

Z24 Wireless Zone Controller

Professional Installation Guide



Pelican Wireless Systems, 2655 Collier Canyon Rd. Livermore, CA 94551
Phone: 888.512.0490
Email: support@pelicanwireless.com Website: www.pelicanwireless.com

Table of Contents

Specifications & Equipment	3
Terminal Designations.....	4
Component Installation Locations.....	5
Mounting Locations	6
Installing the Z24.....	7
Z24 to Wireless Module.....	7
Z24 Wiring Guide.....	8
Conventional Unit Wiring Guide.....	8
Heat Pump Unit Wiring Guide.....	14
Constant Speed Fan.....	16
Bypass 0-10VDC Output	18
Variable Speed Fan 0-10VDC Output.....	18
Turn On/Off Variable Speed Fan.....	19
Economizer 0-10VDC Output.....	19
Bypass and Economizer 0-10VDC Output.....	20
Variable Speed Fan and Economizer 0-10VDC Output.....	21
10K Type II Analog Input.....	21
System Setup and Configuration.....	23
Sequence of Operations.....	26
Troubleshooting Wireless	29
Troubleshooting Signal Outputs	30

CAUTION AND WARNING

Failure to follow these instructions or a result of improper installation, service, adjustments, maintenance, and/or use can result in personal injury, damage to personal property, and/or cause a hazardous and dangerous situation. Consult a qualified installer, distributor, or Pelican Wireless Systems for assistance or support. Follow all safety codes and regulations and all local and state building codes. Read instructions thoroughly and follow any warnings or notes.

Disconnect power during the installation of this product. All wiring must conform to local and state codes and ordinances. The Z24 is designed to wirelessly communicate with Pelican products only. This guide is designed to assist Pelican Certified Contractors on installing the Z24. For Certification assistance or other support questions contact Pelican Support at 888.512.0490.

PRE-INSTALLATION CONSIDERATIONS

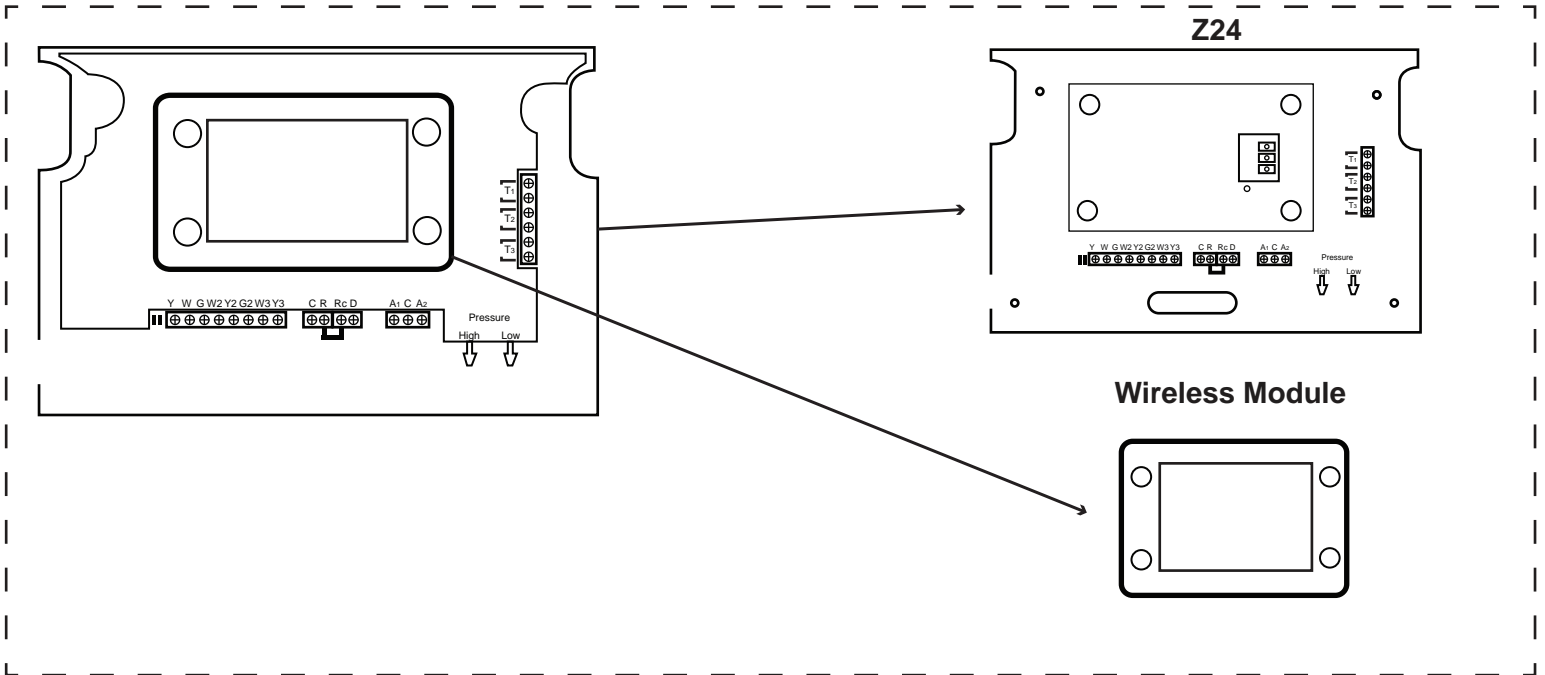
Before installing any zoning system forethought and planning should take place to identify which type of HVAC unit a Zone Controller will be controlling, how many stages the HVAC has, and how many zoned areas will be communicating with the Zone Controller. Because the Z24 uses wireless communication, plan installation locations appropriately for each product. Contact Pelican Support at 888.512.0490 for further assistance.

SPECIFICATIONS

Electrical

Power	24 VAC
Relay Current	1 AMP @ 24V
Variable Output	0-10 VDC
Thermistor Input	10K Type II
Pressure Range	0 – 9" WC

PROVIDED EQUIPMENT



20 Feet 1/8" Plastic Tubing



1 - Static Pressure Sensor



2 - 0.25" diameter 10K Type II Duct Probes



4 - 3/16" Machine Screws (Wireless Module Mounting)



1 - Electrical Box Gasket



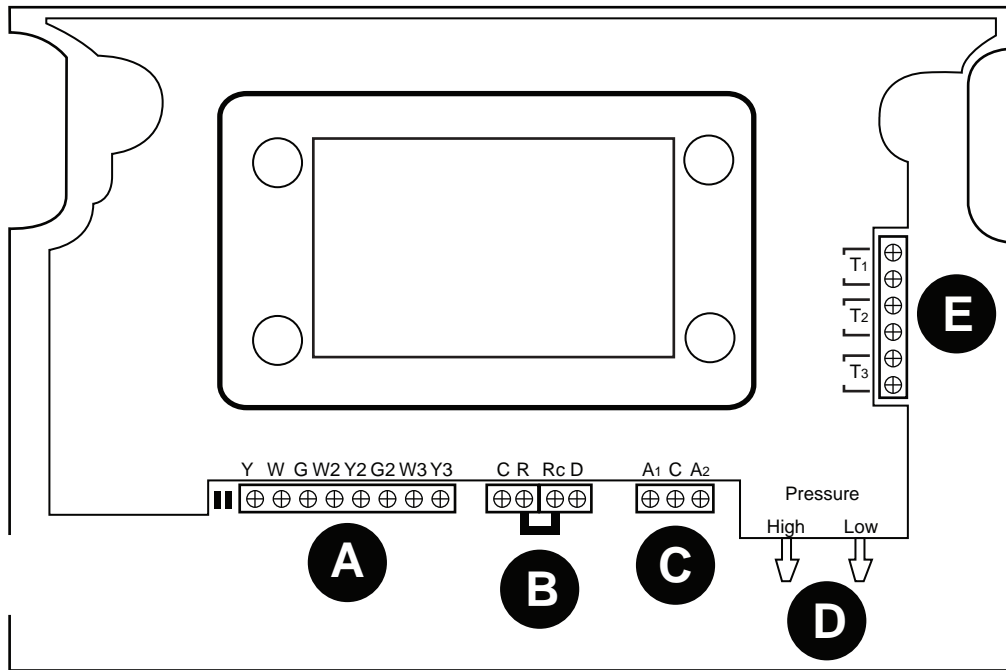
1 - 10K Type II Outdoor Temp. Probe



2 - 3/16" Sheet Metal Screws (Z24 Mounting)



TERMINAL DESIGNATIONS



A HVAC UNIT CONTROL (24VAC Digital Outputs)

Conventional

Y	Compressor Output 1
W	Heat Output 1
G	Low/Single Speed Fan
W2	Heat Output 2
Y2	Compressor Output 2
G2	High Speed Fan
W3	Heat Output 3
Y3	Compressor Output 3

Heat Pump

Y	Compressor Output 1
W	(O/B) Reversing Valve
G	Low/Single Speed Fan
W2	(AUX) Electric Heat
Y2	Compressor Output 2
G2	High Speed Fan
W3	(Not Used)
Y3	Compressor Output 3

Note:

Pages 8 - 13: Wiring Guide for Conventional HVAC units from 1-6 stages.

Pages 14 - 16: Wiring Guide for Heat Pump HVAC units from 1-3 stages and Aux Heat.

Pages 16 - 17: Wiring Guide for Constant Speed and High/Low Speed Fan applications.

Page 18 - 22: Wiring Guide for Bypass, Variable Speed Fan, and Economizer control.

B ELECTRICAL CONNECTIONS

C	Common 24 VAC
R	24 VAC Power
Rc	Two Transformer 24 VAC
D	Data

C 0-10VDC OUTPUTS

A1	0-10 VDC
C	Common
A1	0-10 VDC

D STATIC PRESSURE SENSOR

High	Duct Pressure
Low	Outside/Ambient Pressure

E 10K ANALOG INPUTS

T ₁	Input Terminal
T ₂	Input Terminal
T ₃	Input Terminal

Note:

"T" Terminals can accept either Type 2 10K temperature probe or a Dry Contact Sensor input to send an alarm notification through your Pelican Site Manager (pages 21-22).

COMPONENT INSTALLATION LOCATIONS

The Z24 is not waterproof, but is designed to operate in environments from -20°F to 140°F. If installed outside, the Z24 must be installed inside of the HVAC unit or in a plastic waterproof case outside of the HVAC unit.

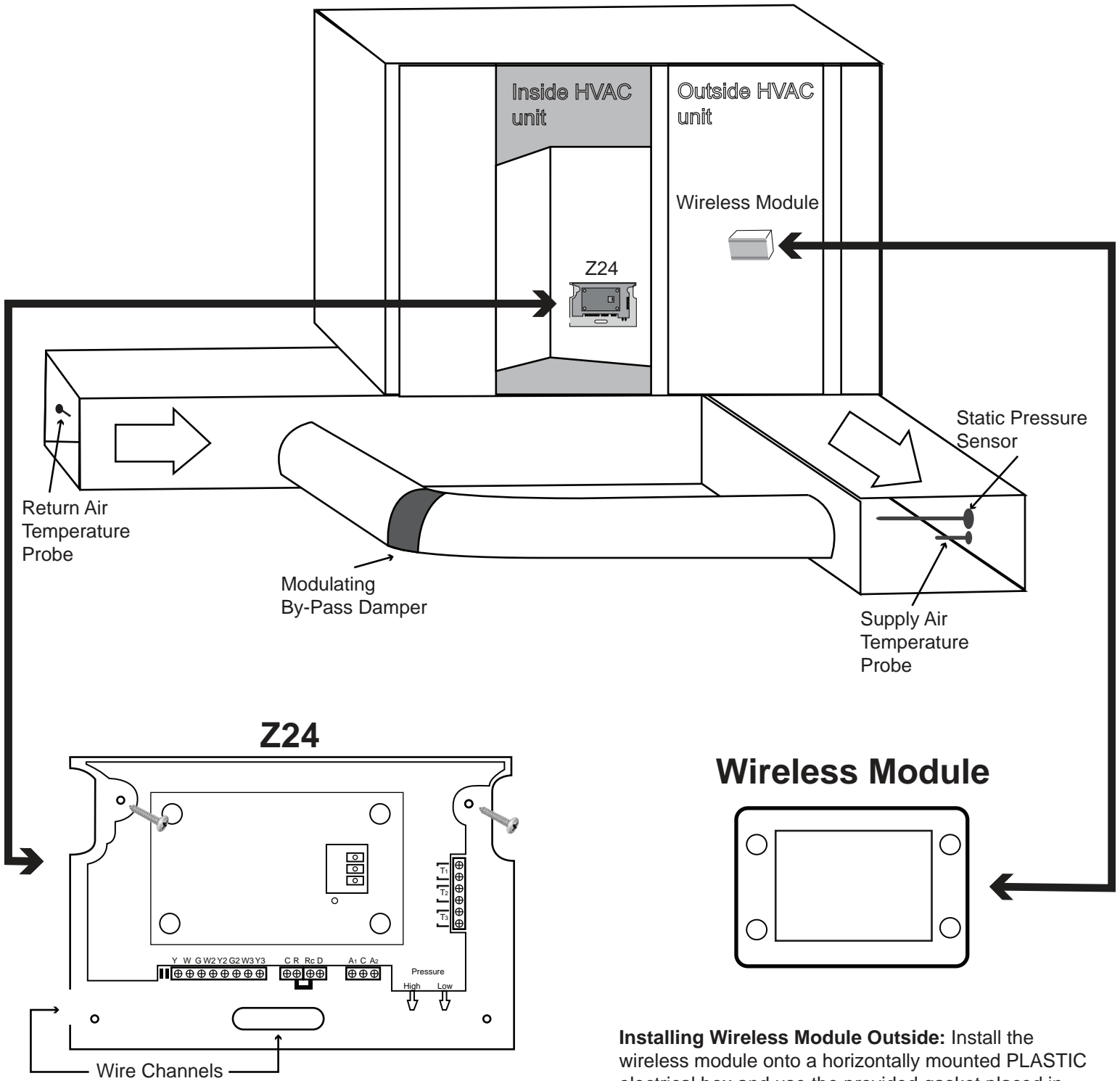
The Z24 comes with a wireless communicator (Wireless Module) which it uses to communicate with Pelican's wireless network. Wireless signals will not communicate through metal, so if the Z24 is installed inside of an enclosed metal HVAC unit or box, you will need to remove the Wireless Module and install it outside of the metal enclosure. (NOTE: If the Z24 is installed inside of a building and/or is not enclosed in metal, you do not need to remove the Wireless Module).

The Wireless Module is water and weather proof. Install the Wireless Module onto a PLASTIC electrical box with the provided gasket placed in between to keep water out. Using three wires, connect the Wireless Module's D, C, and R terminals to the Z24's D, C, R terminals (illustrated on page 7). The Wireless Module can be wired up to 500 feet away from the Z24 with non-shielded wire.

If the roof has a metal decking, install the Wireless Module below the metal roof line so that the wireless can reach into the building.

The illustration on the next page shows where to mount the Z24 and the Wireless Module if installing inside a rooftop HVAC unit.

