

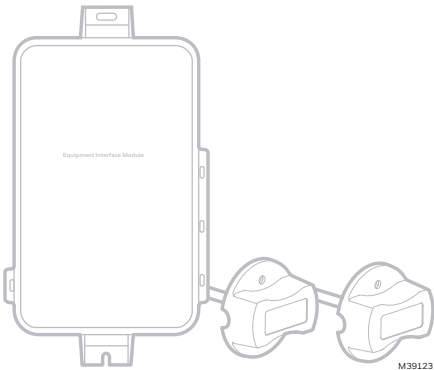


Equipment
Interface Module

THM5421R1021

Installation Guide

Read before installing



M39123



Equipment Interface Module works with:

- Prestige IAQ
- VisionPRO 8000 with RedLINK[®]
- Wireless FocusPRO with RedLINK (not pictured below)

RedLINK to Equipment Interface Module



2 Wires for Power



OR

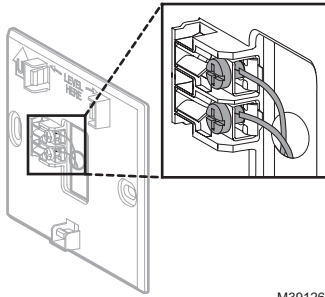
RedLINK to Equipment Interface Module



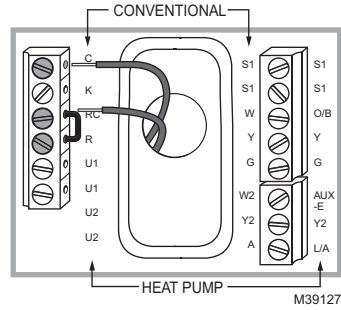
2 Wires for Power
or Battery Only (no wires)



1 Install thermostat



M39126



M39127

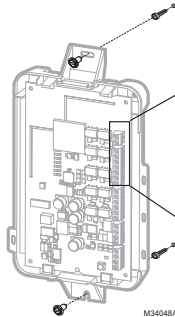
Prestige/VisionPRO with RedLINK: Mount the thermostat and wire to C and R terminals of the Equipment Interface Module (EIM), or to a separate 24 volt transformer (not provided).

NOTE: When the VisionPRO with RedLINK thermostat is used with the EIM, the relays in the thermostat do not function.

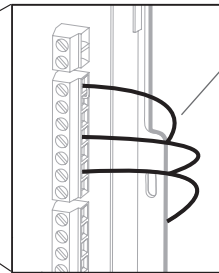
NOTE: RedLINK FocusPRO are battery powered and do not have R and C terminals.

2 Install equipment interface module

Use screws & anchors as appropriate for the mounting surface. Mount the EIM near the HVAC equipment, or on the equipment itself.



M34048A



Strip 1/4" insulation, then insert wires as shown.

M38709

WIRELESS ADAPTER



M39124

NOTE: If you install more than one thermostat and EIM, the EIMs must be at least 2 feet apart.

NOTE: If you are installing discharge and return air sensors, refer to the mounting instructions in the Alerts and Delta T Diagnostics Installation Instructions packed with the Prestige IAQ kit.

NOTE: RedLINK FocusPRO should use a return sensor to S1 only. Do not wire a supply sensor.

If an EIM is mounted inside a metal cabinet, it is recommended to use a THM4000R1000 Wireless Adapter for extended wireless range. Mount the Wireless Adapter outside the metal cabinet and connect to the ABCD terminals at the EIM.

③ Power optional RedLINK accessories

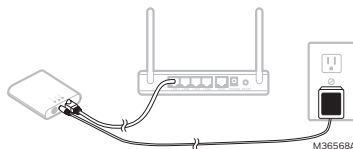
3.1 Install batteries in RedLINK accessories.

- Portable Comfort Control
- Wireless Outdoor Sensor
- Wireless Indoor Sensor (Prestige & RedLINK VisionPRO only)
- Wireless Entry/Exit Remote
- Wireless Vent and Filter Boost Remote

3.2 Connect gateway to internet and connect to power.

3.2a Connect RedLINK Internet Gateway to router or modem with Ethernet cable (RJ45).

3.2b Connect gateway's power cord to an electrical outlet that is not controlled by a wall switch.

