

PACKAGED UNITS KITS AND ACCESSORIES

507914-01
1/2020
Supersedes 6/2019

LOW AMBIENT KIT

INSTALLATION INSTRUCTIONS FOR LOW AMBIENT KIT USED ON KG/KC 156, 180, 210 PACKAGED ROOFTOP UNITS

Shipping and Packing List

Package 1 of 1 contains:

- 1- Head pressure control (A190)
- 1- Thermostat (A19)
- 1- Thermostat bracket
- 2- Wiring harnesses
- 1- Outdoor coil support
- 1- Bag assembly containing:
 - 2-Pressure transducers (A188, A189)
 - 2-Valve depressors tees
 - 10-Wire ties
 - 1-Wiring diagram
 - 3-High pressure switches (2 in 18B99)
 - 2-Screws, 1-1/4" self tapping
 - 2-Screws, Phillips head (4 in 18B99)
 - 2-Screws, thread forming
 - 20-Screws, 5/8" self tapping

TABLE 1

Unit	Cat. #	LB #
KG/KC 156H-210S KGB/KCB 180S	18B95	619589-03
KGA/KCA 180S	18B99	619589-07

Operation

When ambient temperature drops below 55°F (adjustable), A19 thermostat opens to de-energize K10 relay coil. Condenser fans 1 & 2 are de-energized.

Liquid line pressure transducers A188 & A189 convert the pressure to an analog signal which is sent to the head pressure control (A190). The head pressure control provides a variable output which slows Condenser Fan 3 operation at lower ambient temperatures (A190 terminal M to B21 terminal 3).

Application

This kit allows low ambient operation to 0°F (-17.8°C) unless otherwise noted in product specifications.

See table 1 for usage.

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional HVAC installer or equivalent, service agency, or the gas supplier