MOUNTING LOCATIONS



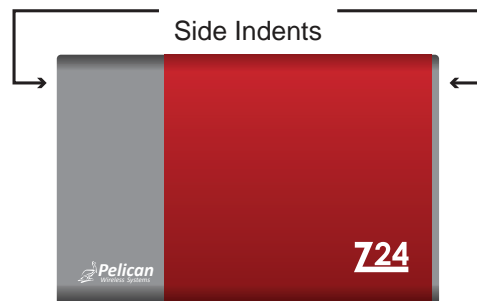
Mounting on a Flat Surface - use provided 3/16" sheet metal screws for mounting Z24.

Note: The Z24 is NOT waterproof and it should be installed inside of the HVAC unit or a waterproof box. If the Z24 is installed in a metal enclosure, remove the Wireless Module and install it outside of the HVAC unit or metal enclosure on a PLASTIC electrical box.

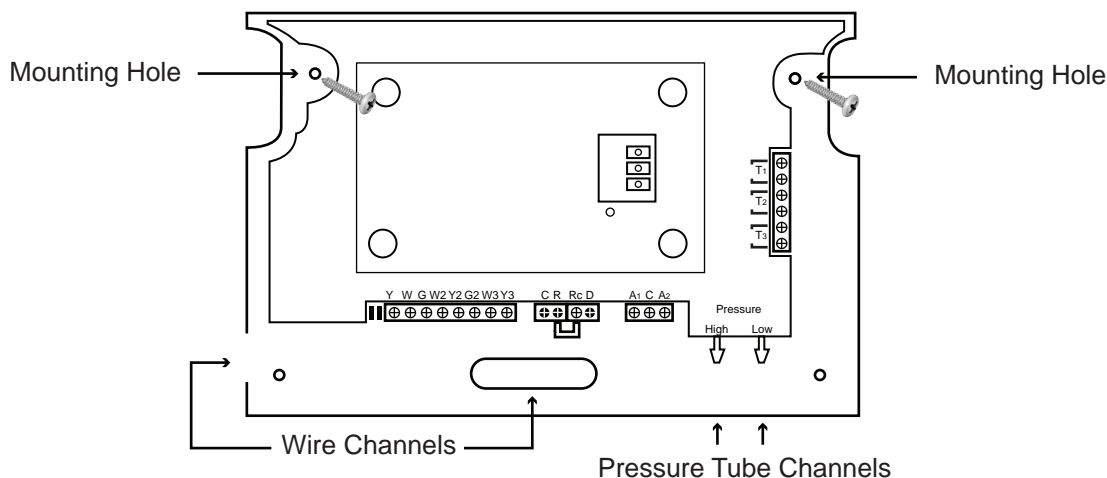
Installing Wireless Module Outside: Install the wireless module onto a horizontally mounted PLASTIC electrical box and use the provided gasket placed in between the lip of the wireless module and the lip of the plastic electrical box to keep water out. The Wireless Module is weather and water proof.

INSTALLING THE Z24

1. Remove the Z24's front cover by placing two fingers into the indents found on both sides of the Z24 and pulling the front cover away from the back panel. This will expose the terminals and mounting holes.



2. Place the Z24's back plate onto the flat mounting surface. Mark the two mounting holes. Drill two 3/16" holes into the surface you will be mounting the Z24 on. Note: There are two different wiring channels, one located on the side and the other for wires coming from behind the Z24. There are also two channels for running the static pressure tubes.



3. Follow the wiring instructions found in this installation guide for wiring the correct terminals to the specific HVAC unit the Z24 is going to control.

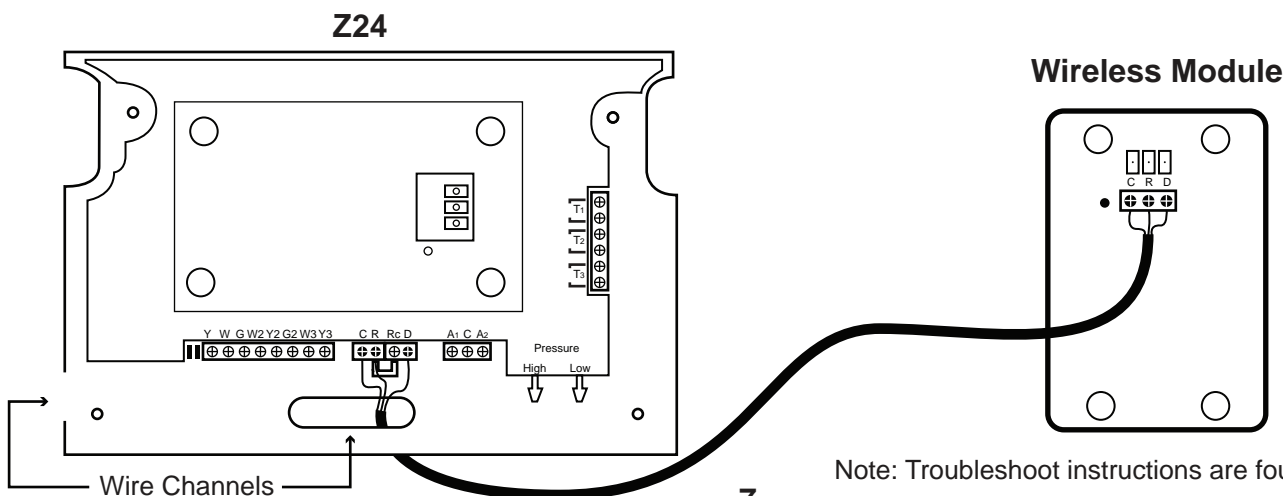
4. If the Z24 is installed inside of an HVAC unit or enclosed in a metal waterproof box, you will need to separate the Wireless Communicator from the Z24 by simply pulling it straight out. The Wireless Communicator is water and weather proof and can be installed onto a plastic electrical box outside of the metal enclosure. Below you will find wiring instructions for connecting the Z24 to the Wireless Communicator

5. Once all components are wired correctly, simply snap the front cover back onto the Z24.

WIRING GUIDE: Z24 TO WIRELESS MODULE

The Wireless Module should only be removed from the Z24 if the Z24 is installed in an enclosed metal box or is too far away from Pelican's wireless network. The Wireless Module can be installed up to 500 feet away from the Z24.

With the Wireless Module removed: connect the R, C, and D terminals from the Wireless Communicator to matching terminals on the Z24.



Note: Troubleshoot instructions are found on Page 26.

Z24 WIRING GUIDE

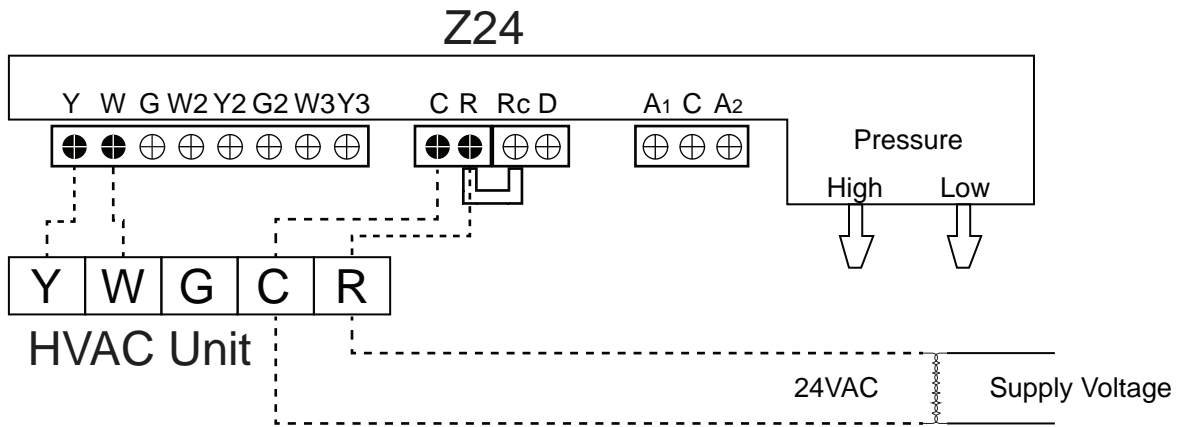
The Z24 is wired directly to the HVAC unit it will be controlling. The Z24 communicates using wireless to all zones and does not require any hardwired connection with zoned dampers or thermostats.

The following guide illustrates how to wire the Z24 to Conventional HVAC units from 1 to 6 stages of Heat and/or Cool and Heat Pump units from 1 to 3 stages of Heat and/or Cool. If your installation does not fall into one of the following categories or you have further questions contact Pelican Support at 888.512.0490.

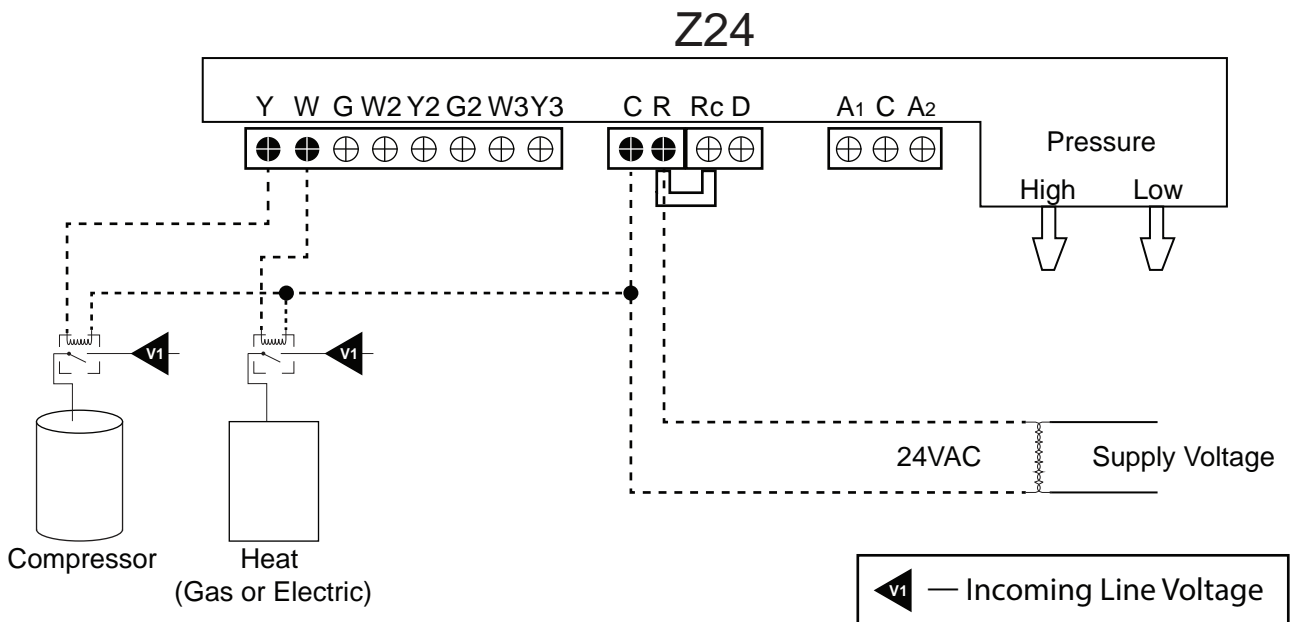
For additional wiring instructions (Analog Outputs and 10K Type II thermistor inputs) proceed to pages 16 - 22.

CONVENTIONAL UNIT WIRING GUIDE

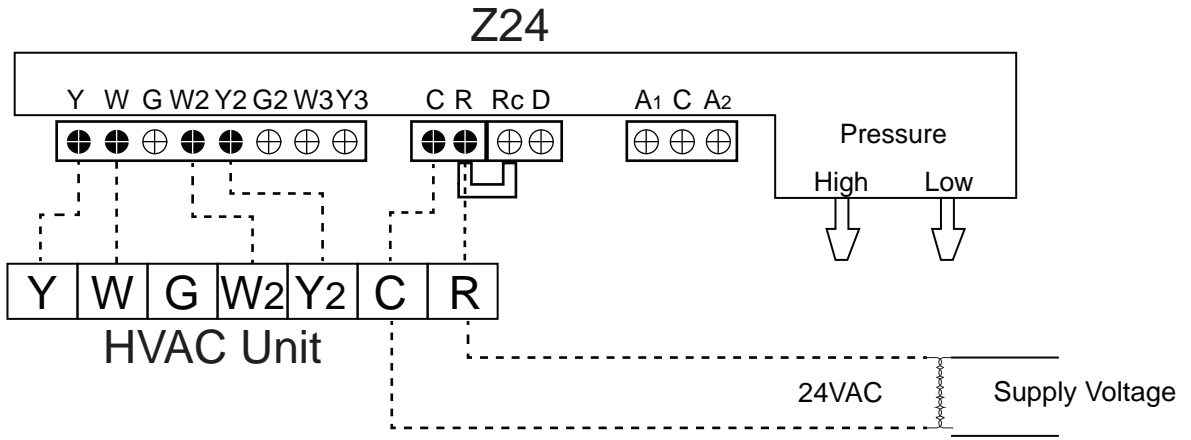
1 Stage Heat & 1 Stage Cool (Conventional Thermostat Terminals)



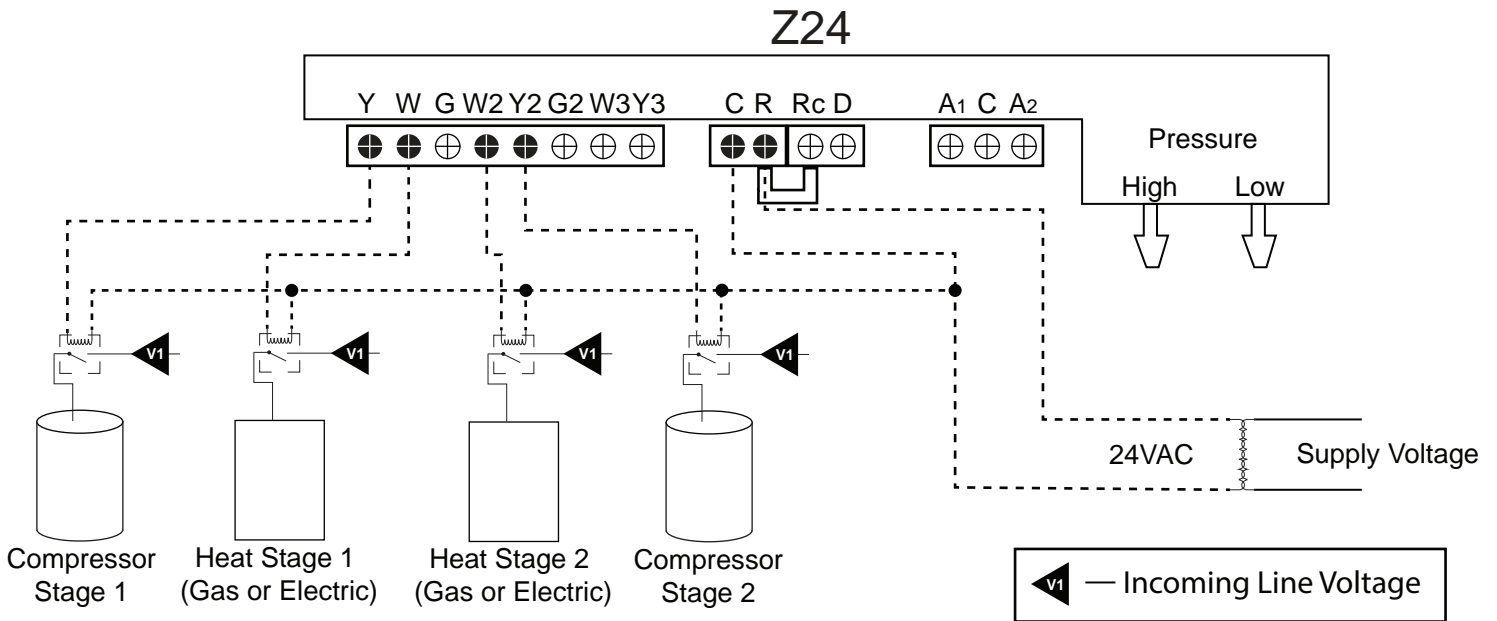
1 Stage Heat & 1 Stage Cool (Direct Interface Wiring)



