Pelican
Wireless Systems

Installation Guide

Internet Programmable Thermostat TS200

Before Removing the Old Thermostat!

Note the wire colors and letter designations of the existing thermostat to assist in identifying the correct wiring connections to the TS200.

⚠	Caution	⚠

Failure to follow these instructions can damage the product or cause a hazardous condition. Disconnect power during the installation of this product. All wiring must conform to local codes and ordinances. We strongly recommend that any installation or servicing be performed by a qualified technician. This thermostat is designed for use with 24VAC systems only. For additional support contact Pelican Technical Support at 888-512-0490 or email support@pelicanwireless.com

⚠ **WARNING** NEVER INSTALL THE PELICAN THERMOSTAT ENCLOSED IN METAL. WIRELESS CANNOT COMMUNICATE THROUGH METAL.

Thermostat Terminal Designations

Conventional Control		
DATA	D	⊕
COMMON	C	⊕
24VAC (COOL)	R	⊕
24VAC (HEAT)	Rc	⊕
COOL STAGE 1	Y	⊕
HEAT STAGE 1	W	⊕
FAN	G	⊕
HEAT STAGE 2	W2	⊕
COOL STAGE 2	Y2	⊕

Heat Pump Control		
DATA	D	⊕
COMMON	C	⊕
24VAC	R	⊕
24VAC	Rc	⊕
COMPRESSOR STAGE 1	Y	⊕
REVERSING VALVE (O/B)	W	⊕
FAN	G	⊕
AUXILIARY HEAT	W2	⊕
COMPRESSOR STAGE 2	Y2	⊕

TS200 Mounting and Assembly

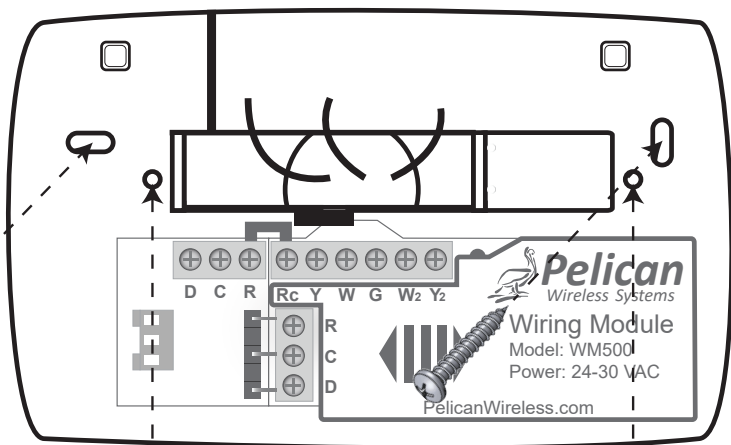**1** Grasp front and back of thermostat and firmly pull apart.
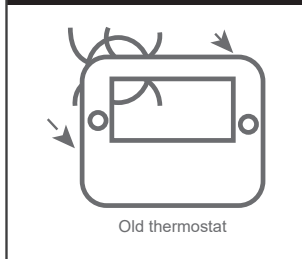
2 Mount thermostat rear cover to the wall.

Remove old thermostat

Old thermostat

Option One:
Mark mounting holes drill two 3/16" holes in wall. Insert drywall anchors and use provided sheet metal screws to attach rear cover to wall.
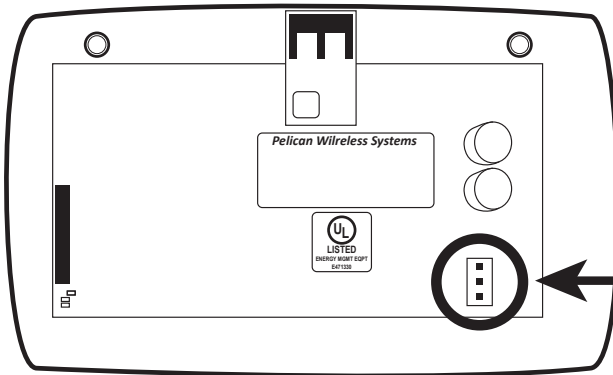
D C R   Rc Y W G W₂ Y₂

R
C
D

Pelican
Wireless Systems
Wiring Module
Model: WM500
Power: 24-30 VAC
PelicanWireless.com

Option Two:
Mount rear cover on horizontal two gang electrical box. Use included machine screws.
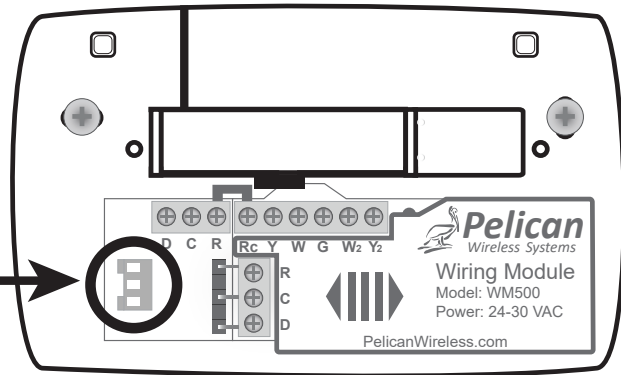
2

TS200 Mounting and Assembly

3

Align three pin connector from thermostat front cover to three pin connector on rear cover. Push front cover onto rear cover until secure.

Pelican Wilreless Systems

UL LISTED
ENERGY MGMT EQPT
E471338

Pelican
Wireless Systems
Wiring Module
Model: WM500
Power: 24-30 VAC
PelicanWireless.com

D C R Rc Y W G W₂ Y₂
R
C
D

Thermostat Front Cover   **Thermostat Rear Cover**

Optional Tamper Resistant Lock

The thermostat contains an internal locking mechanism to secure the front cover to the rear cover. This is intended to keep untrained individuals from tampering with the power and thermostat wire.