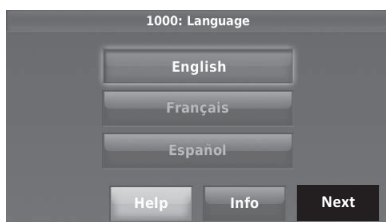


④ Performing initial setup

Initial setup options define the type of system you are installing: *

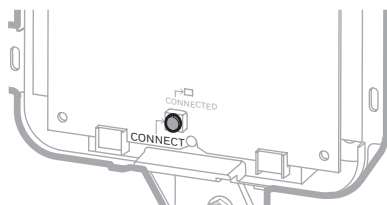
- Residential or commercial (Prestige & RedLINK VisionPRO only)
- Non-zoned or zoned

4.1 Follow prompts on the screen to select appropriate options.




4.2 Link the thermostat to the equipment interface module.

4.2a **Press and quickly release** the CONNECT button on the EIM. Make sure the "Connected" light is flashing green.



* RedLINK FocusPRO shows numbers on the display during setup. Follow install guide included with that thermostat.

 **NOTE:** If the “Connected” light does NOT flash green, another system may be in the listening mode. Please exit the listening mode at the other system and then try again.

- Green Flashing: In Listening Mode - system is ready to add RedLINK devices.
- Green Steady: RedLINK devices are communicating.
- Red: RedLINK device(s) are NOT communicating. Check EIM and RedLINK devices.

4.2b While the “Connected” light is flashing green on the EIM, press **NEXT** on the thermostat. After a short delay, the screen will show the thermostat is connected.




4.3 When you see the prompt **Do you have RedLINK accessories to connect? Touch YES or NO.** *

- If you select **YES**, you will be prompted to Press Connect on all new accessories. Continue to Step 4.4.
- If you select **NO**, continue to Step 4.5.



4.4 Connect each RedLINK accessory.

 **NOTE:** Make sure accessories are at least 2 feet away from the EIM during the linking process.

4.4a While the Add Device screen is displayed (listening mode), **press and quickly release** the CONNECT button on each new RedLINK accessory.

 **NOTE:** The Prestige or RedLINK VisionPRO display will instruct you to press connect on the accessory while in listening mode.

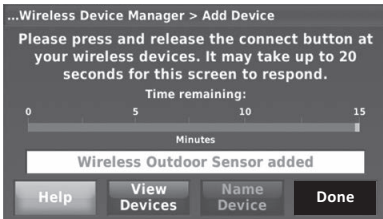
* RedLINK FocusPRO display will say “wireless setup” in display when it is ready to connect to the EIM and accessories during the initial setup.

4.4b After a short delay (up to 20 seconds), check the thermostat to confirm the connection of each RedLINK accessory.

4.4c Touch **DONE** at the thermostat after all new RedLINK accessories are connected.



NOTE: The thermostat stays in listening mode for 15 minutes from when it was connected to the EIM or RedLINK Zone Panel. The timer is reset every time a new accessory was added. When done adding RedLINK accessories press **DONE** on the thermostat display.



4.5 Finish the initial setup.

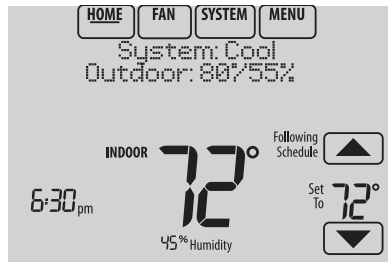
Finish the setup by selecting the desired options. Touch **DONE** after you select the last option you want to change.

For RedLINK FocusPRO, these settings are in numbers rather than text, so you will need to use the Installation instructions included with the thermostat.