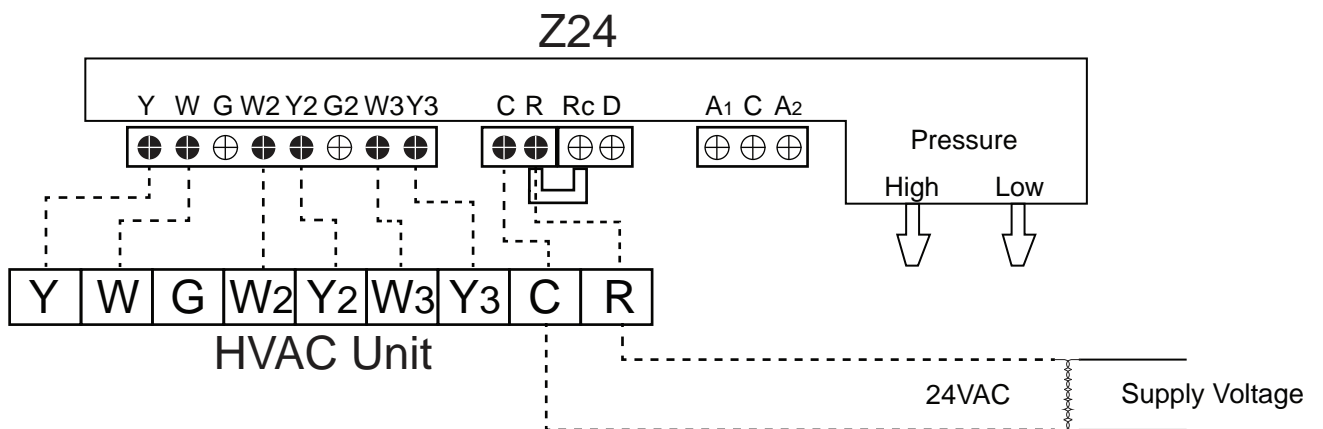
2 Stage Heat & 2 Stage Cool (Conventional Thermostat Terminals)



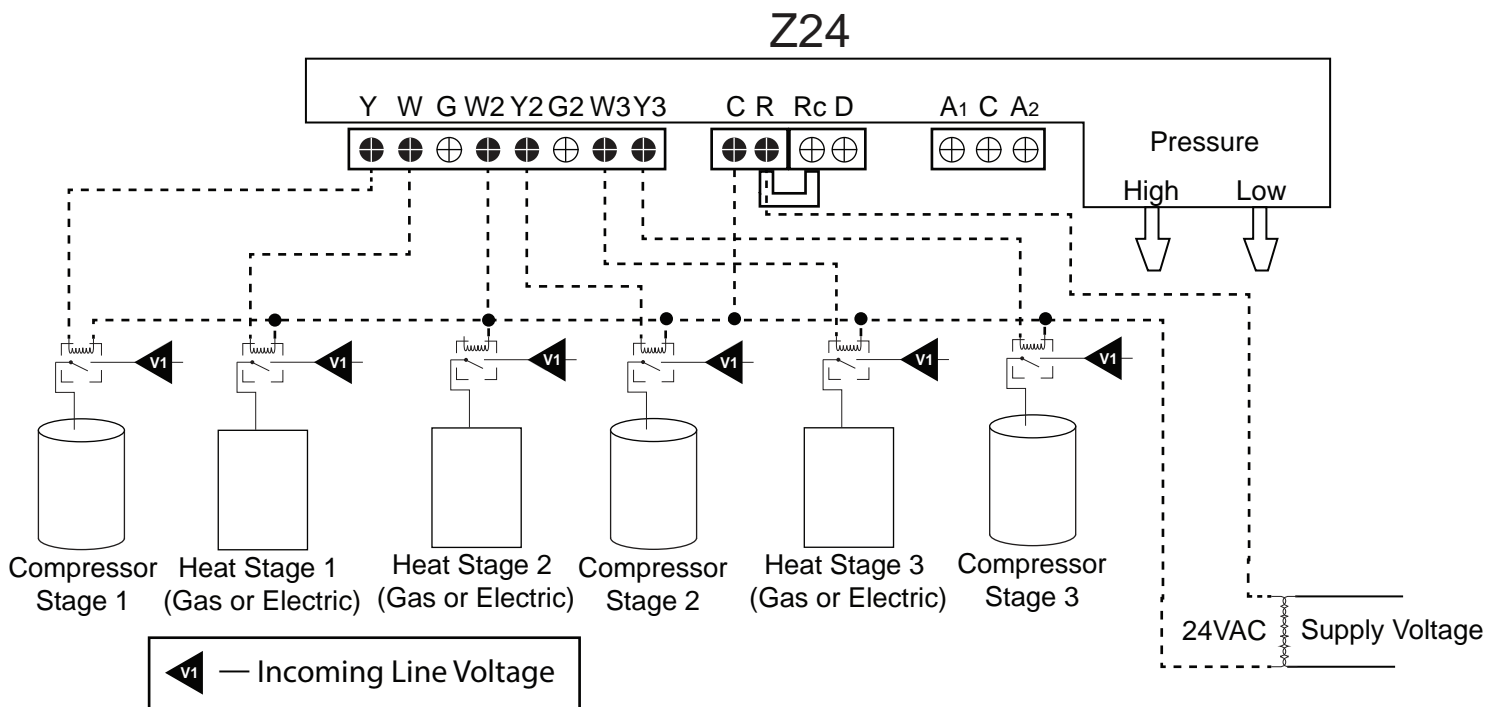
2 Stage Heat & 2 Stage Cool (Direct Interface Wiring)



3 Stage Heat & 3 Stage Cool (Conventional Thermostat Terminals)

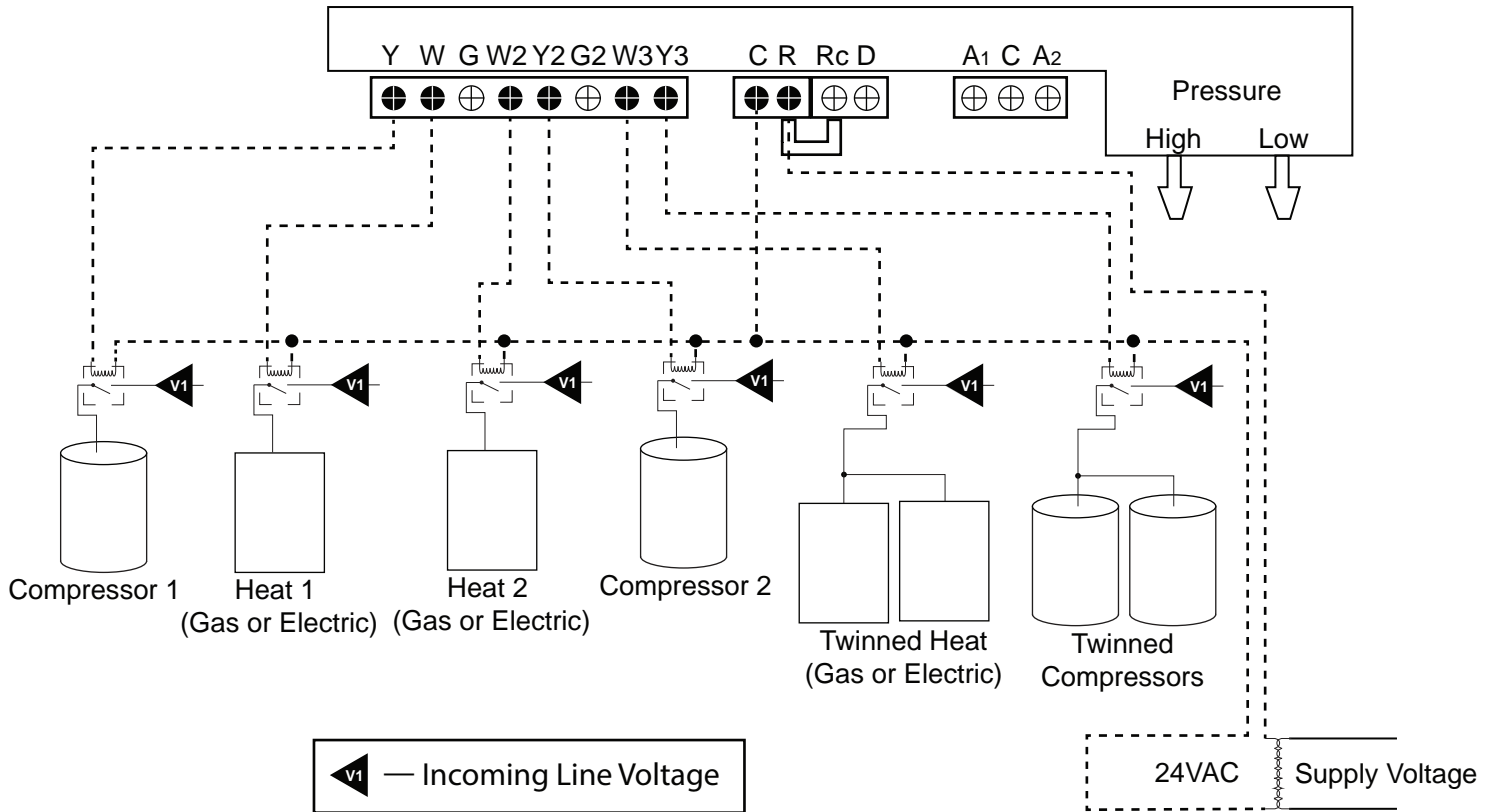


3 Stage Heat & 3 Stage Cool (Direct Interface Wiring)



4 Stage Heat & 4 Stage Cool (Direct Interface Wiring)

Z24



SEQUENCE OF OPERATIONS

Compressor Staging

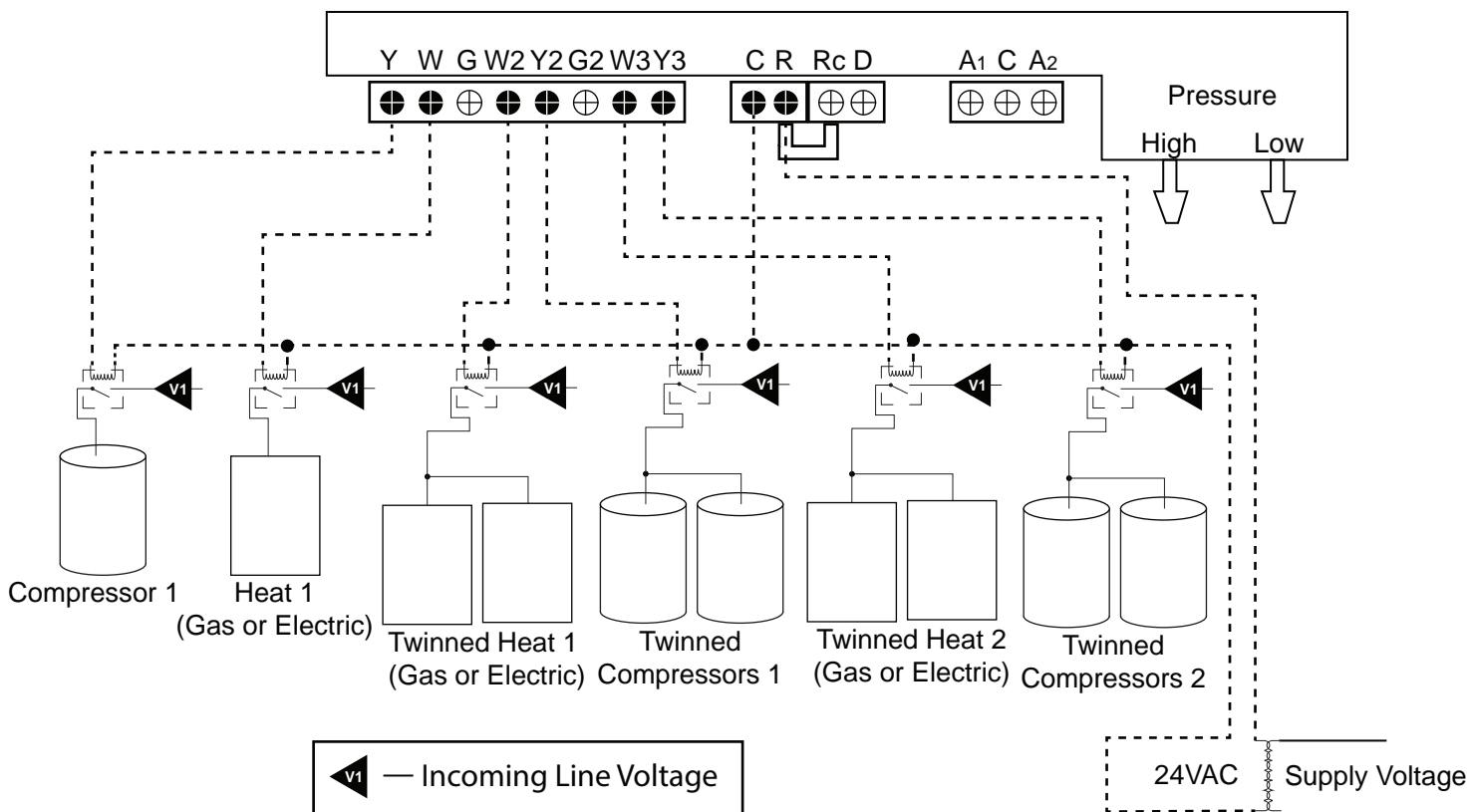
	Compressor (Y)	Compressor (Y2)	Compressors (Y3)
Stage 1	On	Off	Off
Stage 2	On	On	Off
Stage 3	Off	On	On
Stage 4	On	On	On

Heat Staging

	Heat (W)	Heat (W2)	Heat (W3)
Stage 1	On	Off	Off
Stage 2	On	On	Off
Stage 3	Off	On	On
Stage 4	On	On	On