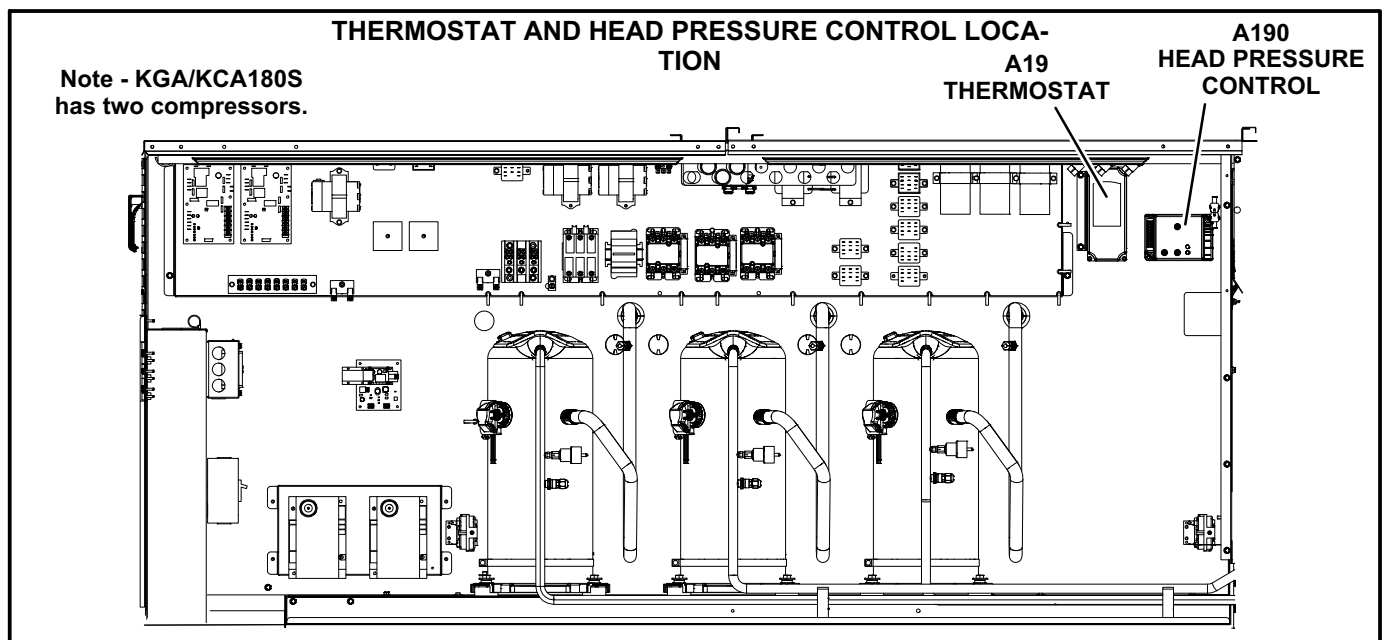


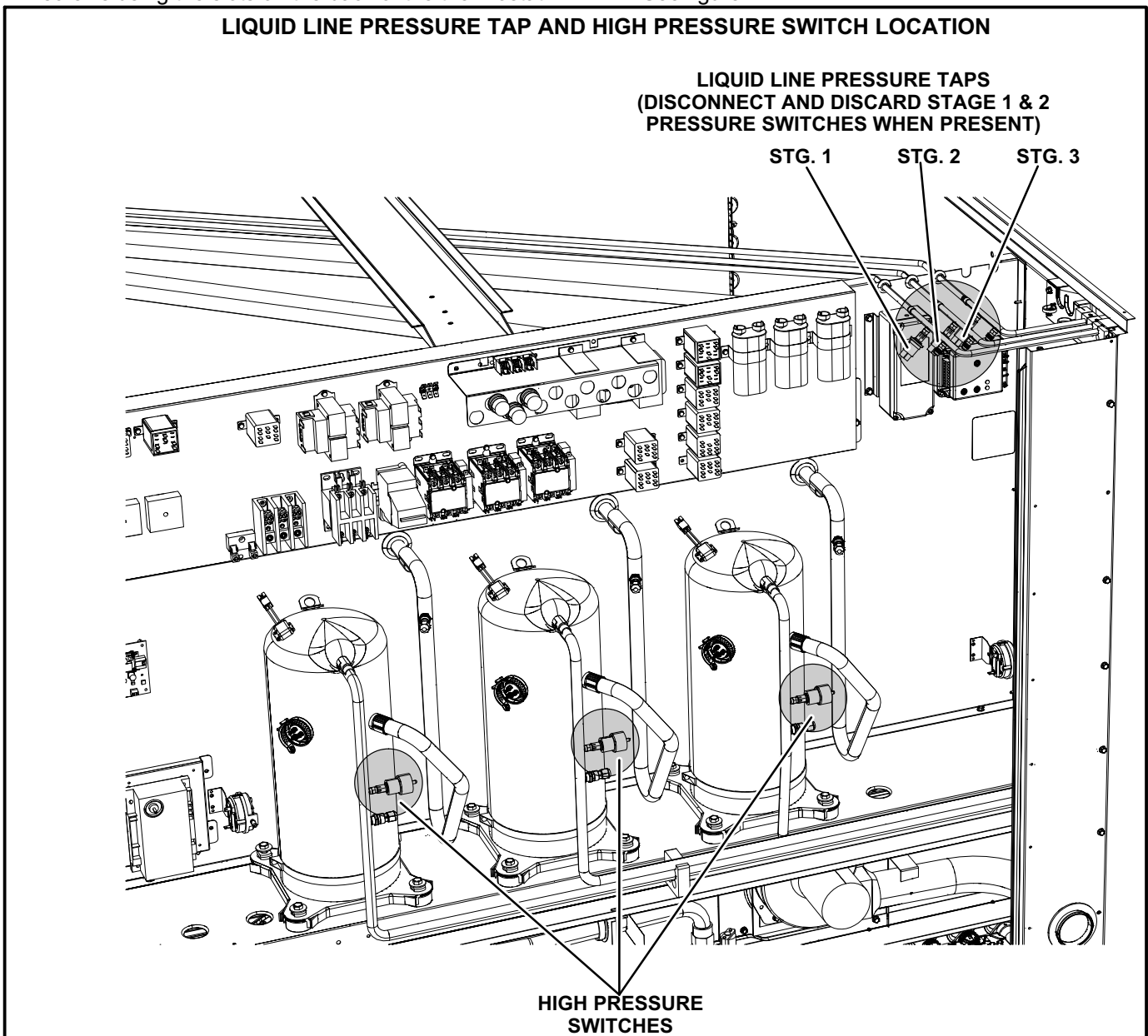
FIGURE 1

⚠ CAUTION

As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and wear gloves and protective clothing.

Installation

- 1- Disconnect power to unit and open access panels.
- 2- Install the head pressure control in the control section as shown in figure 1. Secure with self-tapping screws (provided).
- 3- Install the thermostat mounting bracket next to the head pressure control. Install two screws in the bracket flange and hang the thermostat on the two screws using the slots on the back of the thermostat.
- 4- Set the head pressure control as follows:
Setpoint: 355 psig
Hard Start: Min.
Cut-out Speed: Set to 5th marker from minimum
Heat Pump Pin set to :N.O.
- 5- If present, disconnect and discard low pressure switches from stage 1 and 2 liquid line. See figure 2.
- 6- Install the valve depressor tees on stage 1 and 2 liquid line pressure taps.
- 7- Install a pressure transducer on each depressor tee.
- 8- *KGA/KCA Units Only* -
Disconnect and discard the existing high pressure switches. Install pressure switches provided in this kit. See figure 2.