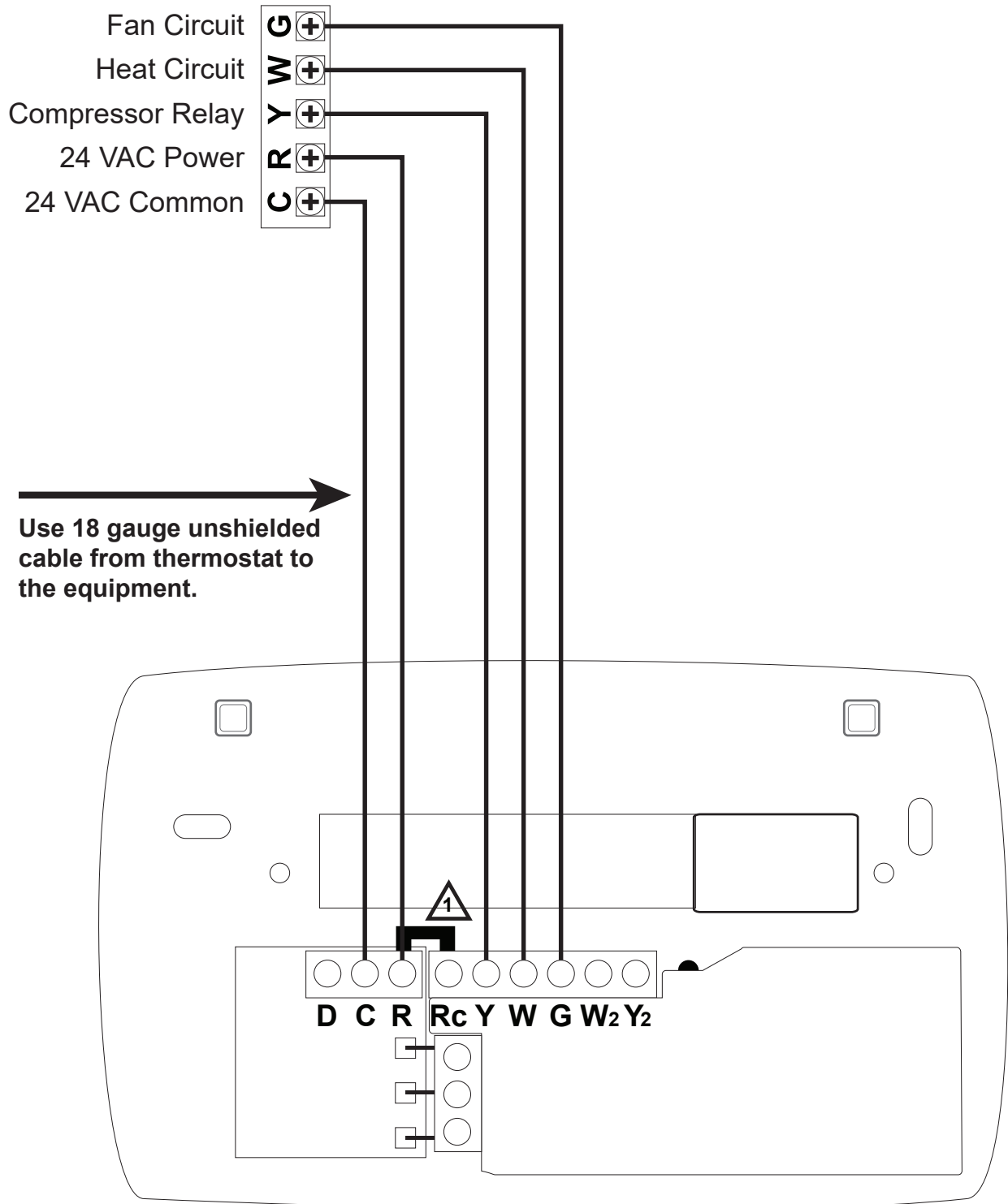To engage the lock, assemble the thermostat and insert a 7/64" Allen wrench (not included) into the key hole on the top of the thermostat. Rotate clockwise until reaching the stop to secure. Rotate counter-clockwise until reaching the stop to release.

lock rotation

unlock rotation

7/64" Allen wrench

3
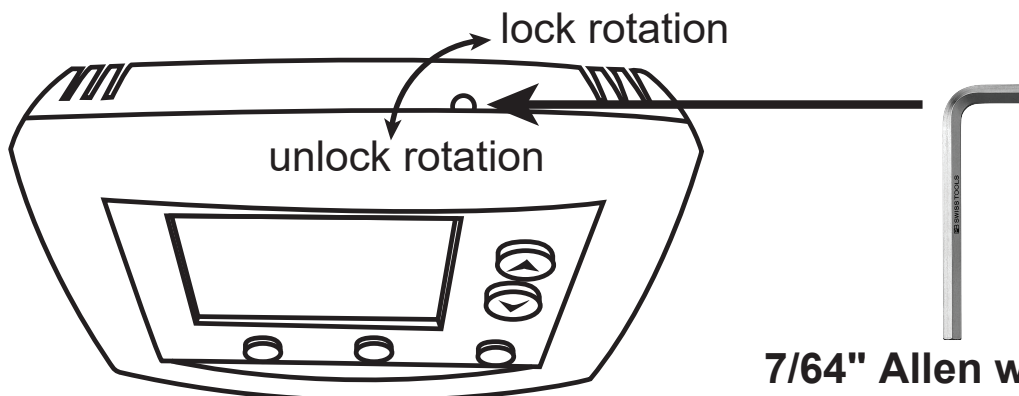
Conventional Wiring Guide

5 Wire, 24VAC Conventional 1 stage cooling with 1 stage heat

Fan Circuit **G** ⊕

Heat Circuit **W** ⊕

Compressor Relay **Y** ⊕

24 VAC Power **R** ⊕

24 VAC Common **C** ⊕

Use 18 gauge unshielded cable from thermostat to the equipment.

D C R Rc Y W G W₂ Y₂

1

△**1** **For a Two Transformer System – remove jumper between R and Rc. Connect the 24VAC power for energizing the unit's Compressor to thermostat's (R) terminal. Connect second 24VAC power to thermostat's (Rc) terminal.**
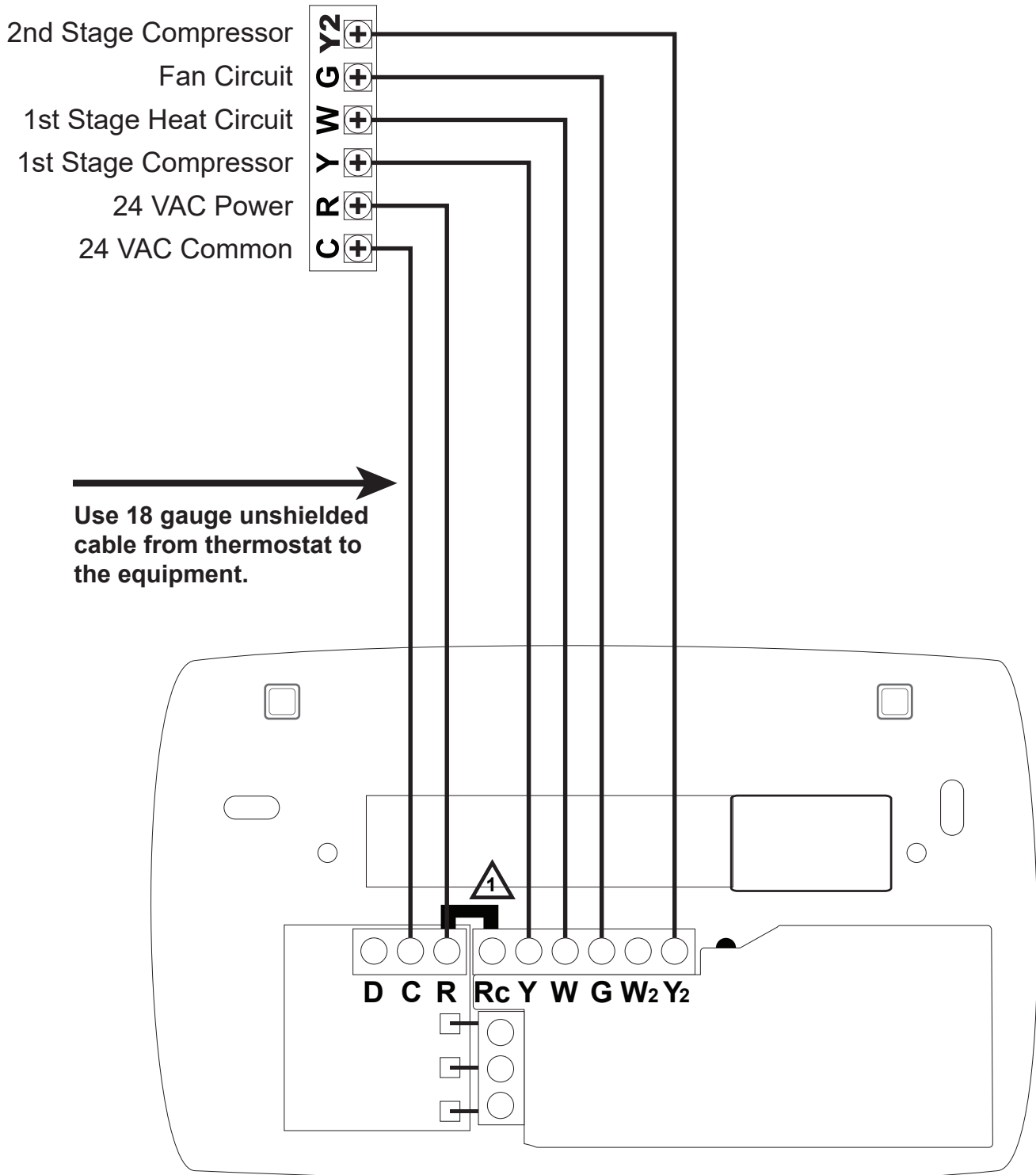
4