5 Stage Heat/5 Stage Cool (Direct Interface Wiring)

Z24



SEQUENCE OF OPERATIONS

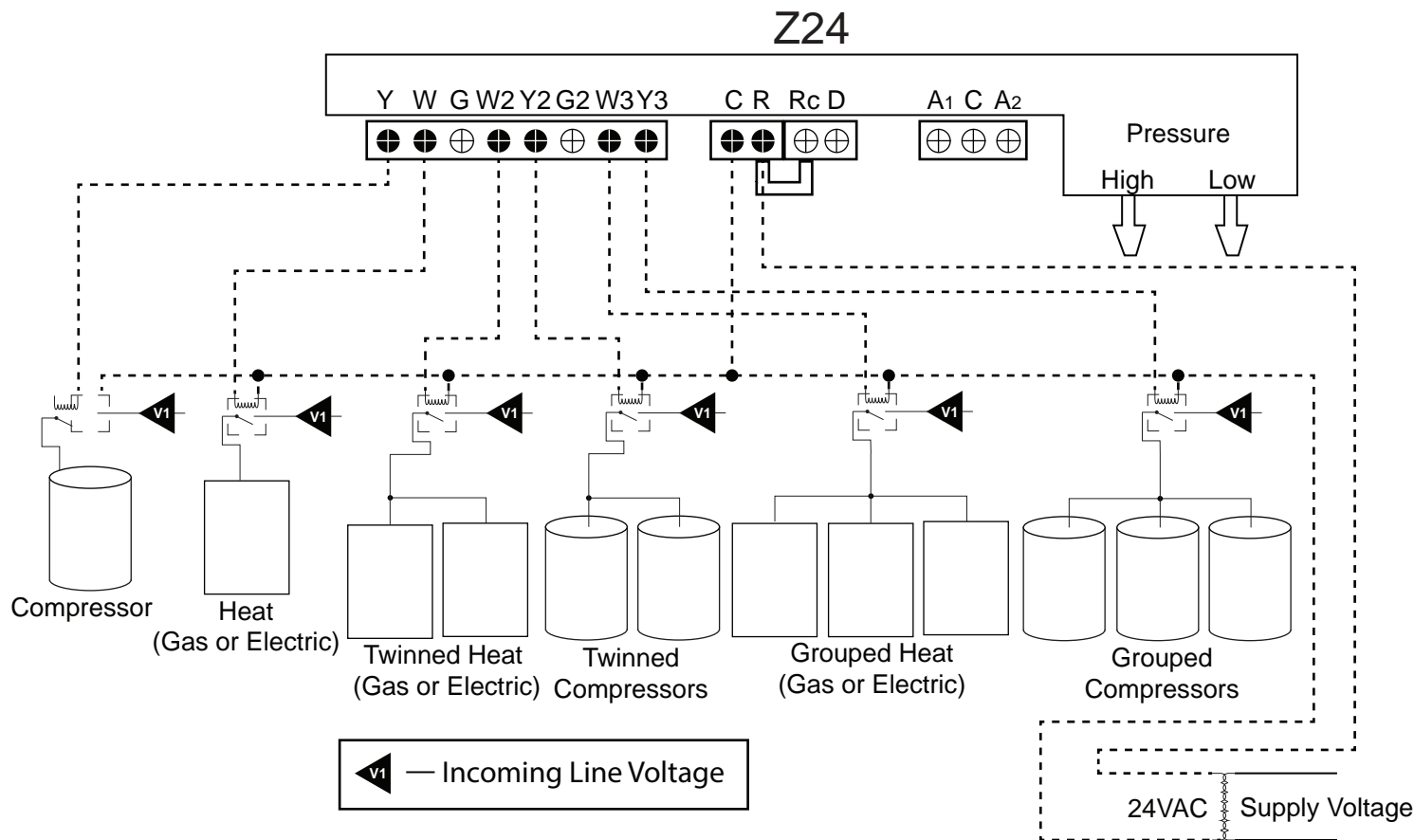
Compressor Staging

	Compressor (Y)	Compressors (Y2)	Compressors (Y3)
Stage 1	On	Off	Off
Stage 2	Off	On	Off
Stage 3	On	Off	On
Stage 4	Off	On	On
Stage 5	On	On	On

Heat Staging

	Heat (W)	Heat (W2)	Heat (W3)
Stage 1	On	Off	Off
Stage 2	Off	On	Off
Stage 3	On	Off	On
Stage 4	Off	On	On
Stage 5	On	On	On

6 Stage Heat/6 Stage Cool (Direct Interface Wiring)



SEQUENCE OF OPERATIONS

Compressor Staging

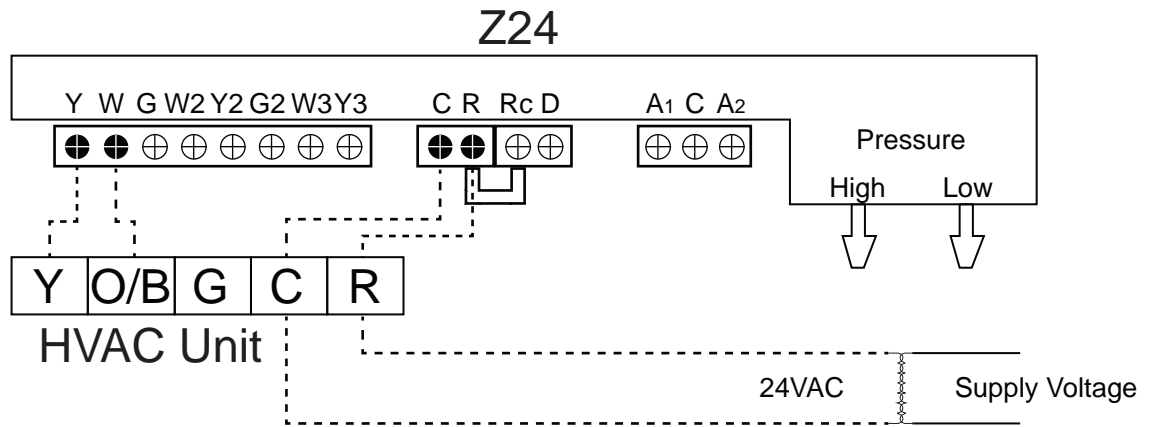
	Compressor (Y)	Compressors (Y2)	Compressors (Y3)
Stage 1	On	Off	Off
Stage 2	Off	On	Off
Stage 3	Off	Off	On
Stage 4	On	Off	On
Stage 5	Off	On	On
Stage 6	On	On	On

Heat Staging

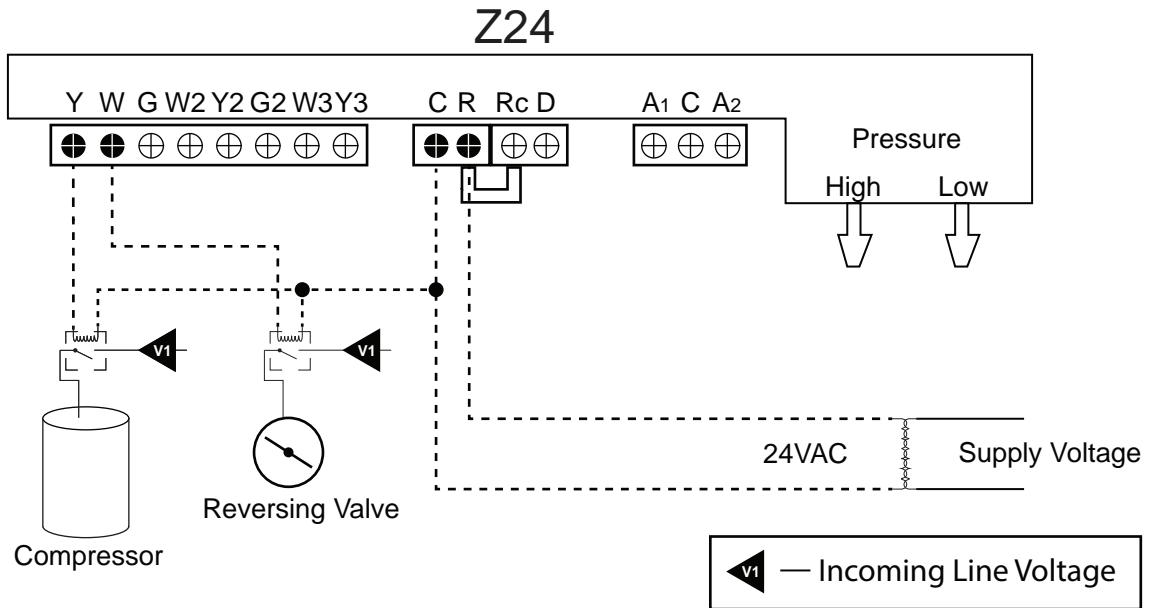
	Heat (W)	Heat (W2)	Heat (W3)
Stage 1	On	Off	Off
Stage 2	Off	On	Off
Stage 3	Off	Off	On
Stage 4	On	Off	On
Stage 5	Off	On	On
Stage 6	On	On	On

HEAT PUMP UNIT WIRING GUIDE

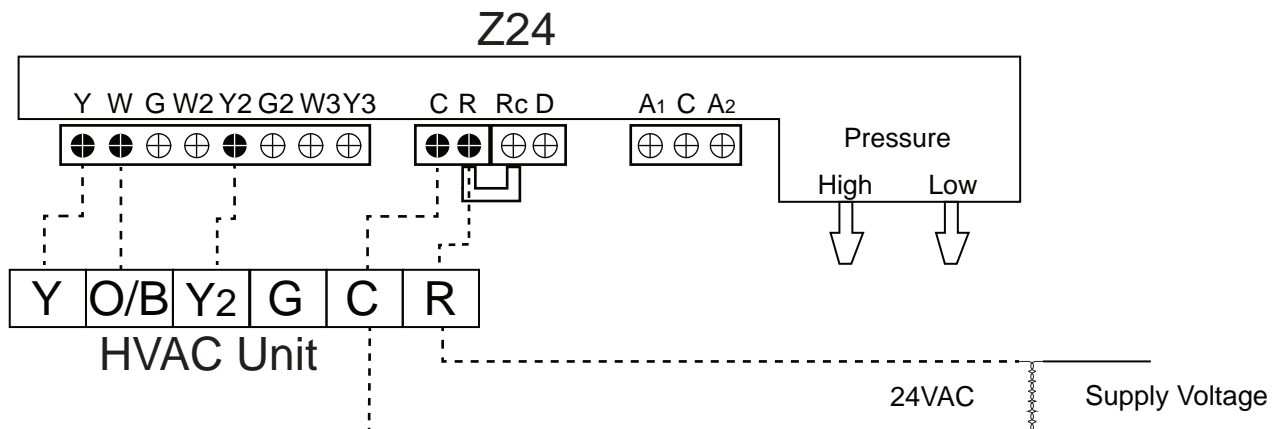
1 Stage Heat & 1 Stage Cool (Conventional Thermostat Terminals)



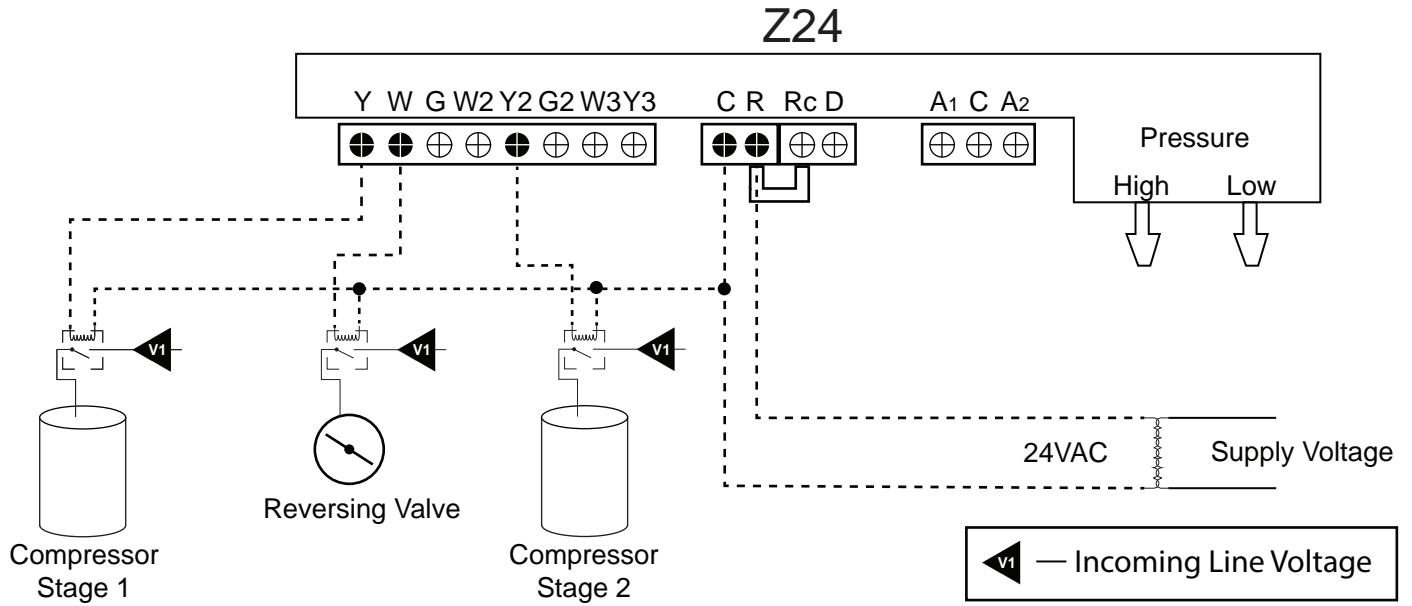
1 Stage Heat & 1 Stage Cool (Direct Interface Wiring)



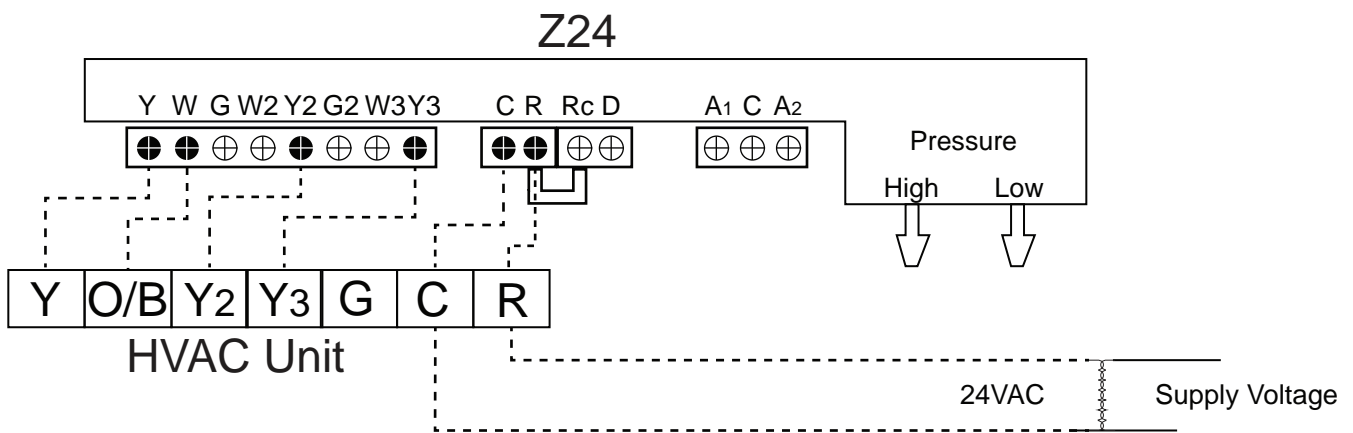
2 Stage Heat & 2 Stage Cool (Conventional Thermostat Terminals)