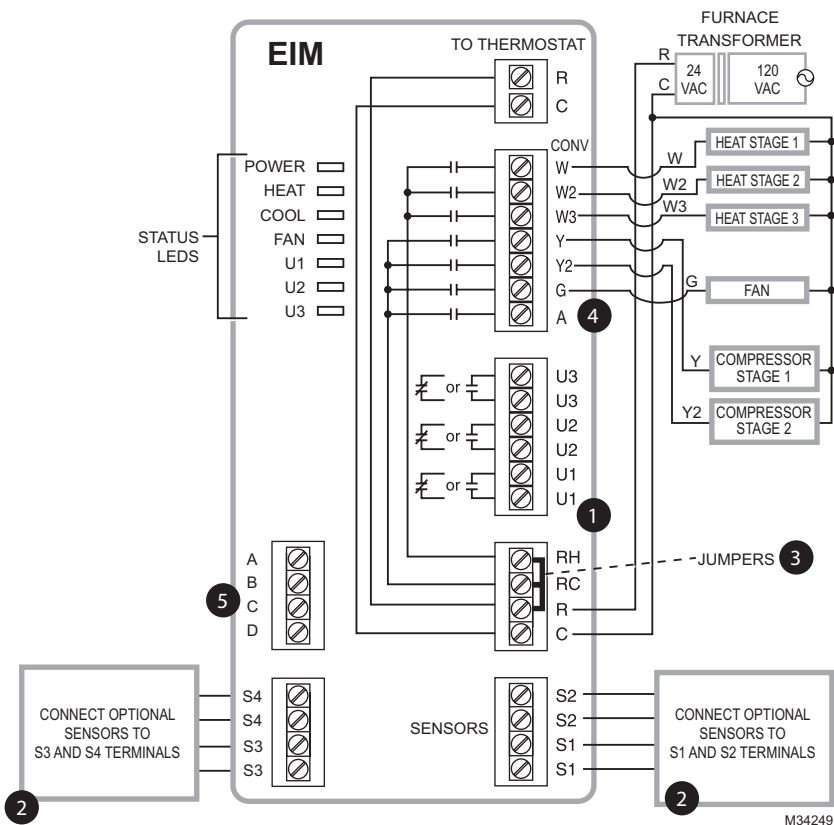
The thermostat now displays its Home screen and the **thermostat setup is complete**.

RedLINK FocusPRO Home screen not shown in this file.



EIM wiring guide – conventional systems

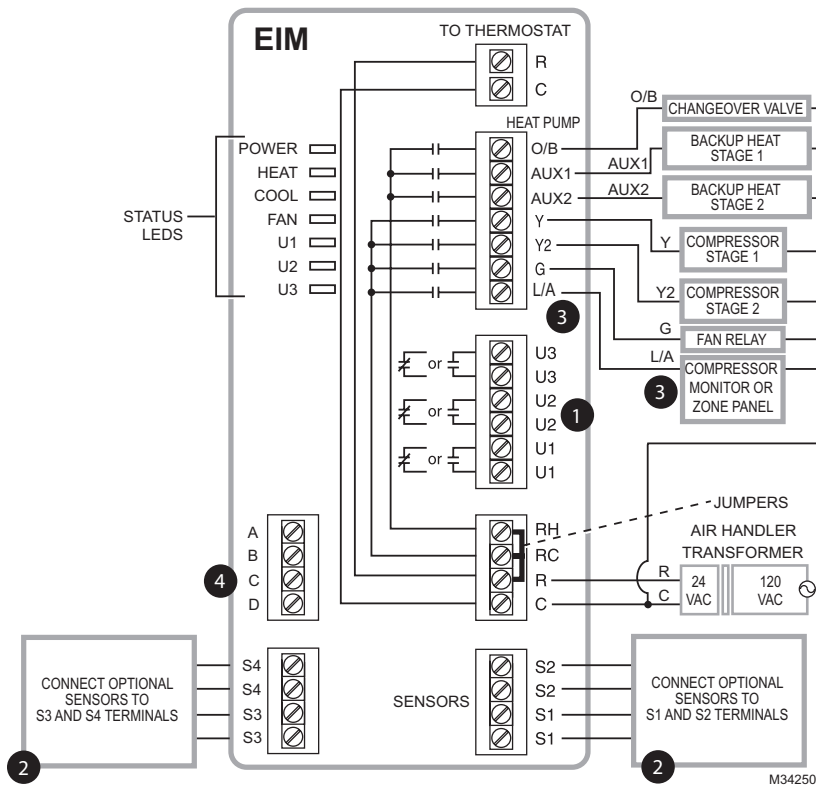
Typical wiring of a conventional system with up to 3-stage heat and 2-stage cool with one transformer. (RedLINK FocusPRO up to two-stage heat and two-stage cool.)



- 1 See guides on following pages for thermostat wiring and geothermal radiant heat wiring.
 - 2 Wire a maximum of 4 sensors using the S1-S4 terminals. S1-S4 terminals can be connected to an indoor sensor, outdoor sensor, discharge sensor, return sensor, dry contact device to display an alert or an occupancy sensor for remote setback. RedLINK FocusPRO should only use the return sensor to any of the four sets of S terminals.
 - 3 Remove jumper(s) if using separate transformers.
 - 4 See Economizer wiring section.
 - 5 Connect wireless adapter to ABCD for extended wireless range.
- NOTE:** See following pages for additional thermostat wiring guidelines for heat pumps, geothermal systems and optional Economizer.