Conventional Wiring Guide

6 Wire, 24VAC Conventional 1 stage cooling with 2 stage heat

2nd Stage Heat Circuit — **W2**
Fan Circuit — **G**
1st Stage Heat Circuit — **W**
Compressor Relay — **Y**
24 VAC Power — **R**
24 VAC Common — **C**

Use 18 gauge unshielded cable from thermostat to the equipment.

D C R Rc Y W G W₂ Y₂

⚠ 1 **For a Two Transformer System – remove jumper between R and Rc. Connect the 24VAC power for energizing the unit's Compressor to thermostat's (R) terminal. Connect second 24VAC power to thermostat's (Rc) terminal.**

5

6 Wire, 24VAC Conventional 2 stage cooling with 1 stage heat

2nd Stage Compressor — **Y2** ⊕

Fan Circuit — **G** ⊕

1st Stage Heat Circuit — **W** ⊕

1st Stage Compressor — **Y** ⊕

24 VAC Power — **R** ⊕

24 VAC Common — **C** ⊕

Use 18 gauge unshielded cable from thermostat to the equipment.

D C R Rc Y W G W2 Y2

⚠1

⚠1 **For a Two Transformer System – remove jumper between R and Rc. Connect the 24VAC power for energizing the unit's Compressor to thermostat's (R) terminal. Connect second 24VAC power to thermostat's (Rc) terminal.**

6

Conventional Wiring Guide

7 Wire, 24VAC Conventional 2 stage cooling with 2 stage heat

2nd Stage Compressor — Y2

2nd Stage Heat Circuit — W2

Fan Circuit — G

1st Stage Heat Circuit — W

1st Stage Compressor — Y

24 VAC Power — R

24 VAC Common — C

Use 18 gauge unshielded cable from thermostat to the equipment.