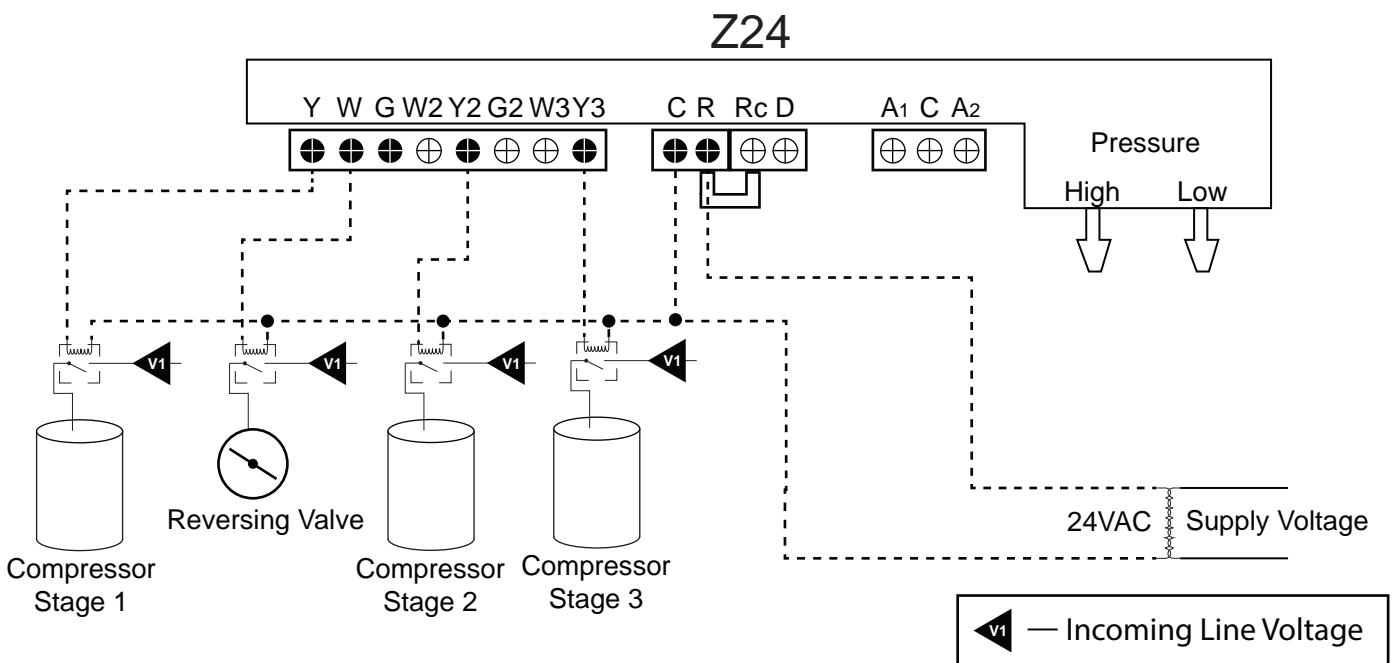
2 Stage Heat/ 2 Stage Cool (Direct Interface Wiring)



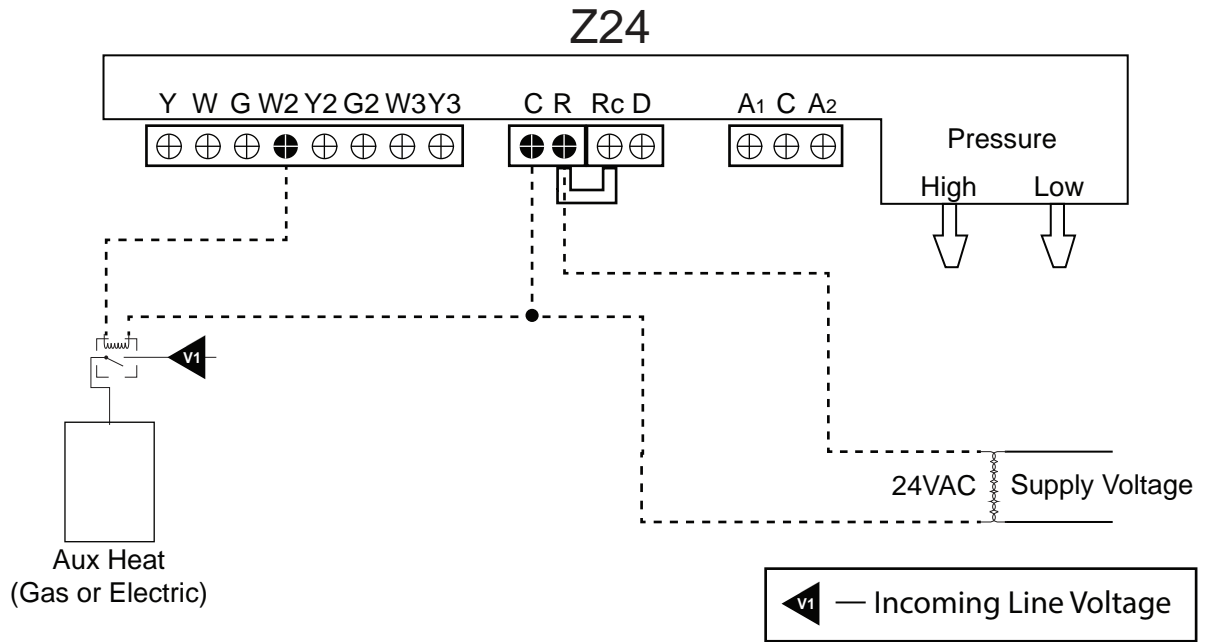
3 Stage Heat/3 Stage Cool (Conventional Thermostat Terminals)



3 Stage Heat/3 Stage Cool (Direct Interface Wiring)

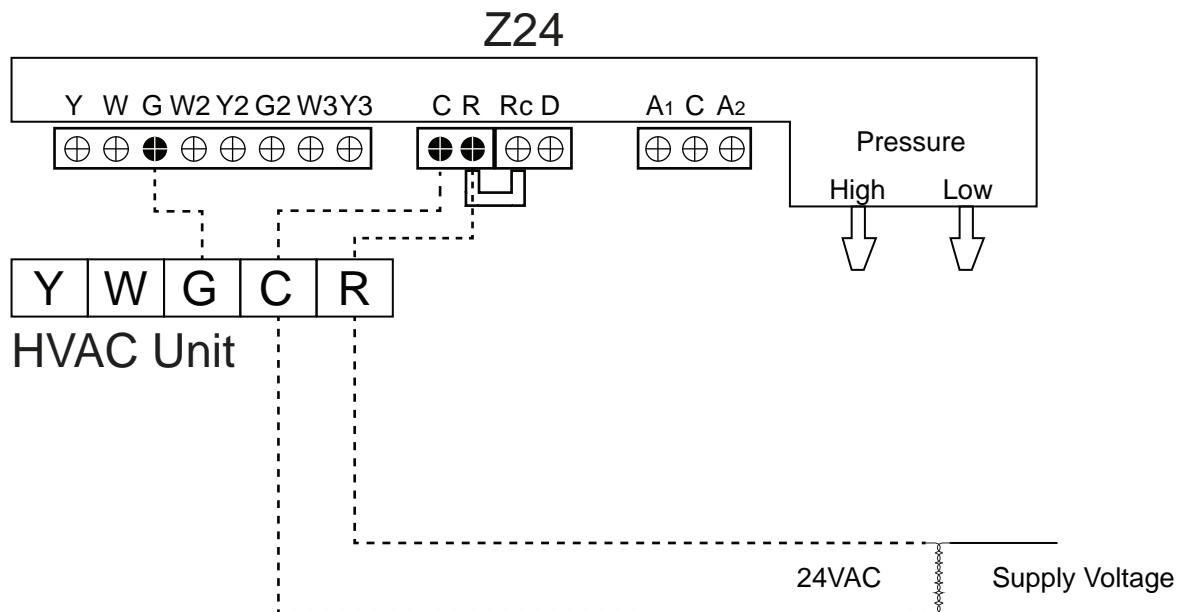


Aux Heat (Direct Interface Wiring)

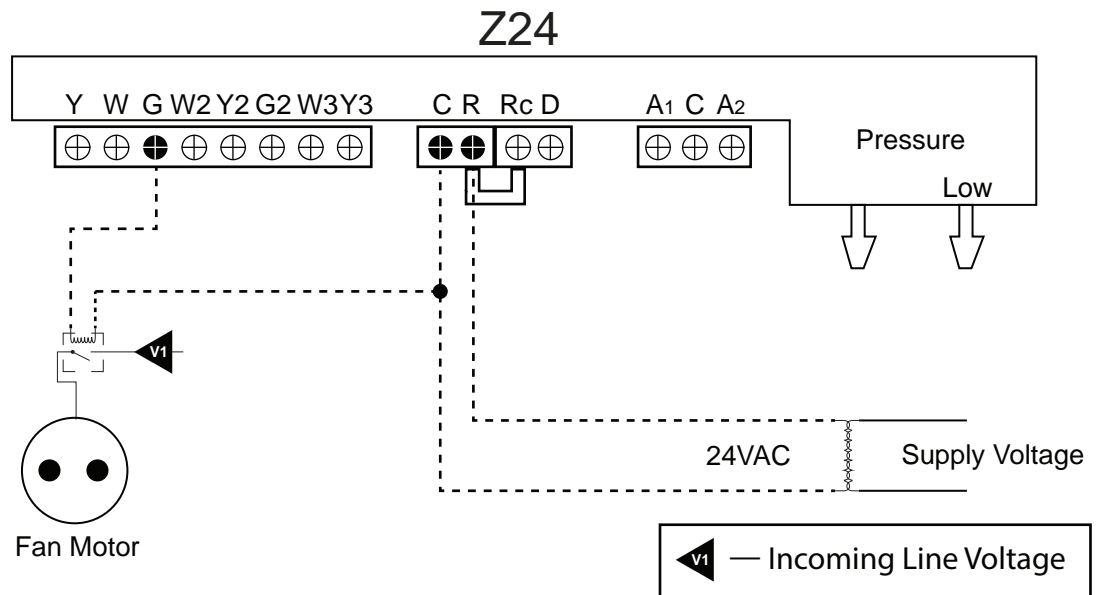


CONSTANT SPEED FAN WIRING GUIDE

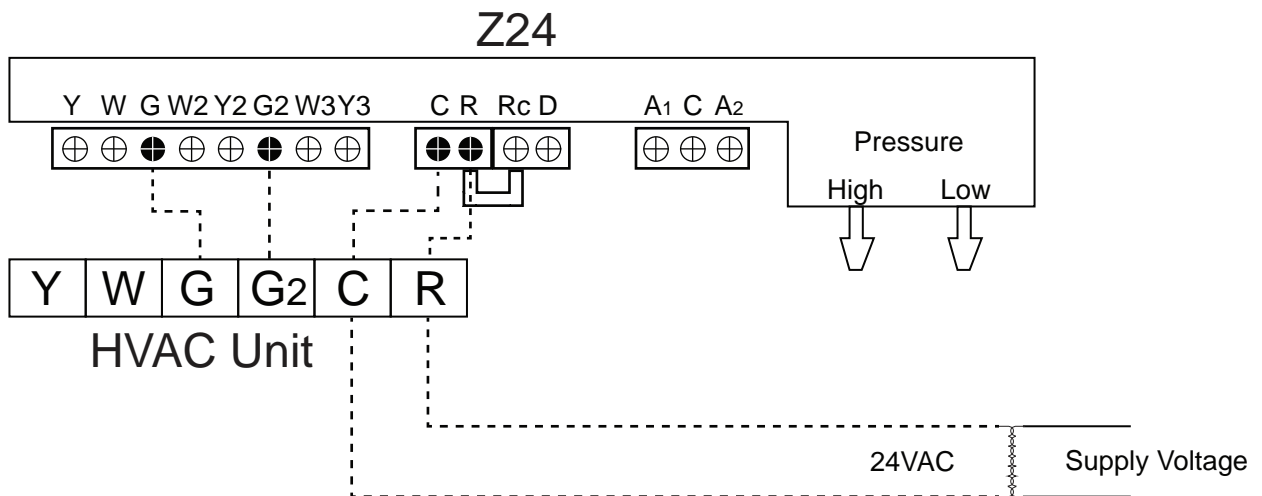
Single Speed Fan (Conventional Thermostat Terminals)



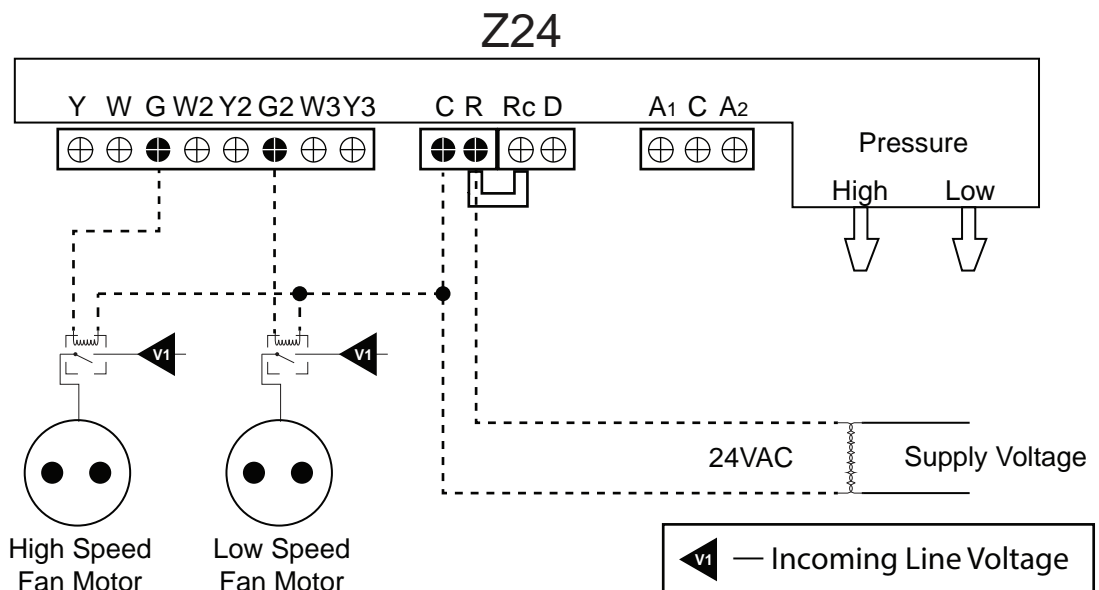
Single Speed Fan (Direct Interface Wiring)