EIM wiring guide — heat pump systems

Typical wiring of a heat pump system with up to four-stage heat and two-stage cool with one transformer. (RedLINK FocusPRO up to three-stage heat and two-stage cool.)

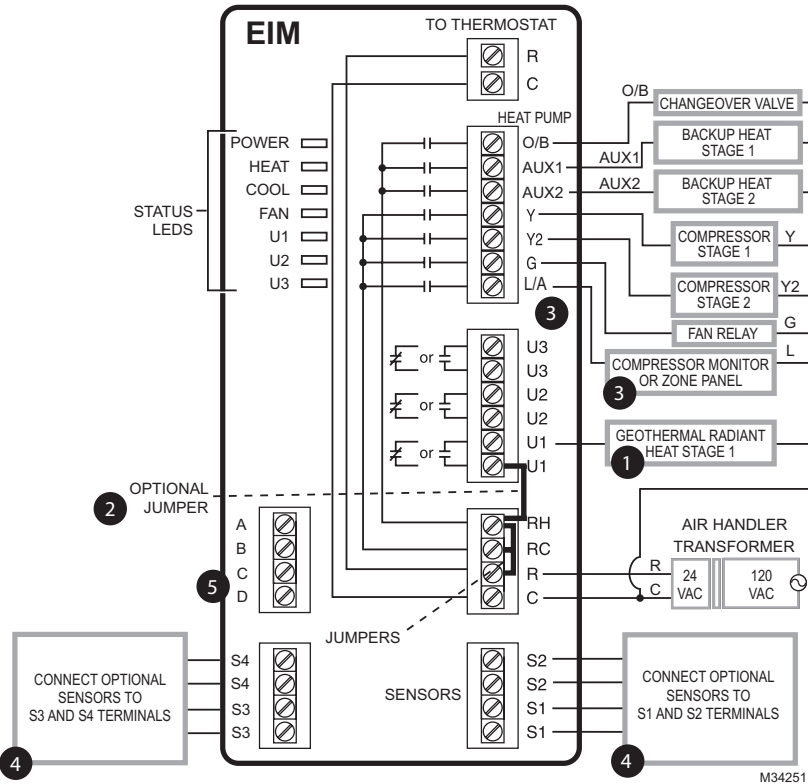


- 1 See guides on following pages for thermostat wiring and geothermal radiant heat wiring.
- 2 Wire a maximum of 4 sensors using the S1-S4 terminals. S1-S4 terminals can be connected to an indoor sensor, outdoor sensor, discharge sensor, return sensor, dry contact device to display an alert or an occupancy sensor for remote setback. RedLINK FocusPRO should only use the return sensor to any of the four sets of S terminals.
- 3 L/A terminal sends continuous output when thermostat is set to EM HEAT mode, except when set up for Economizer or TOD. See Economizer wiring section. (Only Prestige and RedLINK VisionPRO can be set for Economizer or TOD.)
- 4 Connect wireless adapter to ABCD for extended wireless range.

EIM wiring guide — geothermal radiant heat

(Prestige and RedLINK VisionPRO models only.)

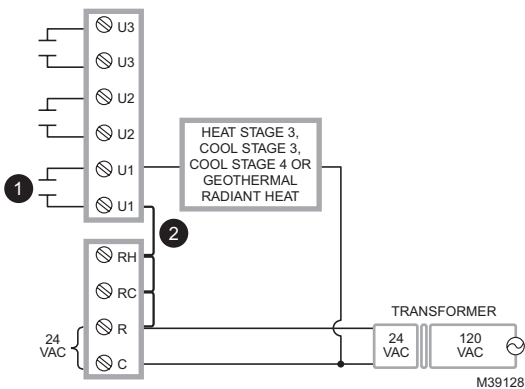
Typical wiring for geothermal radiant heat, geothermal forced-air, and backup heat with one transformer.



- 1 U1, U2 or U3 terminals must be used for geothermal radiant heat. Thermostat allows 2 stages of radiant heat—geothermal (stage 1) and boiler (stage 2).
- 2 “U” terminals are normally open dry contacts when set up for geothermal radiant heat. You must install a field jumper if radiant heat is powered by system transformer. Do NOT install a field jumper if radiant heat has its own transformer.
- 3 L/A terminal sends continuous output when thermostat is set to EM HEAT mode except when set up for Economizer or TOD. See Economizer wiring section.
- 4 Wire a maximum of 4 sensors using the S1-S4 terminals. S1-S4 terminals can be connected to an indoor sensor, outdoor sensor, discharge sensor, return sensor, dry contact device to display an alert or an occupancy sensor for remote setback.
- 5 Connect wireless adapter to ABCD for extended wireless range.

