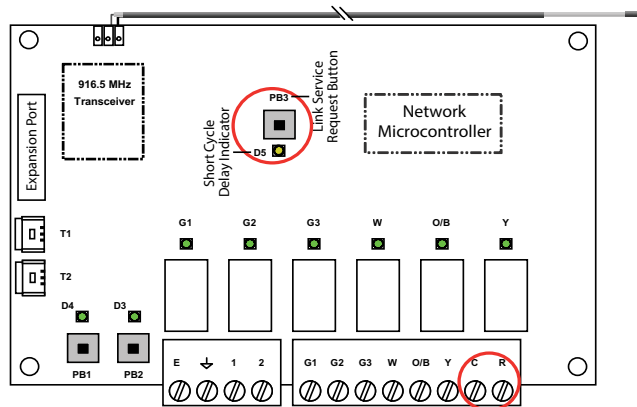
When the SW9-LINK button is pressed, the thermostat will display a "Please Wait" message, see Figure 22 in the bottom right corner of the LCD while it searches for a node. You have several seconds to initiate a Link Service Request at the remote control node. Often it is easiest to have the thermostat in your hand while you are near the node. The thermostat will link with the first node it hears that indicates a Link Service Request. It is for this reason that multiple installations must be coordinated. (See ""Installing Nodes" on page 17). Once the thermostat finds a node, linking information is exchanged, the "Please Wait" message is extinguished, and a "Good" message will appear as shown in Figure 22.

Figure 22: Install – Link Display
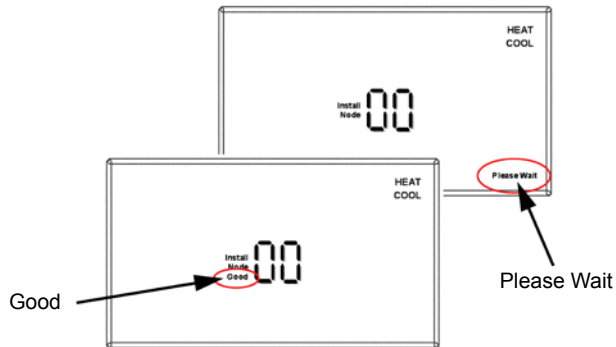
If another node is to be installed to this thermostat, press the HEAT/COOL button again. The "Install" icon will flash. As was done previously, press the HEAT/COOL button (Step Two). The node number will begin blinking, select the node number by one using the UP button and continue with the remaining steps. When all nodes are installed, press the SW4-INSTALL button to close the installation session and return to normal thermostat operation.

If for any reason there was a problem encountered during the final installation and linking step, a "Bad" message will be displayed. If this happens, repeat the "Installing Nodes" process from the beginning. If the problem persists, perform a "Thermostat Installation Reset" on page 20 and repeat the "Installing Nodes" process.

Installing Multiple Nodes to a Thermostat

Multiple nodes are typically installed to a thermostat by linking each as a different number (0-7). If a node is not sending a signal to the thermostat for any reason, such as loss of power, it will turn off the antenna symbol indicating a break in communication and attempt to find the missing node, increasing battery power drain. If, in your application, a node may be removed or powered down at times, consider linking all nodes as the same node number, node 00 for instance. As long as the thermostat hears back from at least one node, it will consider the communication to be good. (See ""Frequently Asked Questions" on page 22).

Un-Installing Nodes

Un-installing nodes, the procedure to remove will un-install all nodes at once.

Step 1

Press the SW4-INSTALL button inside the thermostat. The Install icon will flash. Press the UP button to select "Remove" and press HEAT/COOL to select. The HEAT and/or COOL icons will be displayed and all display items will be on steady; nothing will be flashing.