D   C   R   Rc Y   W   G   W2 Y2

For a Two Transformer System – remove jumper between R and Rc. Connect the 24VAC power for energizing the unit's Compressor to thermostat's (R) terminal. Connect second 24VAC power to thermostat's (Rc) terminal.
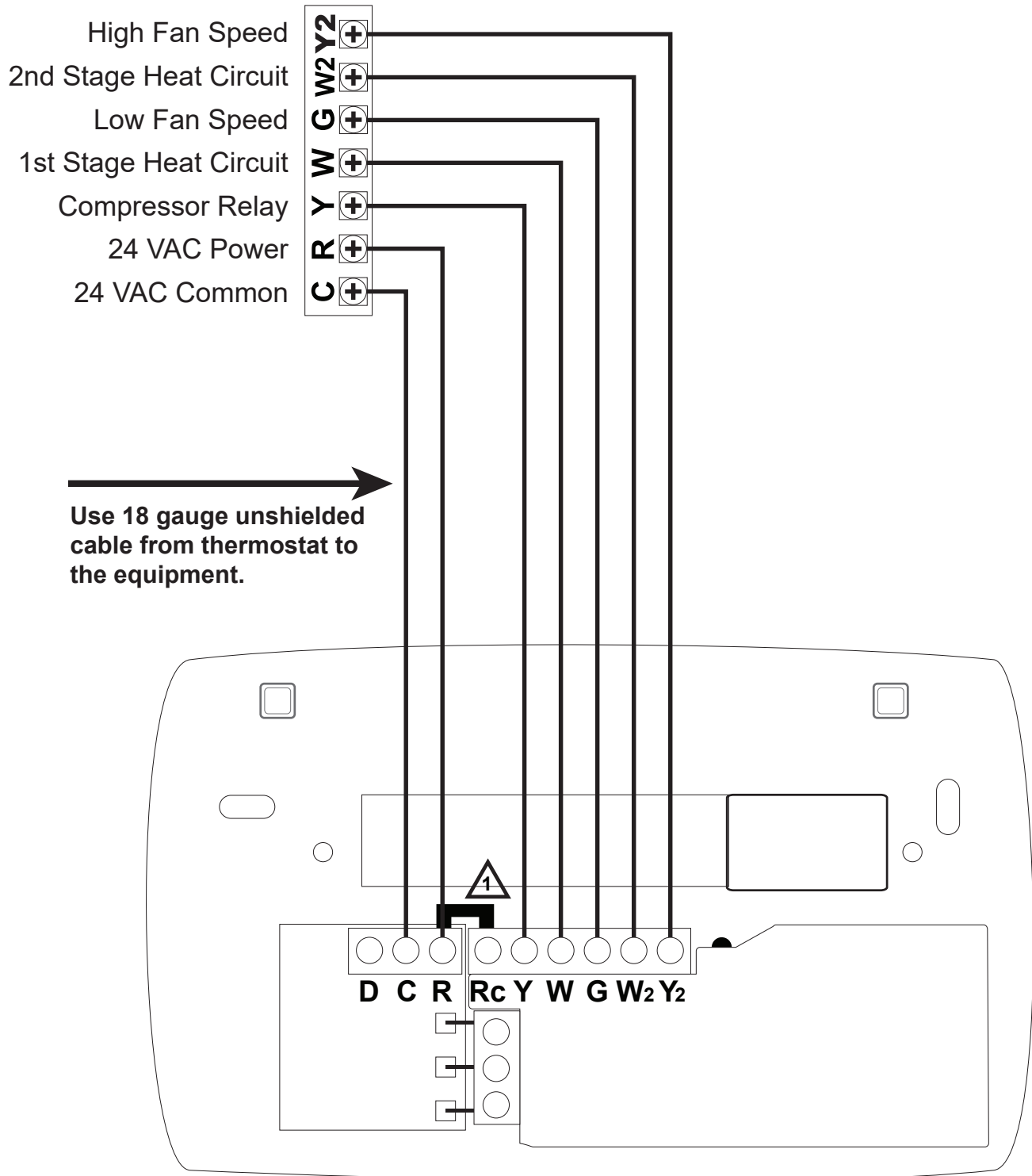
7
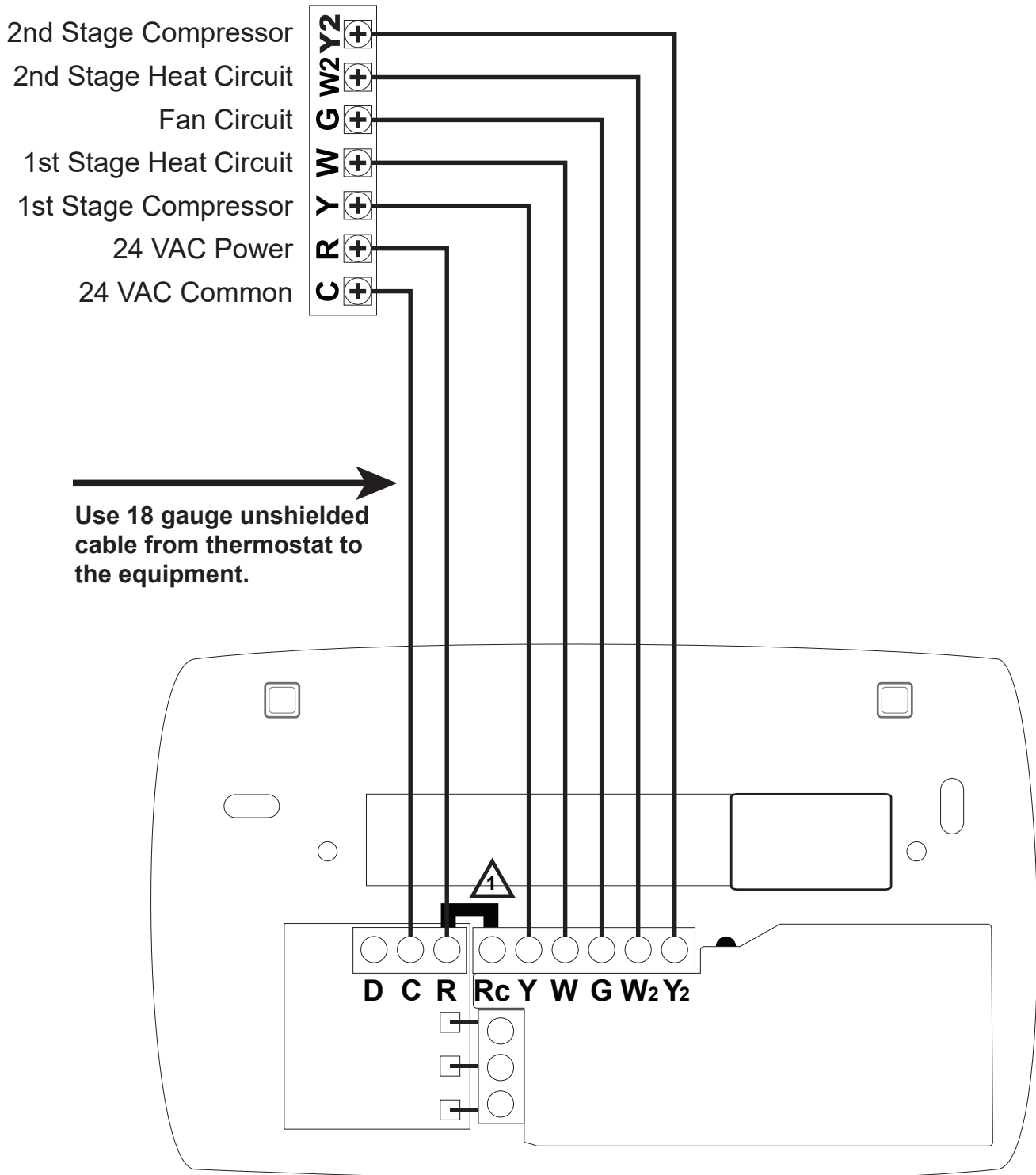
Conventional Wiring Guide

7 Wire, 24VAC Conventional 1 stage cooling, 2 stage heat, and 2 fan speeds

High Fan Speed — Y2
2nd Stage Heat Circuit — W2
Low Fan Speed — G
1st Stage Heat Circuit — W
Compressor Relay — Y
24 VAC Power — R
24 VAC Common — C

Use 18 gauge unshielded cable from thermostat to the equipment.
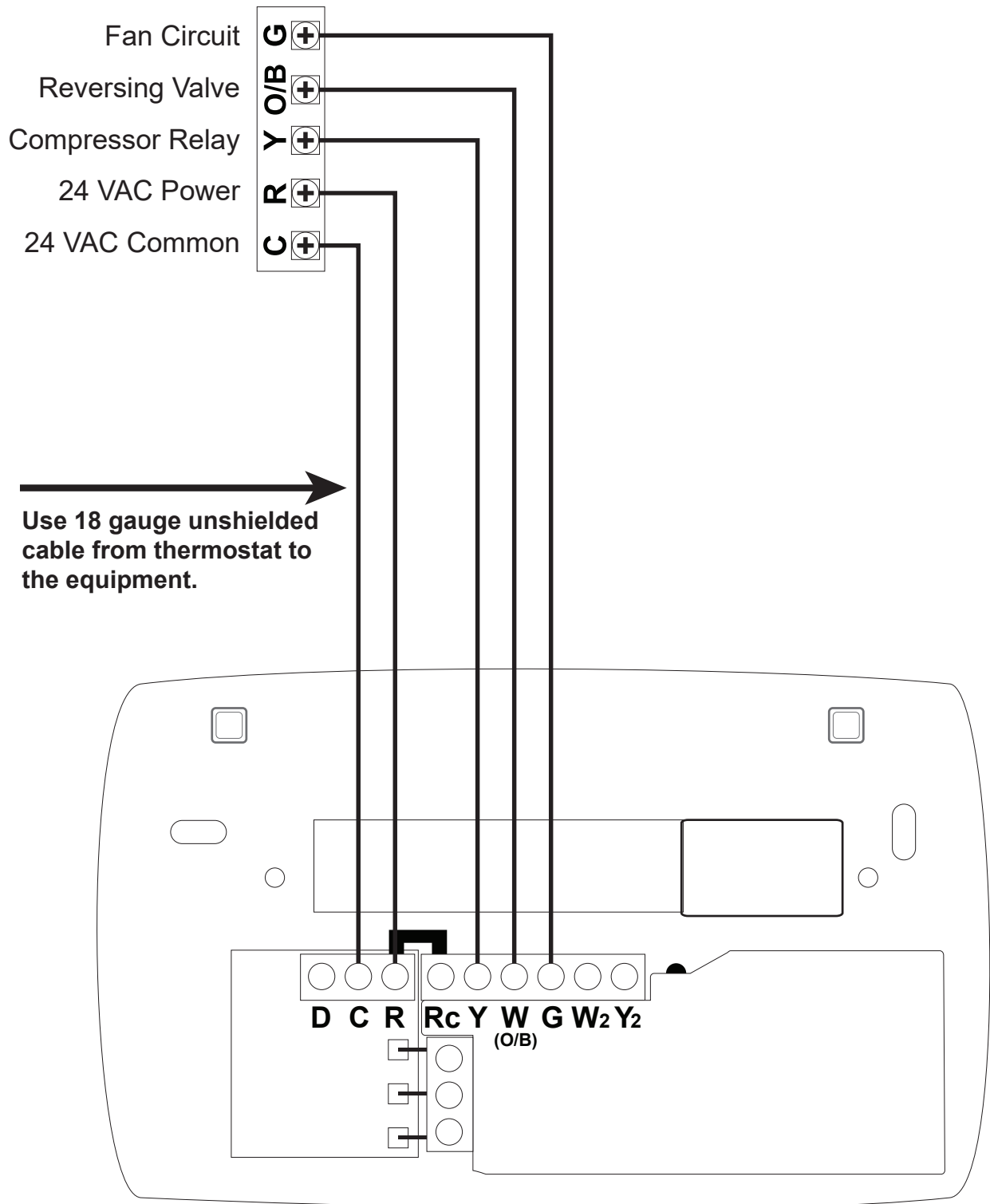
D C R Rc Y W G W2 Y2