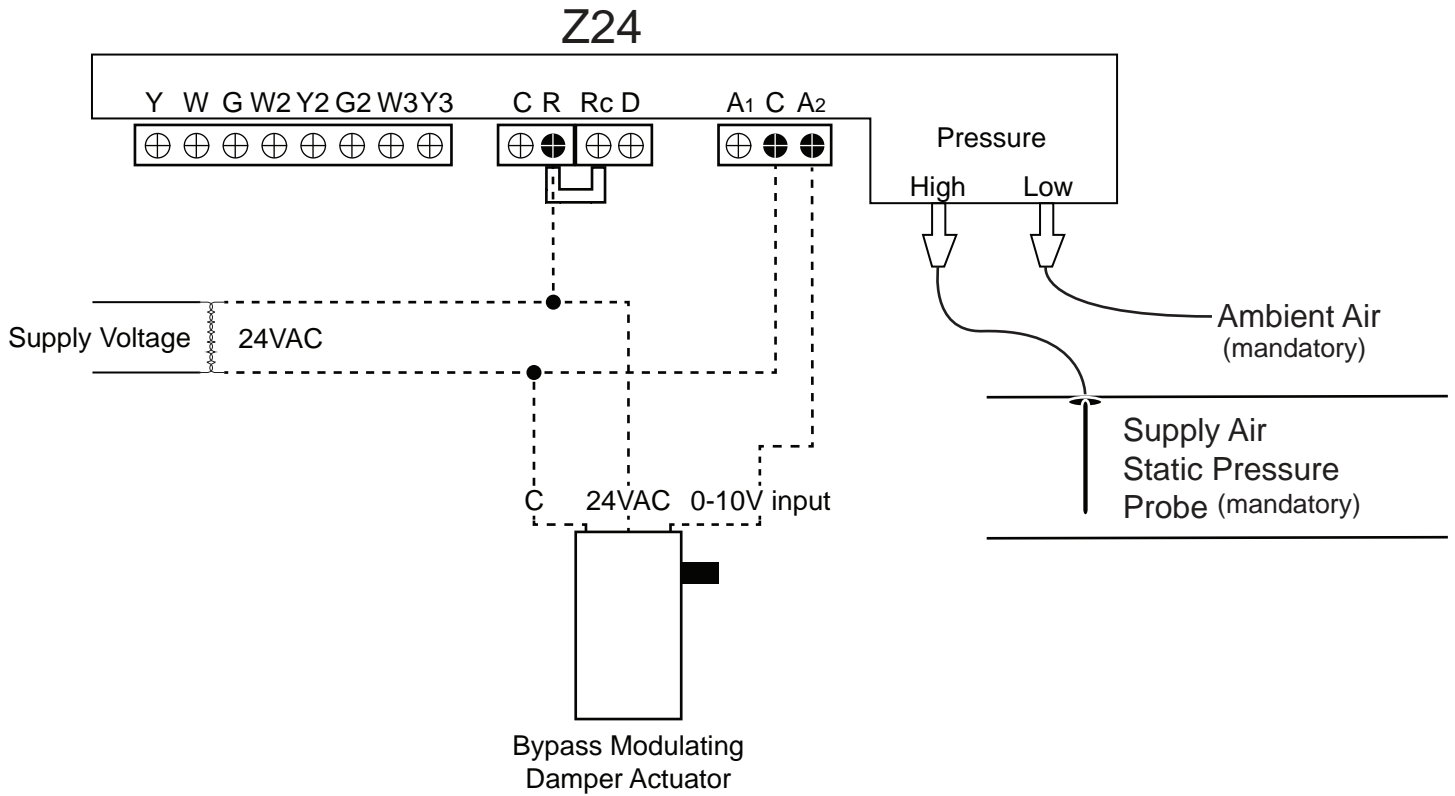
High/Low Speed Fan (Conventional Thermostat Terminals)



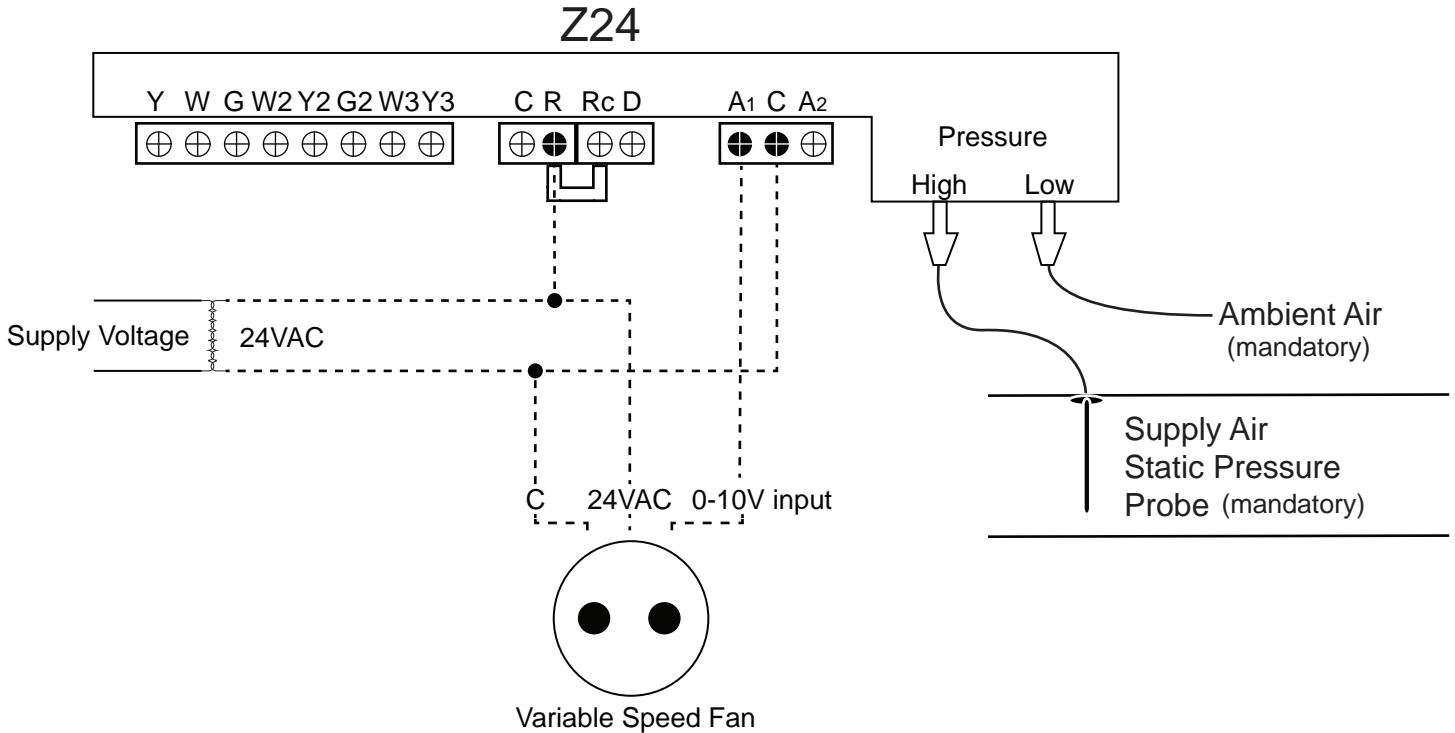
High/Low Speed Fan (Direct Interface Wiring)



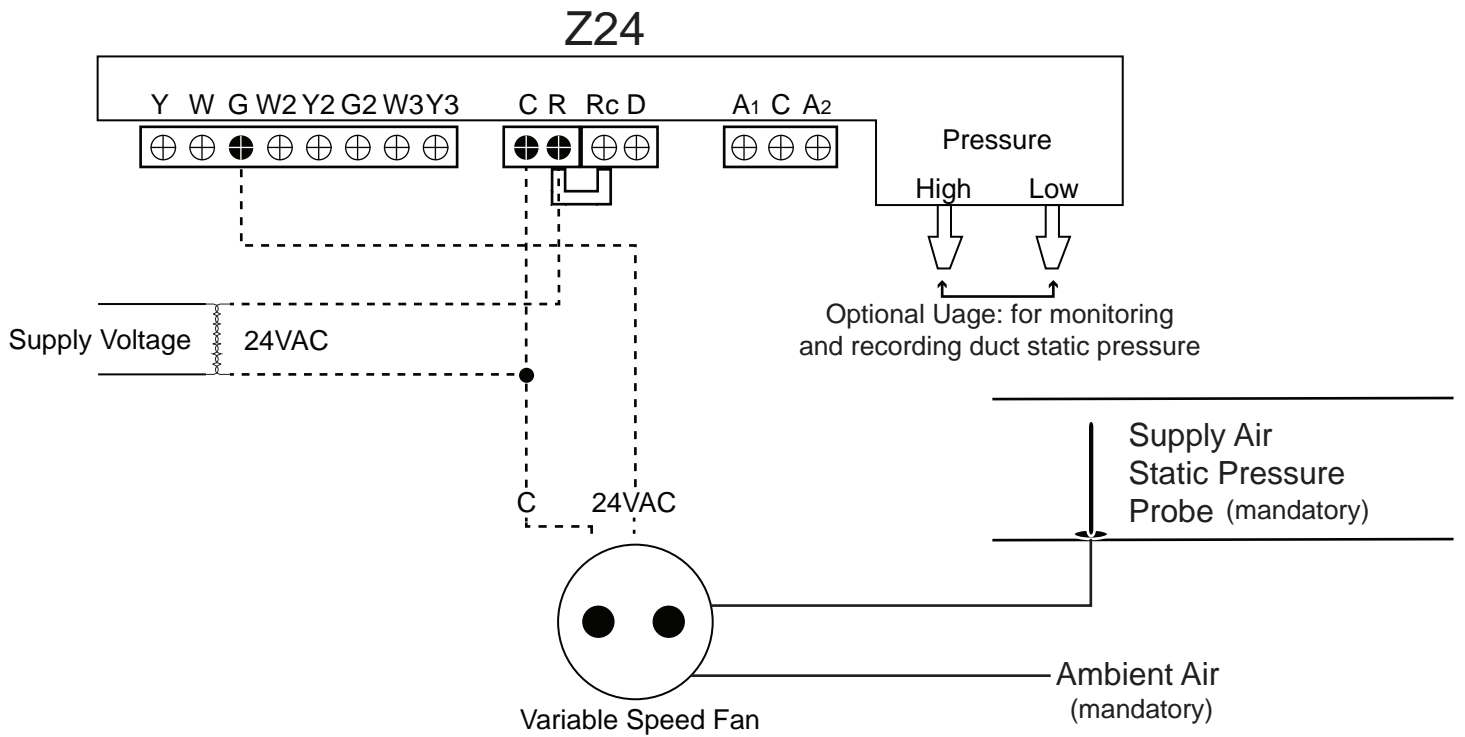
BYPASS 0-10VDC OUTPUT WIRING GUIDE



VARIABLE SPEED FAN 0-10VDC OUTPUT WIRING GUIDE



ON/OFF OUTPUT FOR VARIABLE SPEED FAN THAT MANAGES ITS OWN STATIC PRESSURE

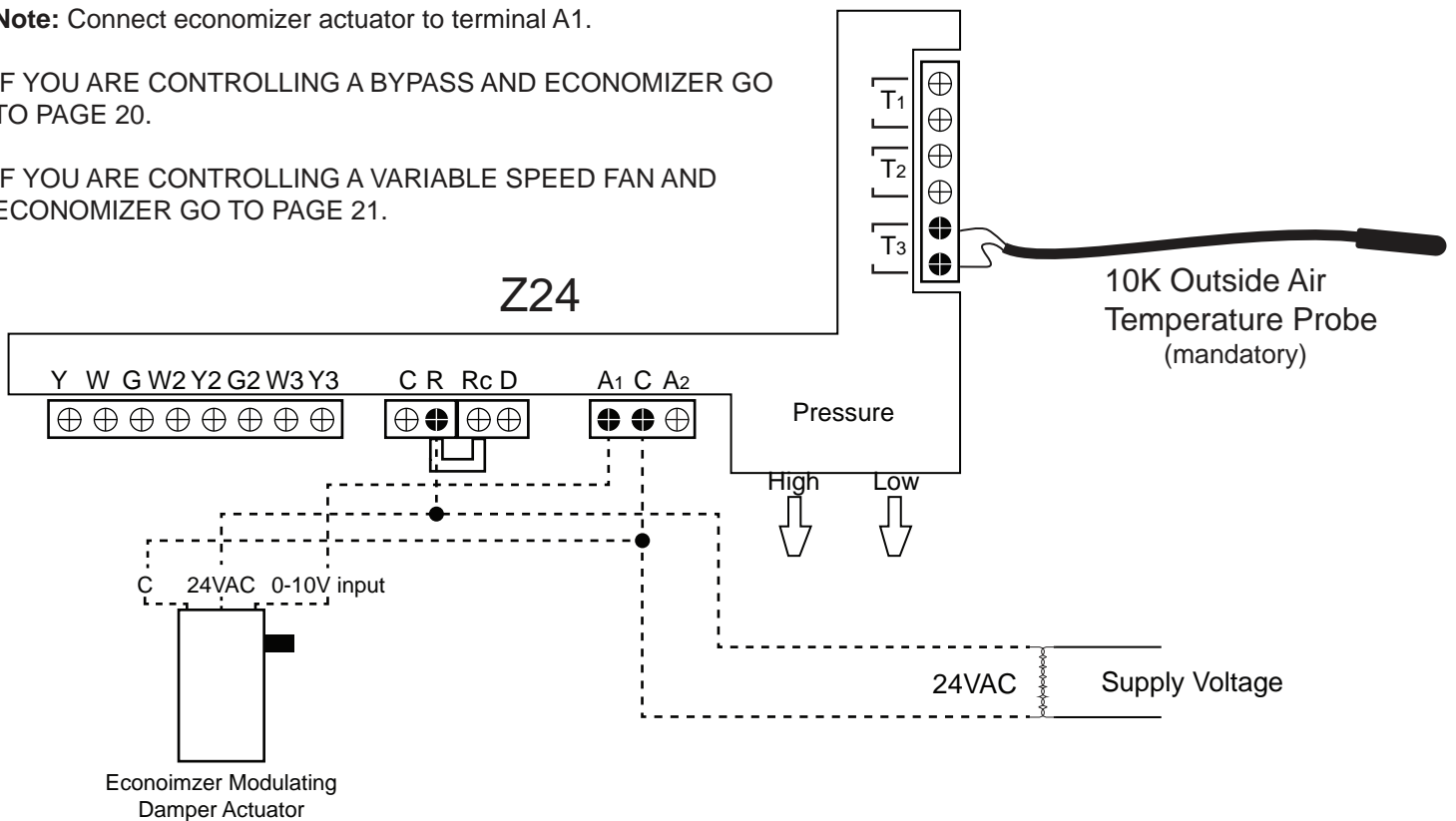


ECONOMIZER 0-10VDC OUTPUT

Note: Connect economizer actuator to terminal A1.