Step 2

Press the SW9-LINK button on the back of the thermostat printed circuit board. Within 5-seconds, activate a Link Service Request on the remote control node(s). When the SW9-LINK button is pressed, the thermostat will display the "Please Wait" message, see Figure 22 on page 19 in the bottom right corner of the LCD while it searches for nodes. Once the thermostat finds its installed node(s), linking information is removed from the nodes and the thermostat, "please wait" message will be extinguished, and a "Good" message will appear as shown in Figure 22 on page 19.

Thermostat Installation Reset

In the event there is difficulty installing a node, perform the following:

Step 1

Press the SW4-INSTALL button inside the thermostat. The install icon will flash. You only need to begin the installation session to perform this reset.

Step 2

Press and hold the PB1-NETWORK button (see Figure 21 on page 19) on the inside of the thermostat board for approximately two seconds.

No response is displayed. All previous installation records will be wiped from the thermostat memory. You can continue from this point with the installation procedure. PB1-NETWORK will only reset the thermostat installation database if the thermostat is already in an Installation Session (SW4-INSTALL button has been pressed). Otherwise, the PB1-NETWORK button will have no affect.

Control Logic Tables

Logic Table 1

	Output	Off	Cooling Fan Auto	Cooling Fan 1, 2 or 3	Heating Fan Auto	Heating Fan 1, 2 or 3
Control Outputs Table	G1 Fan 1	OFF	ON ≥ 1° / OFF ≤ 0°	ON ≥ 1° / OFF ≤ 0°	ON ≥ 1° / OFF ≤ 0°	ON ≥ 1° / OFF ≤ 0°
	G2 Fan 2	OFF	ON ≥ 2° / OFF ≤ 0°	ON ≥ 1° / OFF ≤ 0°	ON ≥ 2° / OFF ≤ 0°	ON ≥ 1° / OFF ≤ 0°
	G3 Fan 3	OFF	ON ≥ 3° / OFF ≤ 0°	ON ≥ 1° / OFF ≤ 0°	ON ≥ 3° / OFF ≤ 0°	ON ≥ 1° / OFF ≤ 0°
	O / B (Rev Valve)	OFF	OFF	OFF	OFF	OFF
	W (HTG)	OFF	OFF	OFF	ON ≥ 1° / OFF ≤ 0°	ON ≥ 1° / OFF ≤ 0°
	Y (COMP)	OFF	ON ≥ 1° / OFF ≤ 0°	ON ≥ 1° / OFF ≤ 0°	OFF	OFF

(Header span: Heat/Cool Mode (WSHP))

Y *Terminal (COMP) short-cycle delay = 3-minutes. (D5 LED will light during the short-cycle delay period.)*

Y *Terminal will remain active for a minimum of 3-minutes unless the user manually ends a call for cooling.*

Note: *Fan will not operate by itself. Fan only operates during a call for heating or cooling.*

Frequently Asked Questions

"Where should I locate my thermostat?"

For best results, the thermostat should be located approximately 5 feet above the floor on an inside wall in an area with good air circulation. Avoid drafts from your air ducts and windows, and heat from the sunlight, lighting fixtures, appliances, fireplaces, etc.

NOTICE

The model 12200C remote control node standard antenna option is a 1-meter long flexible coaxial cable. One end is permanently connected at the circuit board. Approximately 3" of the outside jacket and shield are stripped back at the free end — this is the actual antenna. The coaxial antenna option allows the installer to mount the circuit board where most appropriate and secure, while positioning the antenna in the most optimum position possible. Sheet metal, control boxes, ductwork, pipes and other electrical wires can interfere with RF signals to and from the control node. For best performance, installers should locate the antenna away from such shielding material. As an example, with some equipment the antenna is often located in front of the indoor coil, between the coil and the cover (if the cover is plastic), or near the makeup air opening of the unit (if the cover is metal). As is the case with any RF system, antenna placement and orientation is important. If you experience difficulty maintaining a reliable RF link with your thermostat, try relocating the node antenna, ensuring it is not blocked by or resting against sheet metal, pipes or wires.

"What does the antenna symbol on the display mean?"