Using universal relays to control heating or cooling

(Prestige and RedLINK VisionPRO models only.)



- 1 U1/U2/U3 terminals are normally open dry contacts when set up for a stage of heating or cooling.
- 2 You must install a field jumper if the stage of heating or cooling is powered by system transformer. Do NOT install a field jumper if the stage of heating has its own transformer.

Dry contact alerts

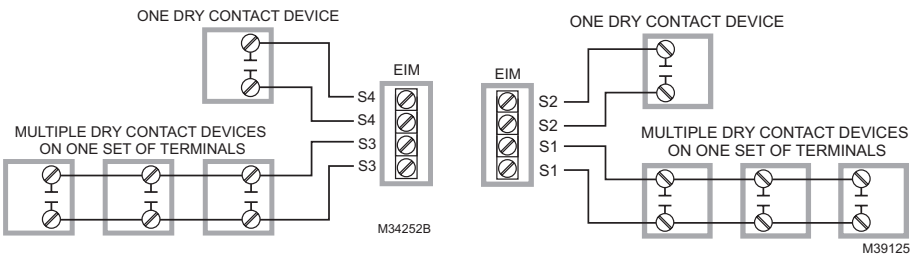
(Prestige and RedLINK VisionPRO models only.)

⚠ EQUIPMENT DAMAGE HAZARD. Do not apply power to S1–S4 terminals. Do not connect a temperature sensor to the S1–S4 terminals if set for a dry contact device.

🔧 NOTE: The dry contact device must be rated for low voltage.

If you are not using the S1–S4 terminals on the EIM, you can connect them to a dry contact device to display an alert. Dry contact alerts include Full Drain Pan, Dirty Filter, Water Leak, System Shutdown, Service Needed, Fan Failure and Custom Alert. Dry contact device can be normally open (shown in diagram) or normally closed.

🔧 NOTE: You can connect multiple Dry Contact devices in parallel to the S1–S4 terminals.

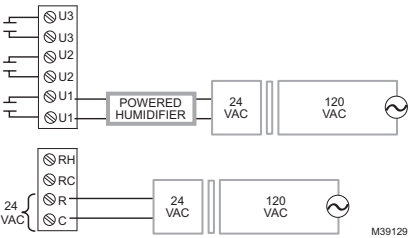


Wiring humidification, dehumidification and ventilation

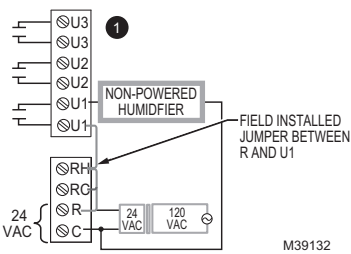
(Prestige and RedLINK VisionPRO models only.)

"U" terminals can be used for humidification, dehumidification or ventilation.

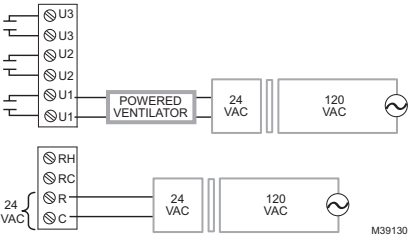
Typical hookup of powered humidifier



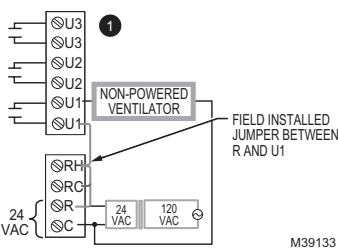
Typical hookup of non-powered humidifier



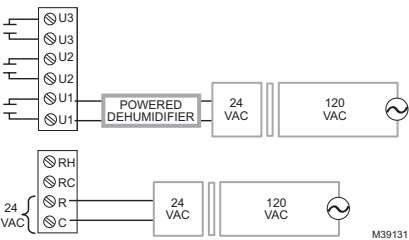
Typical hookup of powered ventilation



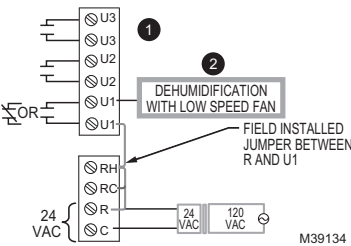
Typical hookup of non-powered ventilation



Typical hookup of powered dehumidifier (whole house dehumidifier)



Typical hookup of variable speed blower for dehumidification in low speed



- 1 Any combination of universal relays (U1, U2, U3) can be used. They are set in the thermostat installer setup.
- 2 Wire the universal EIM relay to the low speed fan for dehumidification control at the equipment. The EIM relay can be set to be normally open or normally closed in the thermostat installer setup.

