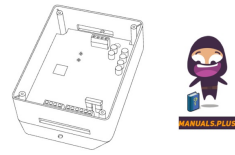**Manuals+** — User Manuals Simplified.
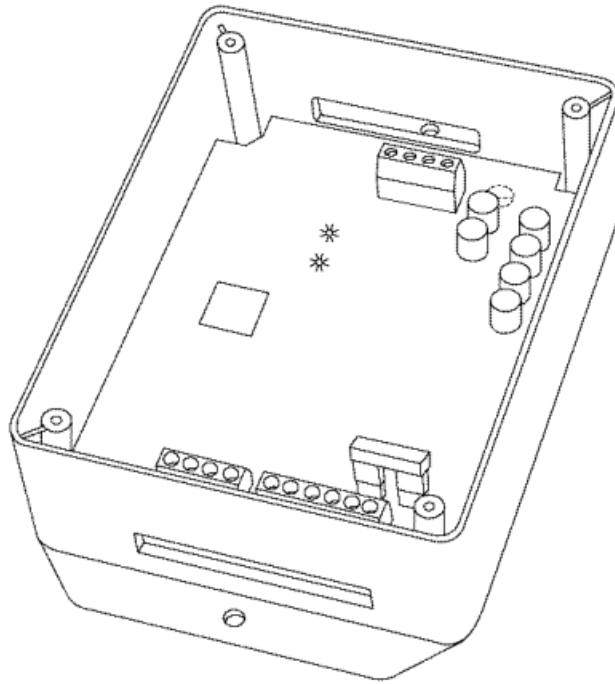
Carrier SYSTXCCNIM01 Infinity Network Interface Module Instruction Manual

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Contents

Carrier SYSTXCCNIM01 Infinity Network Interface Module

Product Information

Specifications

- Product Name: Network Interface Module SYSTXCCNIM01
- Model Number: A03231
- Compatibility: Infinity System
- Communication: Interfaces with the Infinity ABCD bus
- Required for Control of:
    - Heat Recovery Ventilator (HRV/ERV)
    - Non-communicating single-speed heat pump with Infinity furnace (dual fuel application only)
    - Non-communicating two-speed outdoor unit (R-22 Series-A unit)

Installation

Safety Considerations

Before starting the installation, please read the entire instruction manual. The symbol "–>" indicates a change since the last issue.

Check Equipment and Job Site

Prior to installation, inspect the equipment and file a claim with the shipping company if the shipment is damaged or incomplete.

Component Location and Wiring Considerations

When locating the Network Interface Module (RIM), choose a location near the Infinity furnace or fan coil where wiring from the equipment can come together easily. Do not mount the RIM in the outdoor unit as it is approved for indoor use only and should not be exposed to the elements. Avoid mounting the RIM on the plenum, duct work, or flush against the furnace to prevent equipment damage or improper operation.

Install Components

Follow the wiring considerations below:

- Use ordinary thermostat wire for wiring the Infinity System. Shielded cable is not necessary.
- For typical installations, use 18 – 22 AWG or larger wire.
- Ensure all wiring complies with national, local, and state codes.

Ventilator (HRV/ERV) Wiring

Follow the wiring instructions provided in the HRV/ERV installation manual to connect the ventilator to the Network Interface Module.

Dual Fuel with 1-Speed Heat Pump Wiring

Refer to the dual fuel application wiring diagram in the installation manual to connect the non-communicating single-speed heat pump with Infinity furnace to the Network Interface Module.

Infinity Indoor Units with 2-Speed Outdoor Unit Wiring

Refer to the wiring diagram specific to the Infinity indoor units and non-communicating two-speed outdoor unit (R-22 Series-A unit) in the installation manual to connect them to the Network Interface Module.

System Start-Up

Once the installation is complete, follow the steps below to start up the system:

LED Indicators

Observe the LED indicators on the Network Interface Module for any error codes or status indications. Refer to the LED indicator guide in the installation manual for troubleshooting.

Fuse

Check the fuse on the Network Interface Module. If the fuse is blown, replace it with a fuse of the same rating.

24 VAC Power Source

Ensure a 24 VAC power source is connected to the Network Interface Module for proper operation.

FAQ

Q: What devices can be controlled by the Network Interface Module?

A: The Network Interface Module can control Heat Recovery Ventilators (HRV/ERV), non-communicating single-speed heat pumps with Infinity furnaces (for dual fuel application only), and non-communicating two-speed outdoor units (R-22 Series-A units).