The T9000 thermostat displays the antenna symbol as indication that it is communicating with its remote control node(s) (RCN). If communication is not established, the antenna symbol will go out.

"What do I do if the antenna symbol is no longer displayed?"

Ensure the RCN has power. Make sure the thermostat and RCN are in fact linked. Force the thermostat to talk to its RCN by pushing the FAN button. If communication is successful, the antenna icon will turn back on. Coincidental RF interference could cause a temporary loss of communication. In virtually all such cases, the interference is temporary.

"Can I run multiple heating or cooling loads such as electric baseboard heating and a window air conditioner with one T9000 thermostat?"

Yes. In fact one T9000 thermostat can control up to eight different RCNs.

"Why would I install multiple nodes as the same number?"

A Building Management System (BMS) or Energy Management System (EMS) may periodically cut power to units during times of minimum heating/cooling load. If each node is assigned a different number on the T9000 wireless thermostat, the thermostat will continually attempt to initiate communication with the de-activated unit node, causing excessive battery drain. In a hotel meeting

room with multiple packaged terminal air conditioner units, seating may be arranged such that one unit blows air directly on some people. The thermostat in this case will not continuously look for a missing node if that one unit is powered off.

"When my a/c turns off, I can't immediately make it run again?"

This is normal. What you are experiencing is called in anti short-cycle delay. Because of high pressure in the air conditioning compressor system, it's not a good idea to start your air conditioner immediately after it has just shut down. The T9000 prevents this from happening by imposing a 3-minute delay, in addition to any on-board delays inherent to the unit control module.

"I just installed the thermostat and the antenna symbol comes and goes. What should I do?"

A poor RF signal between the thermostat and one or more RCNs is the cause. The further away the thermostat and RCN are from each other, the weaker the signal becomes. Distance and also building materials, particulary metals, will block the RF signal energy. Sheet metal is very often the problem. Changing the position of the RCN or thermostat or both may be required. In rare cases, where the RCN is heavily shielded, a small section of sheet metal may need to be removed and if necessary replaced with plastic or other nonmetallic material.

Note: *Always seek competent professional electrical and HVAC contractors when working with your heating and cooling system and the electrical wiring in your home or other property.*

For safety and warranty reasons, always consult with a HVAC contractor and/or the original equipment manufacturer before making changes.

"The display on my thermostat is blank. What happened?"

A blank display indicates your batteries are depleted. When the low battery icon comes on there is approximately one week of battery life remaining. We recommend that when you change batteries, always use batteries that you know are fresh. Use four (4) new high quality AA batteries. If you're using the T9000 to control a heating system, we recommend as a general practice, putting fresh batteries in at the start of the heating season.

"If I am away for an extended time such as vacation, how do I set the thermostat so my system does not run excessively ?"

You have a couple of choices. The first is to press the HEAT/COOL button on the thermostat until the display reads "OFF" (Particularly during the heating season, we do not recommend going to the "off" mode.) The second option is to put your thermostat in manual mode by pressing the RUN button. You know that you're in the manual mode because none of the period icons, Morning, Day, Evening, or Night will be displayed. The "Hold" icon located above the set point temperature will be displayed. Next, adjust the set point temperature to minimize system operation. For example, you could adjust to a set point of 85°F in cooling, or 65°F in heating, staying mindful of what your temperature selection could affect such as plants and

animals that stay in your home while you are away. During the cooling season, consider humidity as well as room temperature. When your air conditioner runs, it not only cools the air, it also removes moisture, lowering humidity. High humidity can encourage mold growth.

"Can I use another T9000 thermostat without interference?"

Yes. A T9000 thermostat and its RCN will talk between themselves, but will never respond to or control another thermostat in adjacent rooms, apartments, or neighboring homes. Each node and thermostat are assigned a unique address.

T9000 Programmable Wireless Thermostat Button Descriptions

Figure 23: T9000 Overview