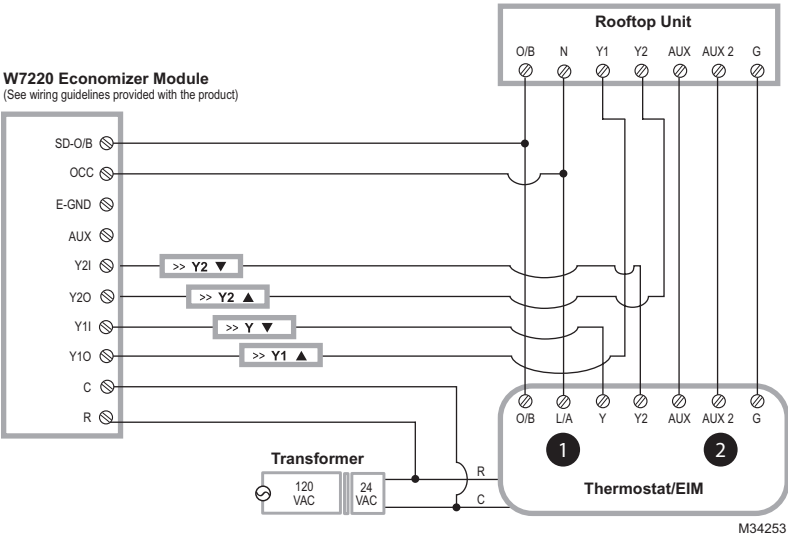
Normally open, dry contacts

Normally closed, dry contacts

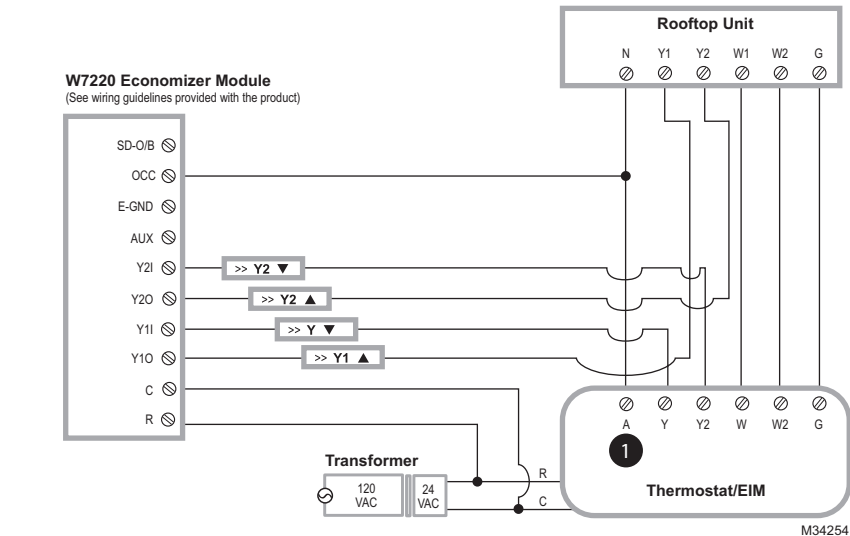
Economizer Module wiring guides

(Prestige and RedLINK VisionPRO models only.)

Typical wiring of a W7220 Economizer Module for a heat pump system, using a VisionPRO with RedLINK thermostat or Equipment Interface Module.



Typical wiring of a W7220 Economizer Module for a conventional system, using a VisionPRO with RedLINK thermostat or Equipment Interface Module.