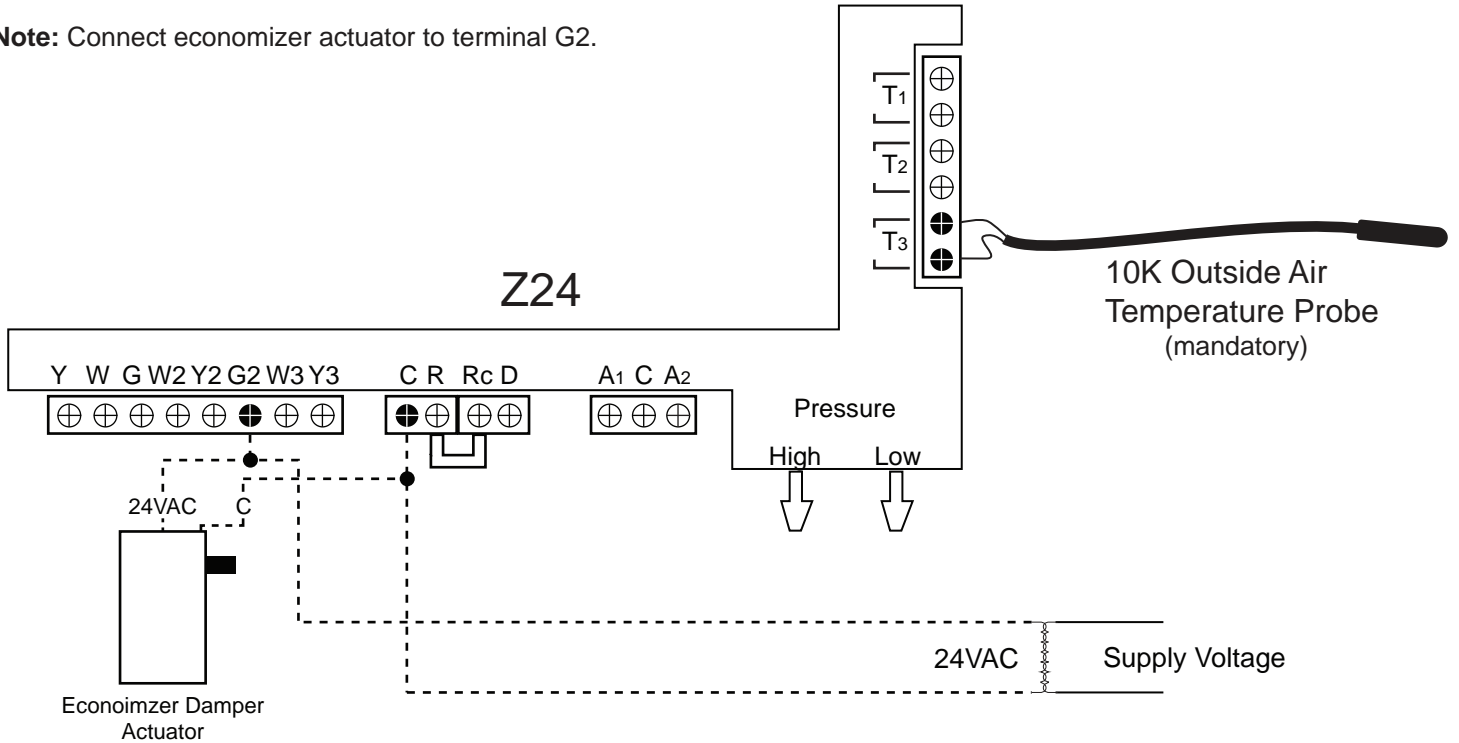
IF YOU ARE CONTROLLING A BYPASS AND ECONOMIZER GO TO PAGE 20.

IF YOU ARE CONTROLLING A VARIABLE SPEED FAN AND ECONOMIZER GO TO PAGE 21.



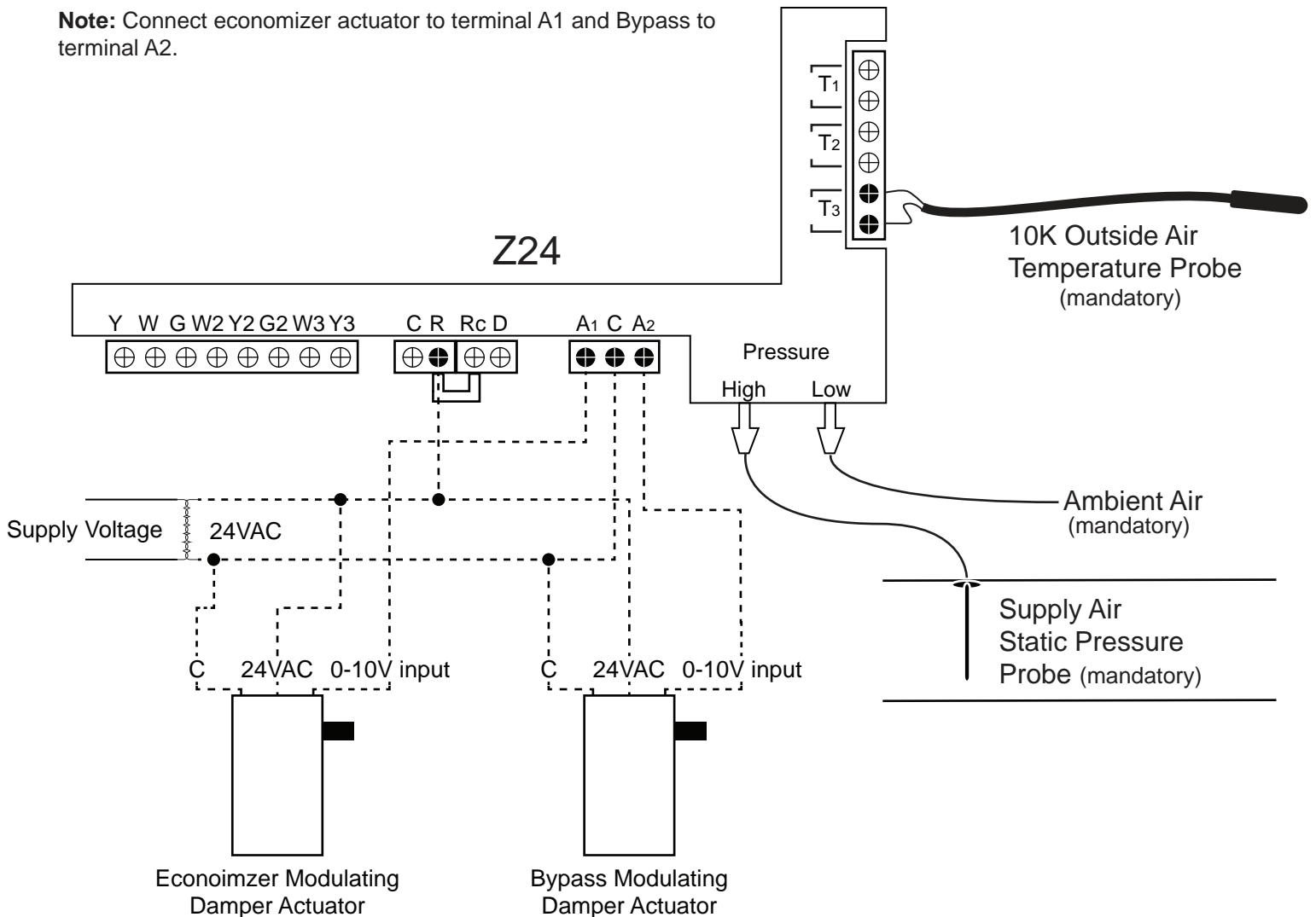
ECONOMIZER OPEN/CLOSE ACTUATOR OR ON/OFF OUTPUT

Note: Connect economizer actuator to terminal G2.



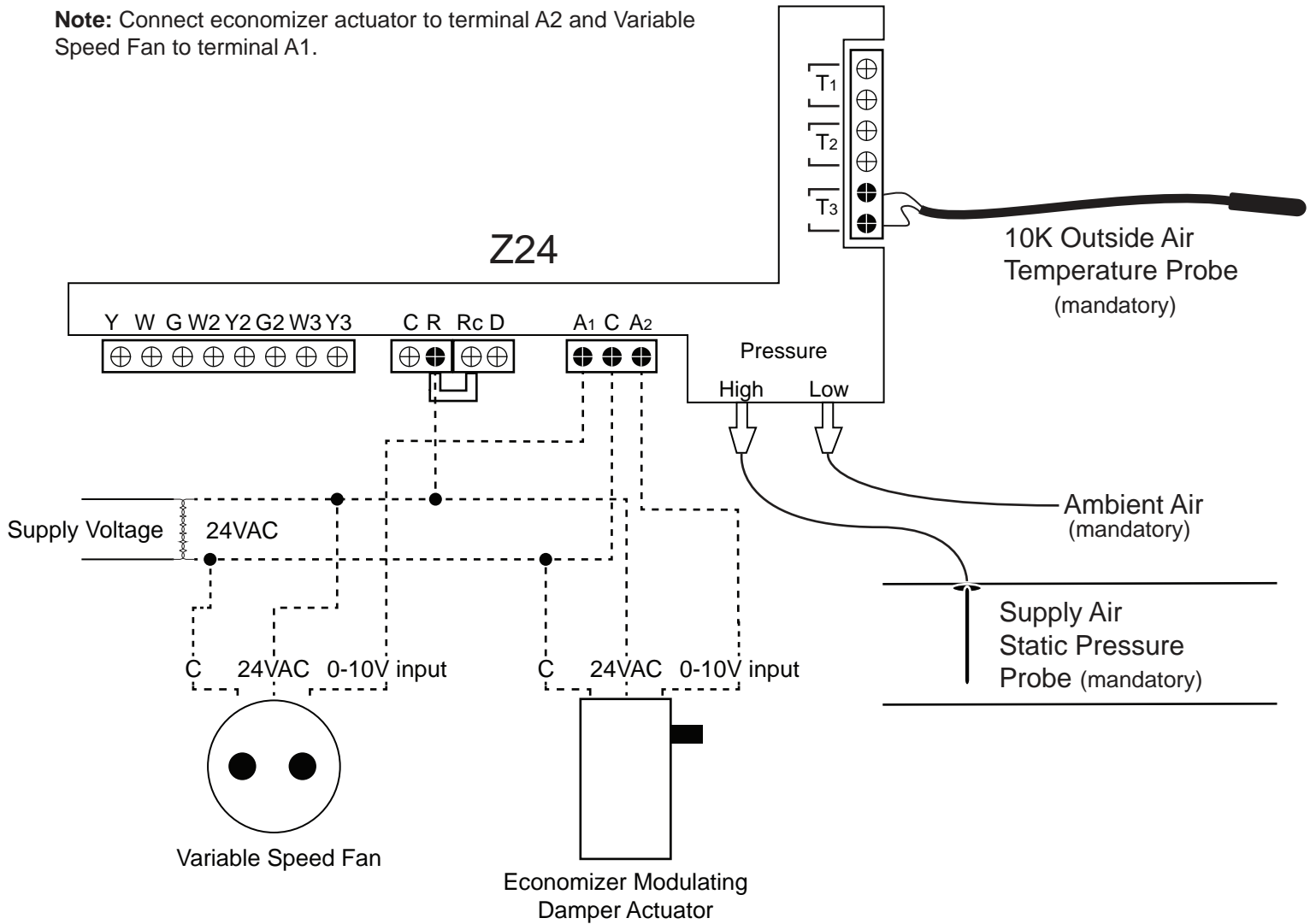
COMBINED BYPASS AND ECONOMIZER 0-10VDC OUTPUTS

Note: Connect economizer actuator to terminal A1 and Bypass to terminal A2.



COMBINED VARIABLE SPEED FAN AND ECONOMIZER 0-10VDC OUTPUTS

Note: Connect economizer actuator to terminal A2 and Variable Speed Fan to terminal A1.

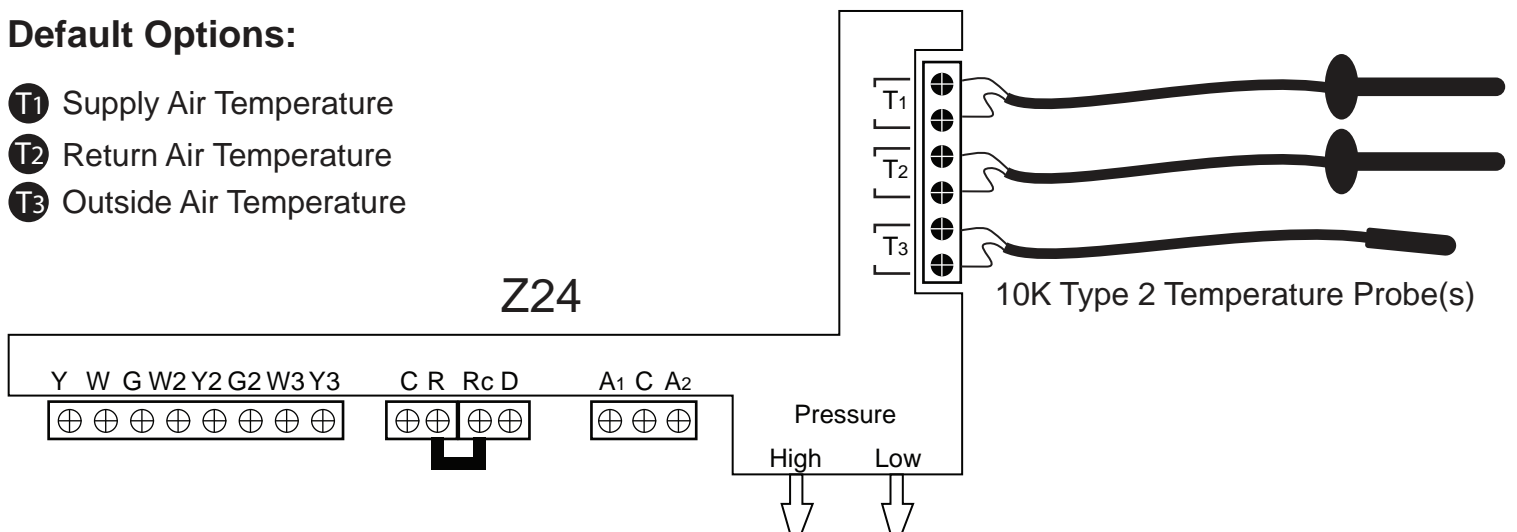


10K TYPE II ANALOG INPUTS

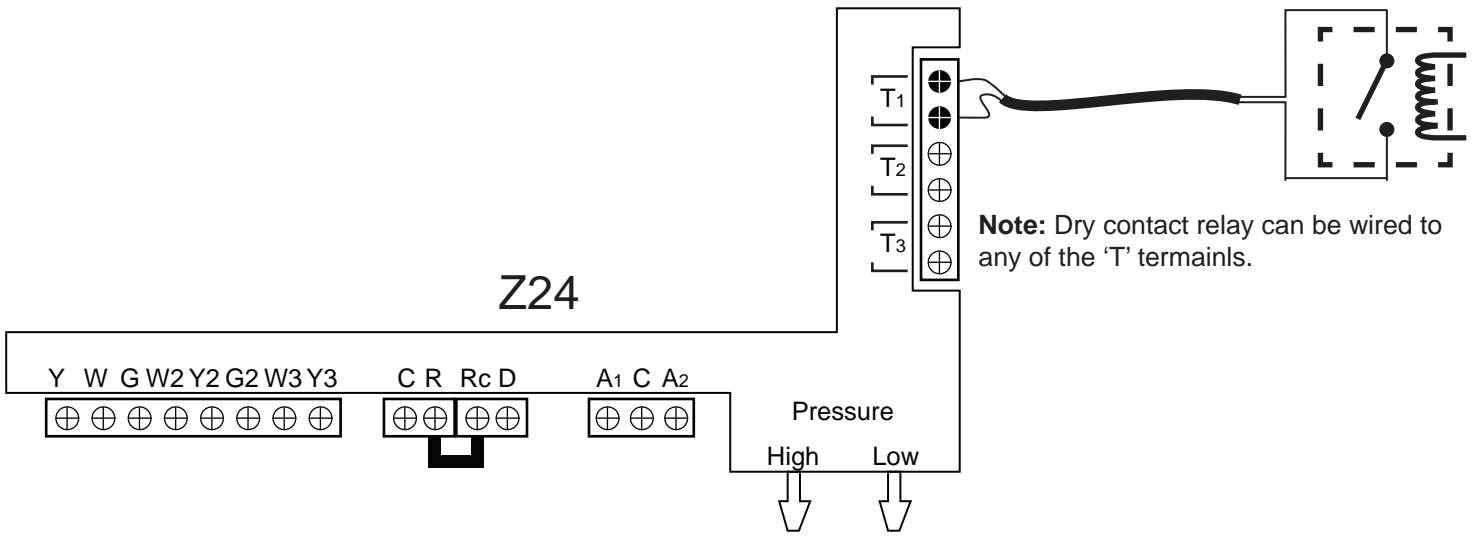
This section covers the wiring options for the Analog 'T' terminals. These terminals can be used for either temperature monitoring or for a dry contact interface to generate an alarm notification through your Pelican Site Manager.