⚠1 **For a Two Transformer System – remove jumper between R and Rc. Connect the 24VAC power for energizing the unit's Compressor to thermostat's (R) terminal. Connect second 24VAC power to thermostat's (Rc) terminal.**

8

Heat Pump Wiring Guide

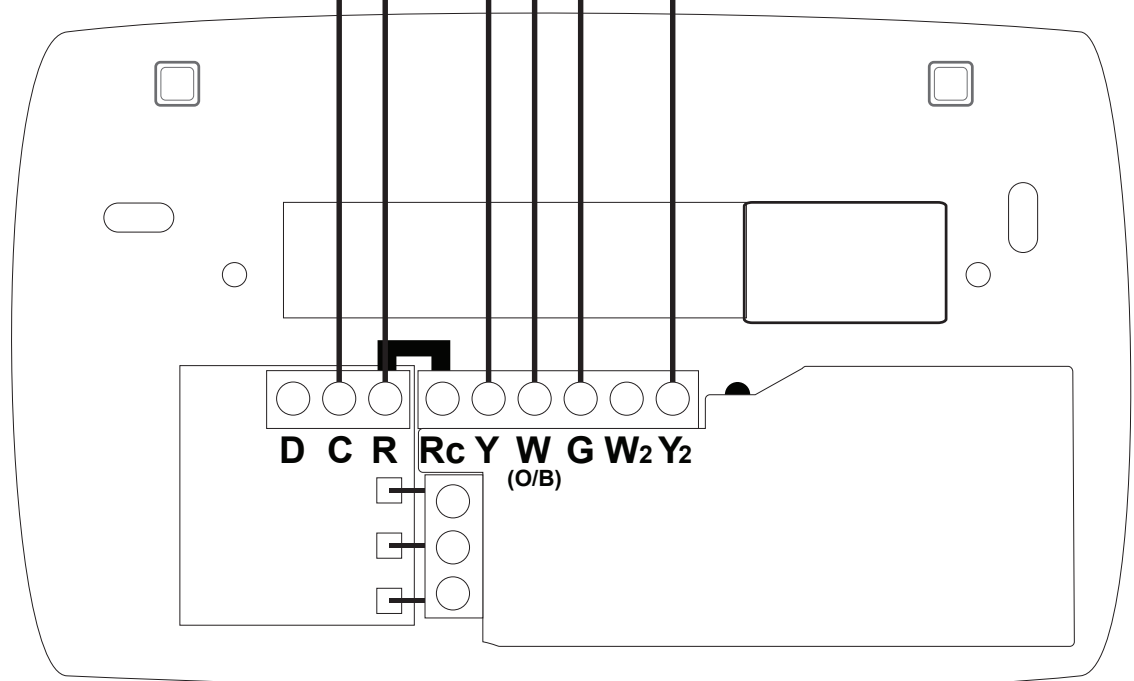## 5 Wire, 24VAC Heat Pump 1 stage cooling with 1 stage heat

Fan Circuit — **G**

Reversing Valve — **O/B**

Compressor Relay — **Y**

24 VAC Power — **R**

24 VAC Common — **C**

Use 18 gauge unshielded cable from thermostat to the equipment.

D C R Rc Y W G W₂ Y₂
(O/B)

9

Heat Pump Wiring Guide

6 Wire, 24VAC Heat Pump 2 stage cooling with 2 stage heat

2nd Compressor Relay — **Y2**

Fan Circuit — **G**

Reversing Valve — **O/B**

1st Compressor Relay — **Y**

24 VAC Power — **R**

24 VAC Common — **C**

Use 18 gauge unshielded cable from the thermostat to the equipment.

D   C   R   Rc   Y   W   G   W2 Y2
                      (O/B)