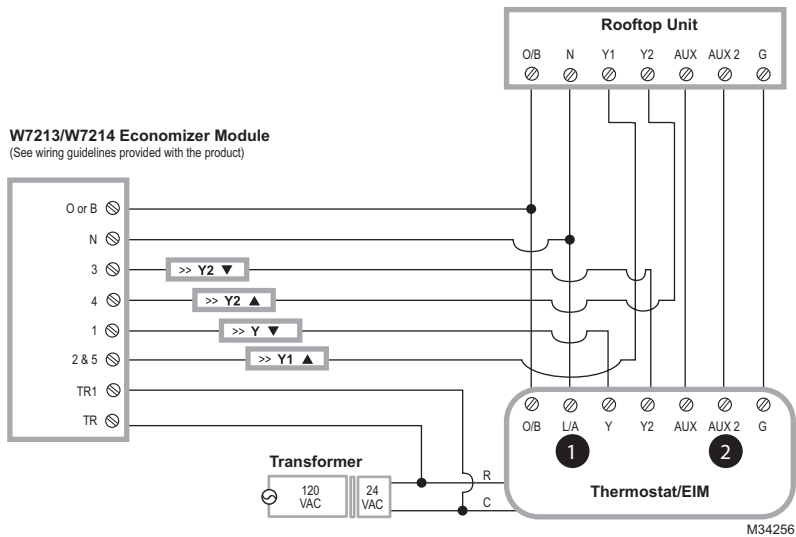


- 1 "A" or "L/A" terminal must be configured for Economizer in the installer setup. These terminals are powered by the cooling transformer (Rc terminal).
- 2 Terminal AUX 2 is present only on the Equipment Interface Module.

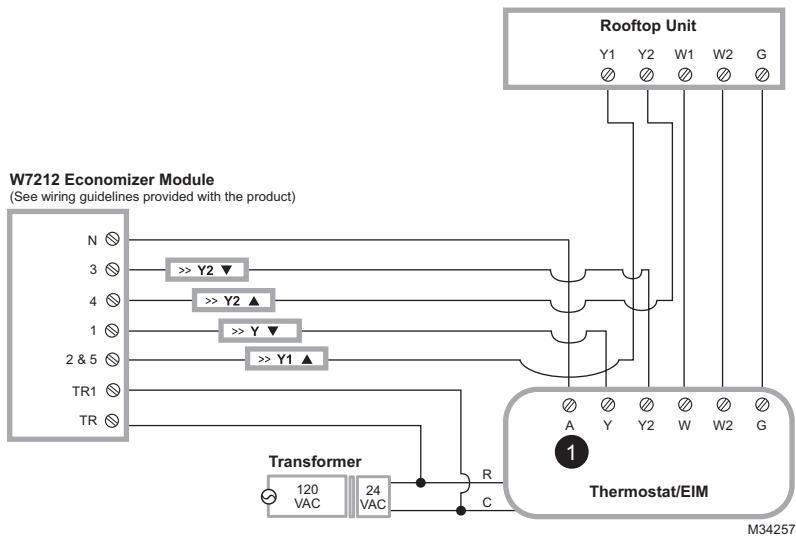
Economizer Module wiring guides

(Prestige and RedLINK VisionPRO models only.)

Typical wiring of a W7213/W7214 Economizer Module for a heat pump system, using a VisionPRO with RedLINK thermostat or Equipment Interface Module.



Typical wiring of a W7212 Economizer Module for a conventional heating system, using a VisionPRO with RedLINK thermostat or Equipment Interface Module.



- 1 "A" or "L/A" terminal must be configured for Economizer in the installer setup. These terminals are powered by the cooling transformer (Rc terminal).
- 2 Terminal AUX 2 is present only on the Equipment Interface Module.

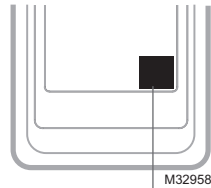
To replace the Equipment Interface Module (EIM)

When you replace an EIM, you must reset the RedLINK accessories before connecting them to the new thermostat. Follow the instructions below:

At the Portable Comfort Control:

Press and hold the blank space (or arrow) in the lower right hand corner of the screen until the display changes (hold for about 4 seconds). Press REMOVE, then YES to disconnect from the old thermostats. To reconnect the thermostat, go to Step 4.

Portable Comfort Control



Press and hold

At the Indoor Sensor, RedLINK Internet Gateway, Entry/Exit Remote, Vent-Filter Boost Remote or Wireless Adapter:

Press and hold the CONNECT button on the accessory until the status light glows amber (hold for about 10 seconds). To reconnect the thermostat, go to Step 4.

At the Prestige or RedLINK VisionPRO Thermostat:

Go to **Installer Options**, **Wireless Device Manager**, **Remove Device**, and **Select This Thermostat**. Follow the prompts on the screen to connect the thermostat to the new EIM.