Q: Can the Network Interface Module be installed outdoors?

A: No, the Network Interface Module is approved for indoor use only and should never be installed with any of its components exposed to the elements.

Q: What type of wire should be used for wiring the Infinity System?

A: Ordinary thermostat wire is ideal for wiring the Infinity System. Shielded cable is not necessary. Use 18 – 22 AWG or larger wire for typical installations.

NOTE: Read the entire instruction manual before starting the installation.
This symbol ➔ indicates a change since the last issue.

SAFETY CONSIDERATIONS

Read and follow manufacturer instructions carefully. Follow all local electrical codes during installation. All wiring must conform to local and national electrical codes. Improper wiring or installation may damage Infinity Control System. Recognize safety information. This is the safety-alert symbol~ . When you see this symbol on the equipment and in the instruction manual, be alert to the potential for personal injury. Understand the signal words DANGER, WARNING. and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards. which will result in severe personal injury or death. WARNING signifies a hazard, which could result in personal injury or death. CAUTION is used to identify unsafe practices, which would result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which will result in enhanced installation. reliability. or operation.

INTRODUCTION

The Network Interface Module (NIM) is used to interface the following devices to the Infinity ABCD bus so they can be controlled by the Infinity System. The following devices do not have communication ability and the NIM is required to control:

- A Heat Recovery Ventilator Energy Recovery Ventilator (HRV/ERV) (when zoning is not applied).
- A non-communicating single-speed heat pump with Infinity furnace (dual fuel application only).
- A non-communicating two-speed outdoor unit (R-22 Series-A unit).

INSTALLATION

- **Step 1-Check Equipment and Job Site**

  INSPECT EQUIP'\IENT – File claim with shipping company.

  prior to installation, if shipment is damaged or incomplete.
- **Step 2-Component Location and Wiring Considerations**

  WARNING

  ELECTRIC AL SHOCK HAZARD

  Failure to follow this warning could result in personal injury or possible equipment damage.

  Disconnect power before beginning installation.

  NOTE: All wiring must comply with national. local. and state codes.

  LOCATING NETWORK INTERFACE '\IODULE (NIM)

  Select a location near the Infinity furnace or fan coil where wiring from equipment can come together easily.

  NOTE: Do not mount NIM in outdoor unit. The NIM is approved for indoor use only and should never be

  installed with any of its components exposed to the elements.

The NIM may be installed in any area where temperature remains between 32° and 158° F. and there is no condensation. Remember that wiring access is likely the most important consideration.

CAUTION

ELECTRICAL OPERATION HAZARD

Failure to follow this caution will result in equipment damage or improper operation.

To prevent possible damage to NIM. do not mount on plenum. duct work. or flush against furnace.

WIRING CONSIDERATIONS – Ordinary them10stat wire is ideal when wiring the Infinity System (shielded cable is not necessary). Use 18 – 22 AWG or larger for typical installations. Lengths over l 00 ft. should use 18 A WG or larger wire. Cut off or fold back and tape any unneeded conductors. Plan the routing of wiring early to avoid possible problems later.

NOTE: ABCD bus wiring only requires a four-wire connection:

however, it is good practice to run thermostat cable having more than four wires in the event of a damaged or broken wire during installation.

The following color-code is recommended for each ABCD bus connection:

A – Green ~ Data A

B – Yellow~ Data B

C – White ~ 24V AC (Common)

D – Red ~ 24V AC (Hot)

It is not mandatory that the above color code be used, but each ABCD connector in the system :\IUST be wired consistently.

NOTE: Improper wiring of the ABCD connector will cause the Infinity System to operate improperly. Check to make sure all wiring is correct before proceeding with installation or turning on power.