Heat Pump Wiring Guide

6 Wire, 24VAC Heat Pump 2 stage cooling, 1 stage heat and auxiliary/emergency heat

Auxiliary/Emergency Heat — G AUX ⊕

Fan Circuit — G ⊕

Reversing Valve — O/B ⊕

1st Compressor Relay — Y ⊕

24 VAC Power — R ⊕

24 VAC Common — C ⊕

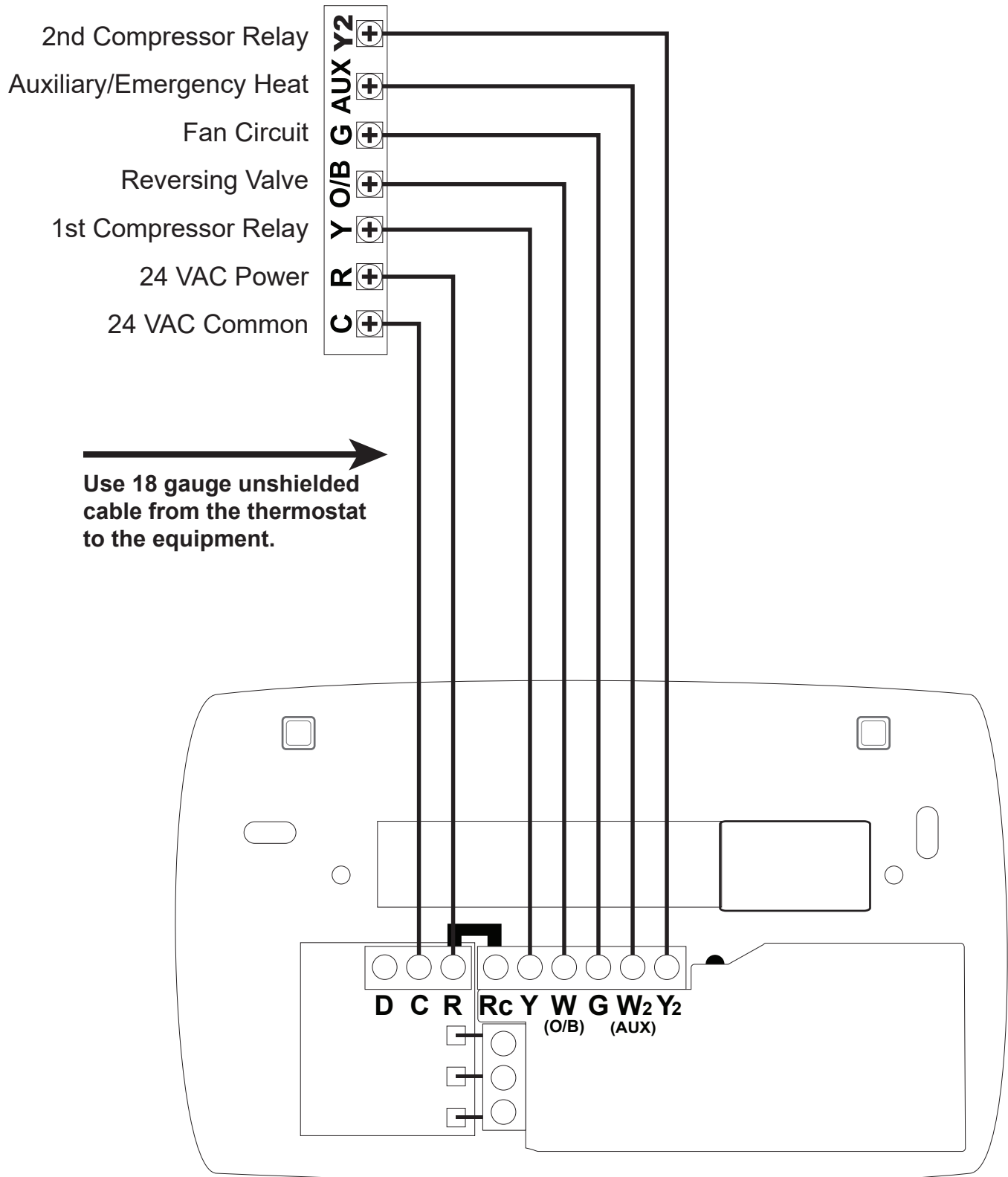**Use 18 gauge unshielded cable from the thermostat to the equipment.**

D   C   R   Rc   Y   W   G   W₂   Y₂
                    (O/B)   (AUX)
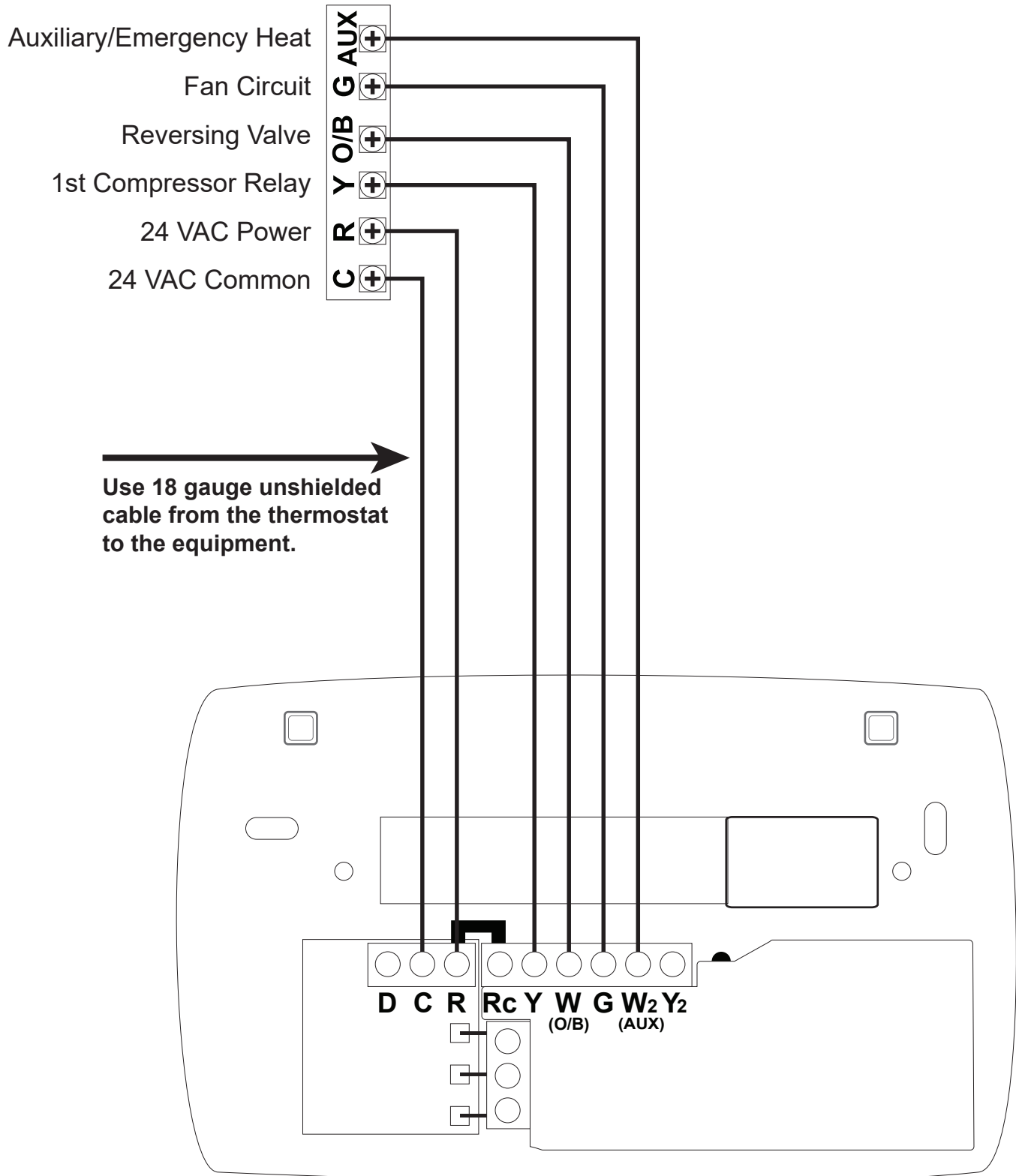
Heat Pump Wiring Guide

7 Wire, 24VAC Heat Pump 2 stage cooling, 2 stage heat and auxiliary/emergency heat

2nd Compressor Relay — **Y2**

Auxiliary/Emergency Heat — **AUX**

Fan Circuit — **G**

Reversing Valve — **O/B**

1st Compressor Relay — **Y**

24 VAC Power — **R**

24 VAC Common — **C**

Use 18 gauge unshielded cable from the thermostat to the equipment.

D   C   R   Rc   Y   W   G   W2   Y2
(O/B)   (AUX)

7 Wire, 24VAC Heat Pump 1 stage cooling, auxiliary/emergency heat, and 2 stage fan

High Speed Fan — **Y2 AUX**

Auxiliary/Emergency Heat — **AUX**

Low Speed Fan — **G**

Reversing Valve — **O/B**

Compressor Relay — **Y**

24 VAC Power — **R**

24 VAC Common — **C**

Use 18 gauge unshielded cable from the thermostat to the equipment.