At the FocusPRO Thermostat:

Go into Installer Setup and advance to ISU 90. Set that to 1 for do a factory reset.

Specifications

Prestige and RedLINK VisionPRO:

Control for up to 4 Heat/2 Cool heat pump systems or up to 3 Heat/2 Cool conventional systems for residential and commercial applications.

RedLINKFocusPRO:

Control for up to 3 Heat/2 Cool heat pump systems or up to 2 Heat/2 Cool conventional systems for residential applications.

Operating Ambient Temperature

Equipment Interface Module: -40 to 165° F (-40 to 74° C)

Operating Relative Humidity

Equipment Interface Module: 5% to 95% (non-condensing)

Physical Dimensions (height, width, depth)

Equipment Interface Module: 9-5/16 x 4-13/16 x 1-19/32 inches (91 x 147 x 42 mm)

Electrical ratings

Terminal	Voltage (50/60 Hz)	Max. Current Rating
W - OB	18 to 30 VAC and 750 mVDC	1.00A
Y (cooling)	18 to 30 VAC	1.00A
G (fan)	18 to 30 VAC	0.50A
W2 - Aux 1 (heating)	18 to 30 VAC	0.60A
Y2 (cooling)	18 to 30 VAC	0.60A
W3 - Aux 2	18 to 30 VAC	1.00A
A-L/A (output)	18 to 30 VAC	1.00A
U1, U1	30 VAC max.	0.50A
U2, U2	30 VAC max.	0.50A
U3, U3	30 VAC max.	0.50A

Accessories and replacement parts

Accessories / Replacement Parts	Part Number
Equipment Interface Module	THM5421R1021
Equipment Remote Module (outdoor unit or boiler)	ERM5220R1018*
RedLINK Internet Gateway	THM6000R7001
Wireless Entry/Exit Remote	REM1000R1003
Wireless Vent and Filter Boost Remote	HVC20A1000
Portable Comfort Control	REM5000R1001
Wireless Outdoor Sensor	C7089R1013
Wireless Indoor Sensor	C7189R1004*
Wired Outdoor Sensor 10k ohm NTC	C7089U1006*
Wired Wall-mount Indoor Sensor 10k ohm NTC	C7189U1005
Supply or Return Air Sensor 10k ohm NTC	C7735A1000
Cover plate for Prestige or RedLINK VisionPRO	50028399-001
Cover plate for RedLINK FocusPRO	50002883 001
Wireless Adapter for TrueZone, or extended wireless range	THM4000R1000

* Not compatible with RedLINK FocusPRO

Regulatory information

FCC Compliance Statement (Part 15.19) (USA only):

This device 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.

FCC Warning (Part 15.21) (USA only):

Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

FCC Interference Statement (Part 15.105 (b)) (USA only):

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Equipment interface module, thermostats and outdoor sensor:

To comply with FCC and Industry Canada RF exposure limits for general population/ uncontrolled exposure, the antenna(s) used for these transmitters must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Portable Comfort Control:

This portable transmitter with its antenna complies with FCC and Industry Canada RF exposure limits for general population/uncontrolled exposure. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

Section 7.1.2 of RSS-GEN:

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Section 7.1.3 of RSS-GEN:

Operation is subject to the following two conditions:

- 1 This device may not cause interference, and
- 2 This device must accept any interference, including interference that may cause undesired operation of the device.

**CAUTION: ELECTRICAL HAZARD**

Can cause electrical shock or equipment damage. Disconnect power before beginning installation.

**CAUTION: EQUIPMENT DAMAGE HAZARD**

Compressor protection is bypassed during testing. To prevent equipment damage, avoid cycling the compressor quickly.

**CAUTION: MERCURY NOTICE**

If this product is replacing a control that contains mercury in a sealed tube, do not place the old control in the trash. Contact your local waste management authority for instructions regarding recycling and proper disposal.

**CAUTION: ELECTRONIC WASTE NOTICE**

The product should not be disposed of with other household waste. Check for the nearest authorized collection centers or authorized recyclers. The correct disposal of end-of-life equipment will help prevent negative consequences for the environment and human health.

**CAUTION: MUST BE INSTALLED BY A TRAINED, EXPERIENCED TECHNICIAN**

Read these instructions carefully. Failure to follow these instructions can damage the product or cause a hazardous condition.

Need Help?

For assistance please visit **<http://customer.resideo.com>**, or call toll-free: **1-800-468-1502**



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