- **Step 3- Install Components**

  INSTALL NETWORK INTERFACE :\IODULE – Plan wire routing before mounting. The Infinity Network Interface Module is designed so that wires can enter it from the sides.
    - Remove top cover and mount NIM to wall using screws and wall anchors provided.
- **Step 4-Ventilator (HRV/ERV) Wiring**

  HRV / ERV INSTALLATION – The NIM can control a Carrier Heat Recovery Ventilator Energy Recovery Ventilator (HRV ERV). Connect four wires from ventilator control board (see ventilator installation instructions for details) to connector labeled (YRGB). This label identifies the color of the wire to match the ventilator wire colors (Y~yellow, R~red, G~green, B~blue or black). See Fig. 2 for ventilator (HRV ERV) connection.
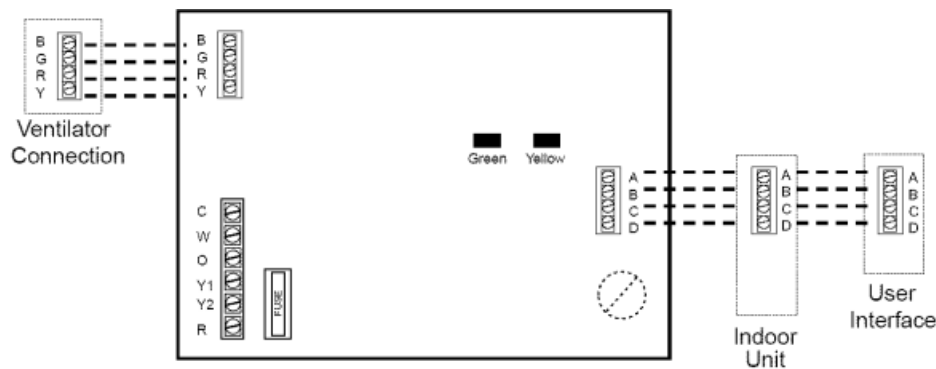
Fig. 2 — Ventilator (HRV / ERV) Connection

NOTE: If system is zoned (contains an Infinity Damper Control Module), the ventilator may be connected either directly to the Damper Control module or to the NIM. In either case, the Infinity Zone Control will properly discover the ventilator.
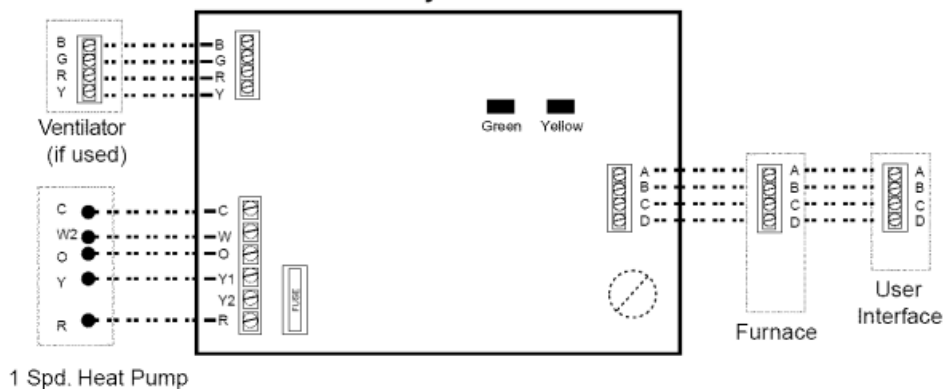
- **Step 5-Dual Fuel with 1-Speed Heat Pump Wiring**