D   C   R   R$_C$ Y   W   G   W$_2$ Y$_2$
(O/B)   (AUX)
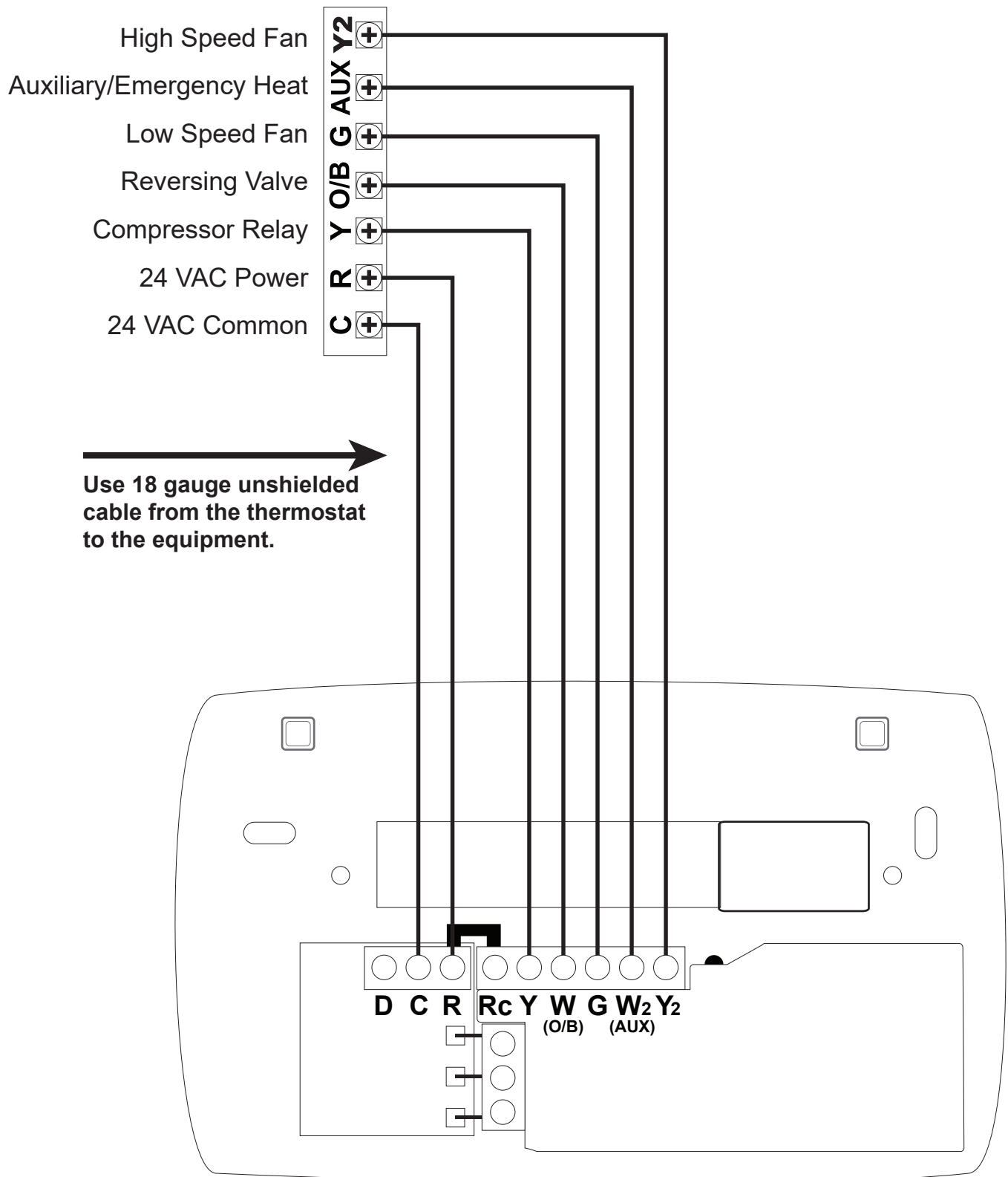
Optional Three Wire Installation

Some installations may have limited in-wall wire. In these cases, the TS200 can accommodate the use of only three wires and still provide control over the entire HVAC unit. To accomplish a three wire installation follow the steps outlined below:

1. Loosen R and Rc terminal screws to remove jumper.

2. Loosen R, C, and D terminal screws on the Wiring Module (WM500).

3. Gently slide the WM500 to the right and remove module from the rear of the thermostat. The WM500 will slide out with very little force.

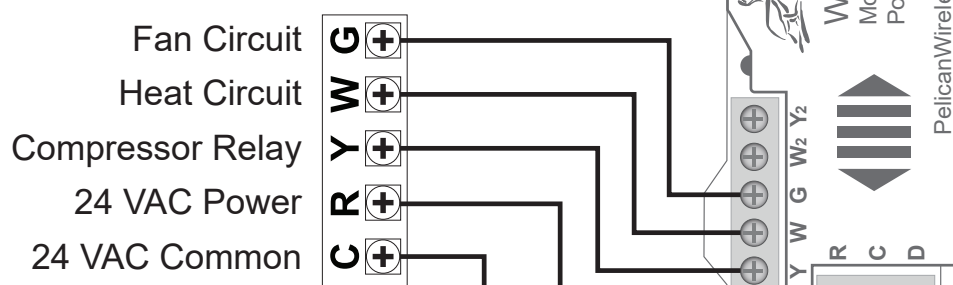Loosen R, Rc, C, D Terminals

Remove WM500
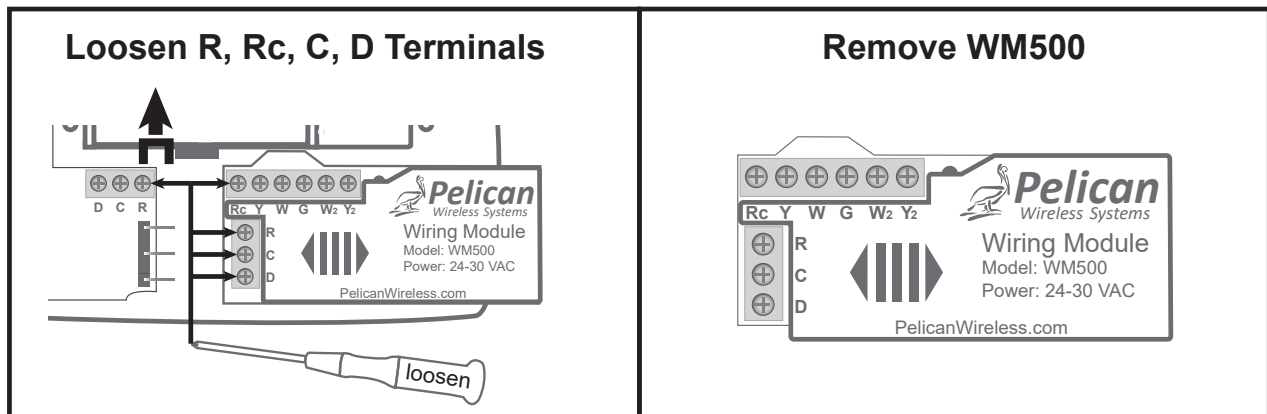
4. Mount the WM500 inside the HVAC unit. Follow the Wiring Guide section (pg. 4 – 13) of this installation guide for directions on how to wire the WM500 to your type of HVAC unit.