Default Options:

- T1** Supply Air Temperature
- T2** Return Air Temperature
- T3** Outside Air Temperature



DRY CONTACT INTERFACE FOR ALARM NOTIFICATIONS



SYSTEM ONLINE SETUP

All configuration is done Online using the Pelican Site Manager. A Pelican Gateway must be installed, connected to the Internet, and able to wirelessly communicate with a Z24 to access the zone controller's configuration options. Power must be provided to each product to configure.

Step 1: Install a Pelican Wireless Gateway, setup a Pelican Site Manager, and log onto your Pelican Site Manager using a Web browser on any Smartphone, Tablet, or PC.

Step 2: Install the Z24 following their proper installation guides.

Step 3: Follow the Damper Install guide and install all TS200, TCM1, and/or RT1-DC/AC. All devices will automatically connect with the Pelican Gateway. You will receive a new notification on your Pelican Site Manager identifying that new product have been installed. Select **Configure** on the far right of the product you want to setup.

Step 3: Name the Device.

Step 4: Follow the configuration guides below to properly configure the Z24.

SYSTEM OPERATION CONFIGURATION

System Type: Set to Conventional or Heat Pump

HEAT PUMP: Set Reversin Valve to be energized during Cool On or Heat On.

AUXILIARY HEAT: Set to Disable to not use or if there is no auxiliary heat. Set to Auxiliary to utilize auxiliary heat, if needed. Set to Emergency to receive a notification if the auxiliary heat is used.

Heat Stages: Set to the number of available heat stages.

Cool Stages: Set to the number of available cool stages.

Fan Stages: Set to the number of available fan stages.

IMPORTANT:

If the Variable Speed Fan is self regulating or it is being controlled by another controller, and you want the Z24 to tell the other controller when to turn the Variable Speed Fan On and Off - set Fan Stages to '1'.

If the Z24 is controlling a 0-10VDC Variable Speed Fan - set Fan Stages to "Variable".

Heat Needs Fan: Set to YES if the Z24 needs to call for FAN when it calls for HEAT.

VARIABLE SPEED FAN CONFIGURATION OPTIONS

SET VARIABLE SPEED FAN TO **ON** TO CONTROL A 0-10VDC VARIABLE SPEED FAN.

Minimum Operating Speed: Set the minimum required operating fan speed for when Heat or Cool is being called. This is set as a percentage of maximum available speed.

Configuring STATIC PRESSURE identifies how the Z24 should manage the bypass damper.

IMPORTANT: If the Variable Speed Fan is self regulating or it is being controlled by another controller, and you want the Z24 to tell the other controller when to turn the Variable Speed Fan On and Off - set Variable Speed Fan to **OFF** and instead, set Fan Stages, under System Operations, to '1'.

BYPASS CONTROL CONFIGURATION OPTIONS

SET BYPASS CONTROLLER TO **ON** TO CONTROL A 0-10VDC MODULATING BYPASS DAMPER ACTUATOR.

Damper Voltages: Set the output voltage range for opening and closing the bypass damper. This is most commonly either 0-10VDC or 2-10VDC:

Open: Set to the voltage output for fully open.

Closed: Set to the voltage output for fully closed.

Configuring STATIC PRESSURE identifies how the Z24 should manage the bypass damper.

STATIC PRESSURE CONFIGURATION OPTIONS

CONFIGURE STATIC PRESSURE BASED ON THE REQUIREMENTS OF YOUR SYSTEM DESIGN.

Target Operating Static: Set to the targeted static pressure for running **Heat or Cool**. The Z24 will modulate either a bypass damper or a variable speed fan with the goal of maintaining this target static.

Target Circulation Static: Set to the targeted static pressure for running **FAN**. The Z24 will modulate either a bypass damper or a variable speed fan with the goal of maintaining this target static. Setting the Circulation Static lower than the Operating Static allows for a quieter operation when only FAN is requested by the zones.

Minimum Static: Set the minimum static pressure for when Heat or Cool is being called. The Z24 use this setting to protect the HVAC unit. If Minimum Static is detected, during a call for heat or cool, the Z24 will immediately turn off the compressor, preventing the coils from freezing over. The Z24 will also generate a Notification.

Maximum Static: Set the maximum static pressure for when Heat or Cool is being called. The Z24 use this setting to protect the ducts. If Maximum Static is ever detected, the Z24 will immediately turn off the entire system, preventing the ducts from being damaged; it will then go into a 10 minute reset cycle. The Z24 will also generate a Notification.

ECONOMIZER CONFIGURATION OPTIONS

SETTING ECONOIMZER TO **ON** PROVIDES TWO OPTIONS:

- 1) If the Economizer is controlled by the HVAC unit or a seperate controller, but you want the Z24 to notify the seperate controller if the zones needs or can use outside air: turn to ON and set a High Limit Temperature.
- 2) If the Z24 is directly controlling a 0-10VDC Economizer damper actuator, turn **VARIABLE DAMPER** to ON.

High Limit Temperature: Set to maximum outside air temperature. Above this temperature the Economizer will be disabled.

Variable Damper: Set to ON if the Z24 is directly controlling a 0-10VDC Economizer damper actuator.

Damper Voltages: Set the output voltage range for opening and closing the economizer damper actuator. This is most commonly either 0-10VDC or 2-10VDC:

Open: Set to the voltage output for fully open.

Closed: Set to the voltage output for fully closed.

Minimum Damper Position: Set the minimum damper position for fresh air ventilation. This is set as a percentage of the maximum open position.

TEMPERATURE SENSER CONFIGURATION OPTIONS

THE Z24 USES THESE TEMPERATURE INPUTS TO PROPERLY CONTROL AND MONITOR THE ENTIRE HVAC SYSTEM.

Input Sensor T1: Defaulted as Supply Air, but can be configured for various temperature inputs.

Input Sensor T2: Defaulted as Return Air, but can be configured for various temperature inputs.

Input Sensor T3: Defaulted as Outside Air, but can be configured for various temperature inputs.

INPUT POWER CONSUMPTION

To be able to record actual HVAC consumption, fill in each Stages energy consumption in either KW, BTU, TON, or WATT.

If you set to TON, Pelican will calculate KW consumption based on a 13 EER rated HVAC unit.

SEQUENCE OF OPERATIONS

COOLING OPERATION

Outputs

Terminal	Description
Y	Compressor Control
Y2	Compressor Control
Y3	Compressor Control
W	O/B Control for Heat Pump System

Inputs

Terminal	Description
T1	Supply Temperature
T2	Return Temperature

Operation

1. Thermostats request cooling using the wireless network.
2. The Zone Controller energizes compressor stages when cooling demand is present.
3. In single duct systems, compressor stages are automatically held off if heating is active. This will continue until heating demand is satisfied.
4. Compressor stage outputs (Y, Y2, Y3) are energized based on system configured cooling stages and differential temperature between supply and return air. Target supply and differential temperature are adjusted automatically based on feedback from zoned thermostats and active settings in each zone.
5. Damper controllers are notified using wireless signals when they can open or close based on the availability of cool air in the system.

Safeties

Built-in system safeties such as coil temperature and internal pressure should be left in place since the Zone Controller does not have provisions for monitoring or acting on these items. The Zone Controller does augment the built-in safeties in the following way:

1. Compressors will be shut down if the duct static pressure falls below acceptable levels.
2. A 4 minute short cycle timer is enforced for each compressor.
3. If all zone dampers are closed the compressors will be shut down.

HEATING OPERATION

Outputs

Terminal	Description
W	Heating Control
W2	Heating Control
W3	Heating Control

Inputs

Terminal	Description
T1	Supply Temperature
T2	Return Temperature

Operation

1. Thermostats request heating using the wireless network.
2. The Zone Controller energizes heating stages when demand is present.
3. In single duct systems, heating stages are automatically held off if cooling is active. This will continue until cooling demand is satisfied.
4. Heat stage outputs (W, W2, W3) are energized based on system configured heat stages and differential temperature between supply and return air. Target supply and differential temperature are adjusted automatically based on feedback from zoned thermostats and active settings in each zone.
5. Damper controllers are notified using wireless signals when they can open or close based on the availability of warm air in the system.

Safeties

Built-in system safeties should be left in place since the Zone Controller does not have provisions for monitoring or acting on these items. The Zone Controller does augment the built-in safeties in the following way:

1. Heat stages will be shut down if the duct static pressure falls below acceptable levels.
2. Heat stages will be shut down if supply temperatures exceed the maximum allowed setting.
3. If all zone dampers are closed the heat will be shut down.

VARIABLE SPEED FAN OPERATION

Outputs

Terminal	Description
G	Fan Stage 1 Control
G2	Fan Stage 2 Control
A1	Variable Speed Control

Inputs

Terminal	Description
High	Duct Static Pressure
Low	Outside Pressure

Operation

1. Thermostats request heating, cooling, or fan using the wireless network.
2. The Zone Controller energizes fan stages when demand is present.
3. If variable speed fan control is enabled the Zone Controller will maintain target static pressure based on measured static pressure from it's integrated pressure sensor.
4. Target static pressure can be configured for different levels depending on whether simple air circulation is active or heating/cooling is active.
5. Damper controllers are notified using wireless signals when they can open or close based on the availability of air in the system.

Safeties

Built-in system safeties should be left in place since the Zone Controller does not have provisions for monitoring or acting on these items. The Zone Controller does augment the built-in safeties in the following way:

1. The fan will be shut down if the duct static pressure exceeds acceptable levels.
2. If all zone dampers are closed the fan will be shut down.

ECONOMIZER OPERATION

Outputs

Terminal	Description
G2	Economizer On/Off Control
A1, A2	Variable Damper Control

Inputs

Terminal	Description
T1	Supply Temperature
T2	Return Temperature
T3	Outside Temperature

Operation

1. The economizer is operational during cooling cycles and ventilation cycles.
2. During operational mode, the economizer will always open to at least the minimum open position to provide outside air for ventilation.
3. When the fan is off, the economizer will be fully closed.
4. The economizer will compare supply, return and outside air temperatures to automatically regulate the mix of outside and return air entering the system.
5. The Variable damper control output will modulate the economizer damper to adjust the air mixture.

Note

1. The economizer controller does not monitor building static pressure. A separate system should be implemented to manage proper building static pressure.
2. The Economizer controller can be optionally used to signal a built-in economizer to open or close using only the G2 output signal of the Zone Controller.
3. The economizer will hold off cooling compressor stages if outside air temperature is sufficiently low to allow building cooling to be satisfied.

BYPASS OPERATION

Outputs

Terminal	Description
A1, A2	Variable Damper Control

Inputs

Terminal	Description
High	Duct Static Pressure
Low	Outside Pressure

Operation

1. The bypass is operational during heating, cooling and ventilation cycles.
2. When the system is not active the bypass controller will position the damper in the fully open position.
3. When the system is fully operational, the bypass damper will be gradually closed until the target static pressure is achieved.
4. As the static pressure varies due to changes in active zones the bypass damper will be automatically modulated to maintain the target static pressure.

Operation with Variable Speed Fan

1. The bypass will start in the half-open position.
2. The bypass will close if the variable speed fan is able to maintain proper static pressure.
3. If the variable speed fan is running at its minimum setting and the static pressure exceeds the target static pressure, the bypass controller will open the bypass damper to maintain target static pressure.

TROUBLESHOOT WIRELESS SIGNAL

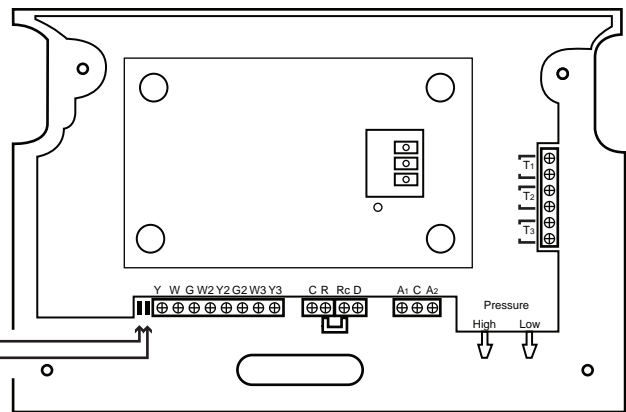
Wireless Status:

- Off - Initializing
- 1 Second Blink - Establishing Wireless Connection
- Solid - Communicating Over Wireless

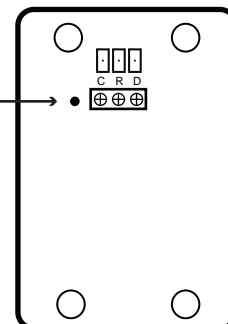
Internal Status:

- Off - No Power
- 1 Second Blink - Initializing
- Solid - Operational

Z24



Wireless Module



Wireless Connection Identifier:

- Off - No Power
- 1 Second Blink - Establishing Wireless Connection
- Blink Every 15 sec - Communicating Over Wireless

TROUBLESHOOT Z24 CONTROL OUTPUTS

ON YOUR PELICAN SITE MANAGER YOU CAN TEST THE SIGNAL OUTPUTS OF THE Z24 TO PROVIDE IMMEDIATE FEEDBACK THAT EACH OF THE Z24's OUTPUTS ARE CONTROLLING THE CORRECT PART OF THE SYSTEM.

THESE OPTIONS LET YOU TURN ON AND OFF THE CONTROL SIGNALS. IT ALSO ALLOWS YOU TO DYNAMICALLY ADJUST THE 0-10VDC OUTPUTS FOR TESTING A VARIABLE SPEED FAN, MODULATING BYPASS DAMPER ACTUATOR, AND MODULATING ECONOMIZER DAMPER.

IMPORTANT: THE SIGNAL OUTPUT CONTROL IS A MASTER OVERRIDE FEATURE. ALWAYS SET SIGNAL OUTPUTS BACK TO ORIGINAL SETTING!!

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Pelican Wireless Systems, 2655 Collier Canyon Rd. Livermore, CA 94551

Phone: 888.512.0490

Email: support@pelicanwireless.com Website: www.pelicanwireless.com

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