DUAL FVEL INSTALLATION WITH I-SPEED HEAT PUMP – The NIM is needed when an Infinity variable-speed furnace 1s applied with a Carrier single-speed (non-communicating) heat pump. See Fig. 3 for wiring details. An
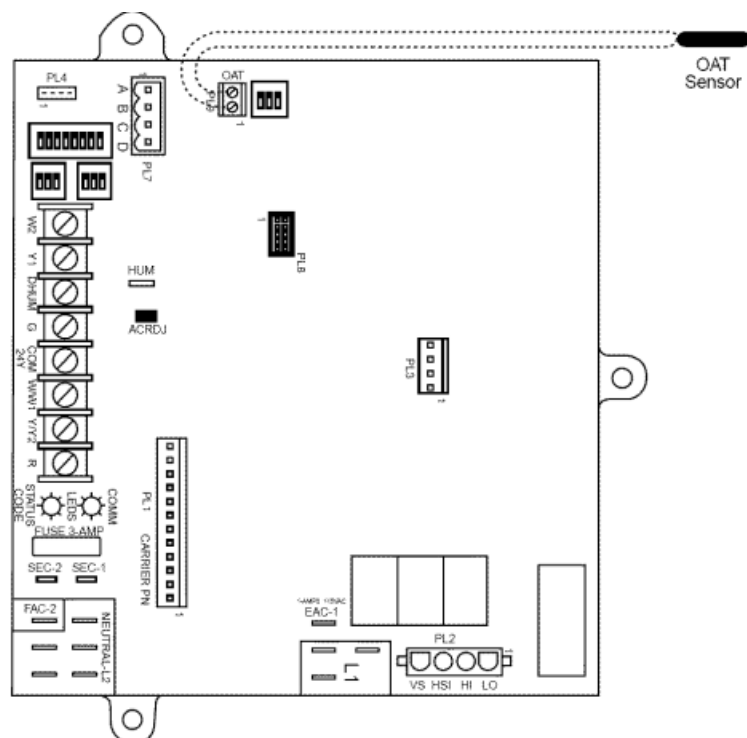
outdoor air temperature sensor :\IUST be connected to furnace control board for proper operation (see Fig. 5 for details).
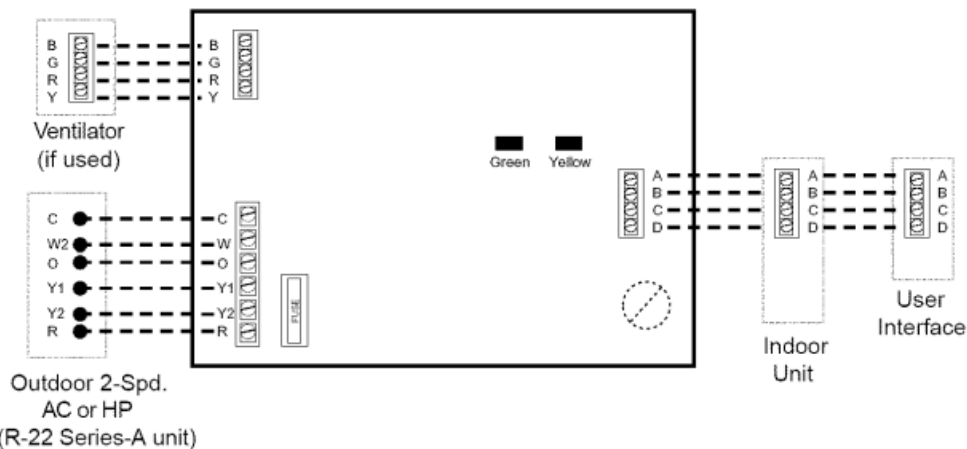
Fig. 4 — 2-Spd Non-Communicating AC or HP (R-22 Series-A Unit) with Infinity Indoor Unit

Fig. 3 — Variable-Speed Furnace with 1-Spd. Heat Pump (Dual Fuel)

Fig. 5 — HK42FZ022 Furnace Board with
Outdoor Air Temperature Connection

A03230

- **Step 6-Infinity Indoor Unit with 2-Speed Outdoor Unit Wiring**

  2-SPEED NON-CO:\I:\IU:\"ICATING OUTDOOR UNIT –

  The NIM can control a 2-speed non-communicating air conditioner or heat pump (R-22 Series-A unit) with an Infinity indoor unit. See Fig. 4 for wiring details.

SYSTEM START-UP

Follow the system start-up process outlined in the Infinity Zone Control or Infinity Control installation instructions.

LED INDICATORS

Under nonnal operation, the Yellow and Green LEDs will be on continuously (solid). If the NIM does not successfully communicate with the Infinity Control, the Green LED will not be on. If there are faults present, the Yellow LED indicator will blink a two-digit status code. The first digit will blink at a fast rate, the second at a slow rate.

STATUS CODE DESCRIPTION

- 16 = Communication Failure
- 45 = Board Failure
- 46 = Low Input Voltage

FUSE

A 3-amp automotive type fuse is used to protect the NIM from overloading the outdoor unit R output. If this fuse fails, there is likely a short in the wiring to the device being controlled by the NIM. Afrer short in wiring is fixed, fuse should be replaced with an identical 3 amp automotive fuse.

24 VAC POWER SOURCE

The NIM receives its 24 V AC power from the indoor unit C and D tem1inals (via ABCD connector bus). In most applications, there is sufficient power (VA capacity) available from the indoor unit transformer to accommodate a ventilator and or outdoor unit connection. No additional transformer is required.

Documents / Resources

Carrier SYSTXCCNIM01 Infinity Network Interface Module [pdf] Instruction Manual
SYSTXCCNIM01 Infinity Network Interface Module, SYSTXCCNIM01, Infinity Network Interface Module, Network Interface Module, Interface Module, Module

References

- **Manual-Hub.com - Free PDF manuals!**
- **User Manual**