Install WM500 inside HVAC unit

Install TS200 in space

14
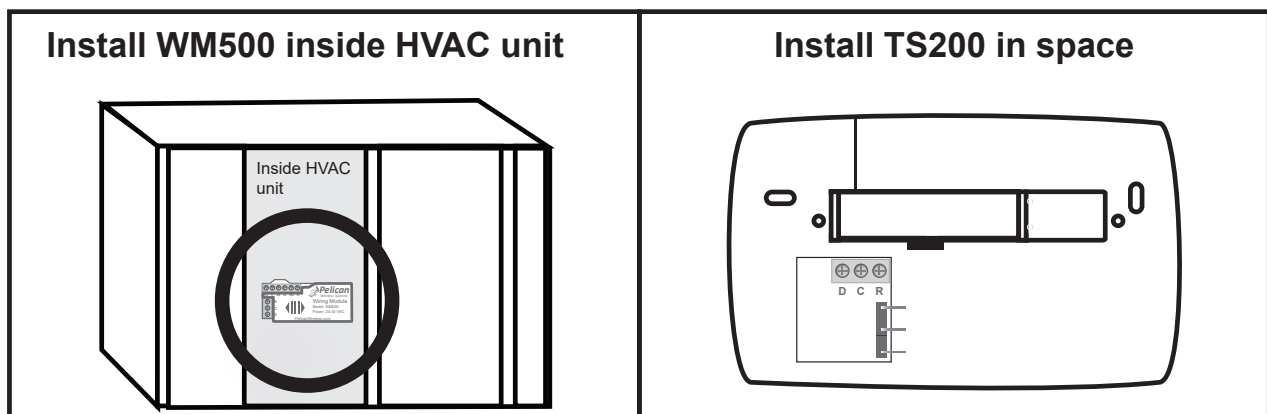
5. Use the existing in-wall 18 gauge unshielded wire to connect the R, C, D terminals from the WM500 to the matching R, C, D terminals at the thermostat

⚠ **NOTE** THE WIRING BELOW IS FOR A STANDARD FIVE (5) WIRE INSTALLATION. FOR DIFFERENT WIRING OPTIONS FOLLOW THE WIRING GUIDES FOUND IN THE PREVIOUS PAGES.
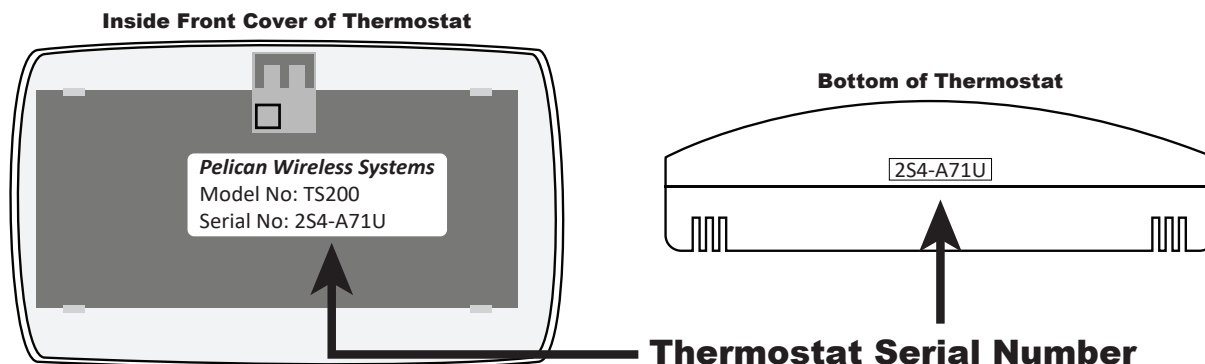
WM500 INSTALLED INSIDE HVAC UNIT

Fan Circuit — **G** ⊕
Heat Circuit — **W** ⊕
Compressor Relay — **Y** ⊕
24 VAC Power — **R** ⊕
24 VAC Common — **C** ⊕

Use 18 gauge unshielded cable from WM500 to thermostat. Wire can be up to 500 feet in length.

THERMOSTAT INSTALLED IN SPACE

D C R

15
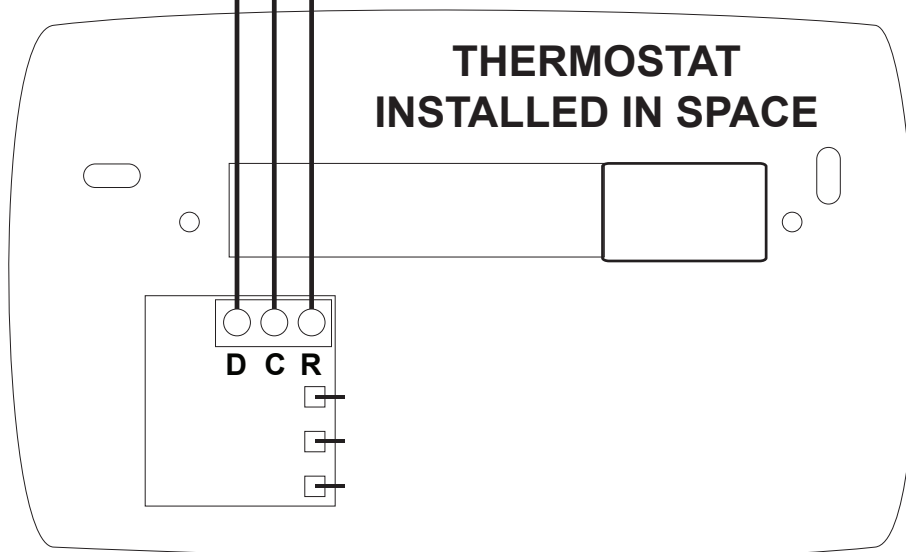
Thermostat Configuration

All configuration settings are made Online through the Pelican Web App. Each thermostat will automatically join the Pelican Web App and will be listed both as a notification and as a new thermostat under *Admin.* The thermostat is intially listed by it's serial number*.* Most configurable items can be left at their default settings. For proper operation it is necessary to set the correct System Type (Conventional or Heat Pump). If the Web App is not accessable, the thermostat's System Type can be set directly using the thermostat front keypad.

Inside Front Cover of Thermostat

Pelican Wireless Systems
Model No: TS200
Serial No: 2S4-A71U

Bottom of Thermostat

2S4-A71U

Thermostat Serial Number

Setting System Type Using Thermostat Keypad

The thermostat can be placed into the correct system type (conventional or heat pump) during the first minute after the unit has been powered on. If the thermostat has been running for longer than one minute, remove the front cover of the thermostat from the rear base and then re-attach. This will cause it to recycle the power.

Within the first minute of the thermostat powered on, press and hold the up and down arrows simultaneously for five seconds. This will place the thermostat in configuration mode and the display will change to show one of the three possible system type settings:

Conventional System (Default)	CO
Heat Pump **"W" Terminal Controls Reversing Valve.** **Energized for Cool.**	HP 0
Heat Pump **"W" Terminal Controls Reversing Valve.** **Energized for Heat.**	HP b

The system type can be changed by pressing the **up arrow** on the thermostat. Once the correct setting is displayed, press any other button, the thermostat will save the setting and return to normal operation.