Replace Divider Panel

- 1- Remove and retain the screws securing the unit top panel on the condenser end; prop open. See figure 3.
- 2- Remove the shorter divider panel and replace with the taller divider panel provided in this kit.
- 3- Route the convoluted tubing back in place.
- 4- Replace the top panel and secure with retained screws.

Low Voltage Wire Connections

- 1- Make transducer wire connections as shown in figure 4.
- 2- Disconnect S11 connector in upper right of the control box.
- 3- Make 24V wiring connections as shown in figure 5. Harness is provided in kit.

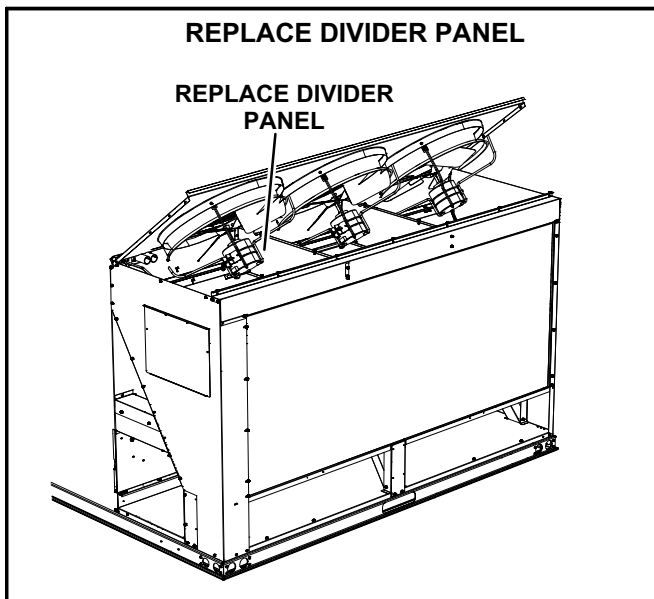


FIGURE 3

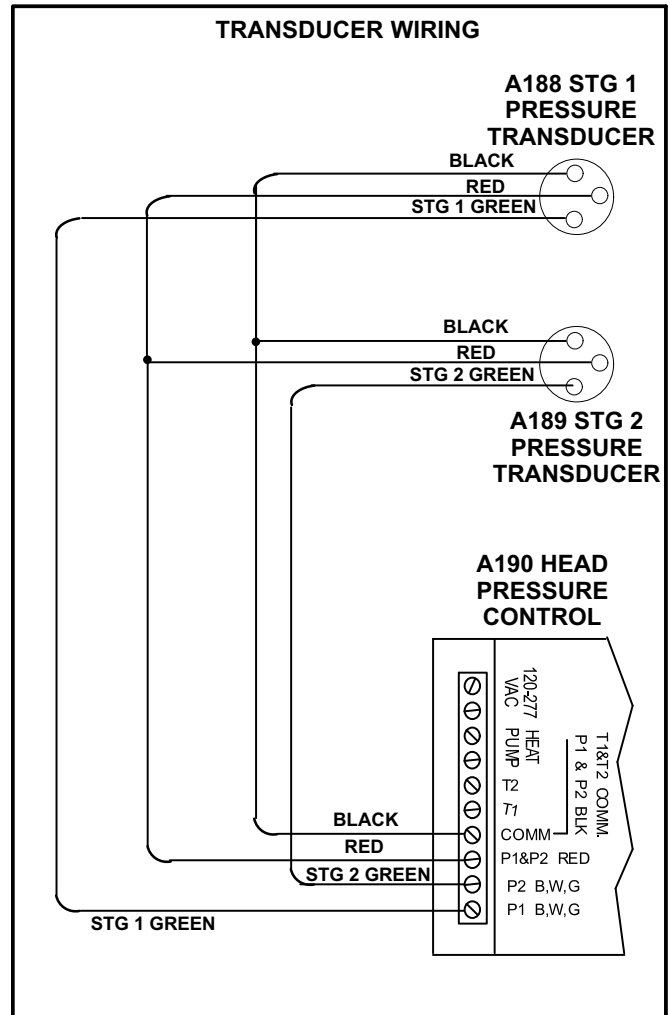


FIGURE 4

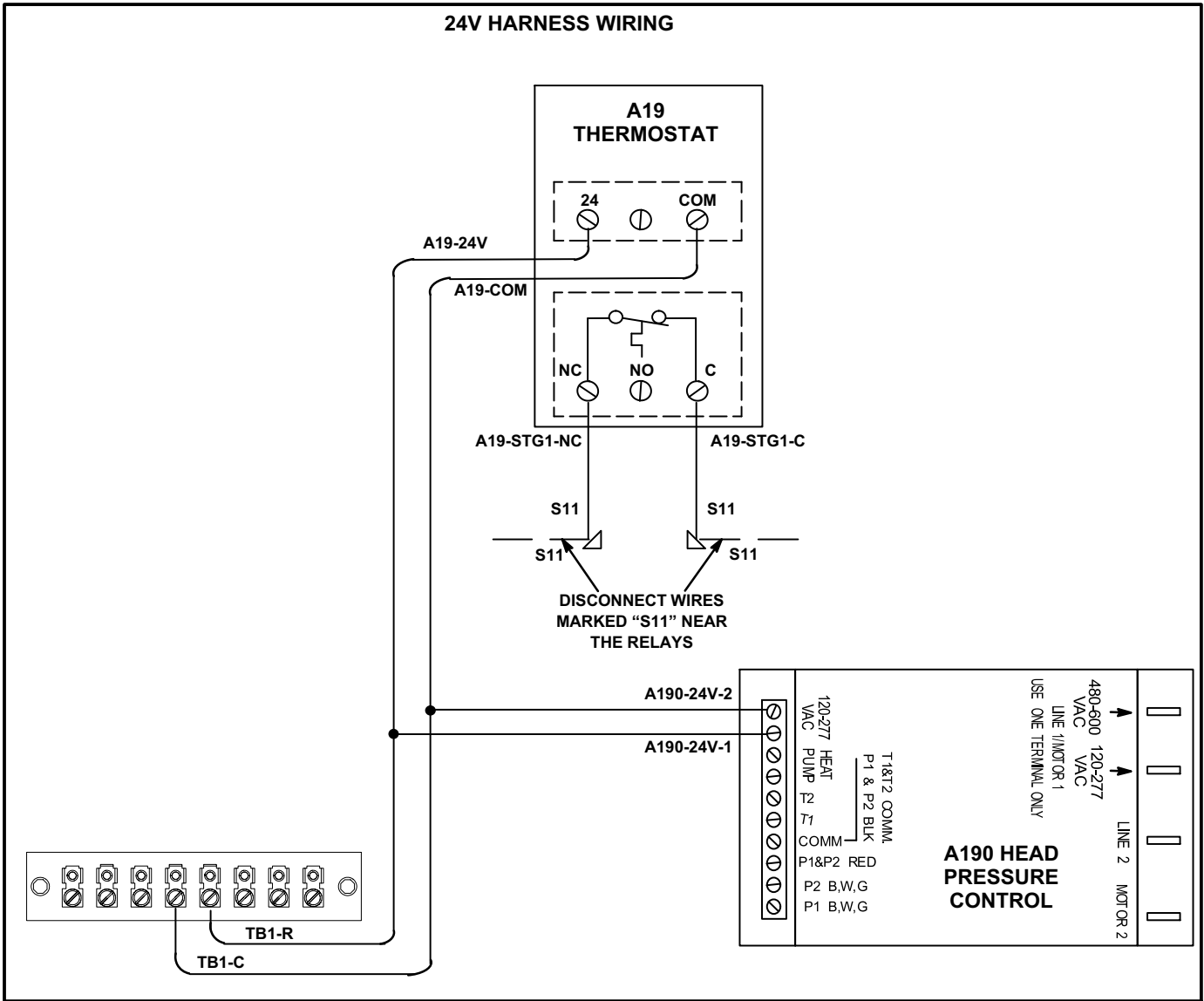


FIGURE 5

High Voltage Wire Connections

- 1- Remove K10 power terminal connectors; do not remove wiring routed to K10-A & B coil. Trace wires back to the contactor(s) and disconnect.
- 2- Disconnect P36 from J36. Remove P36 and associated wiring.
- 3- Disconnect wiring to C1, C2, and C18 capacitors. Trace wires back to the contactor(s) and disconnect.
- 4- Disconnect existing J86 from P86. Discard J36 and associated wiring.
- 5- Disconnect wires to HR1, HR2, and HR5 crankcase heaters.
- 6- Install the kit power wiring harness as shown in figure 6.
- 7- Bundle wiring and use wire ties to route wiring away from sharp edges.
- 8- Place the wiring diagram provided in this kit on the inside of the control door.
- 9- Close unit panels and restore power.

POWER HARNESS WIRING

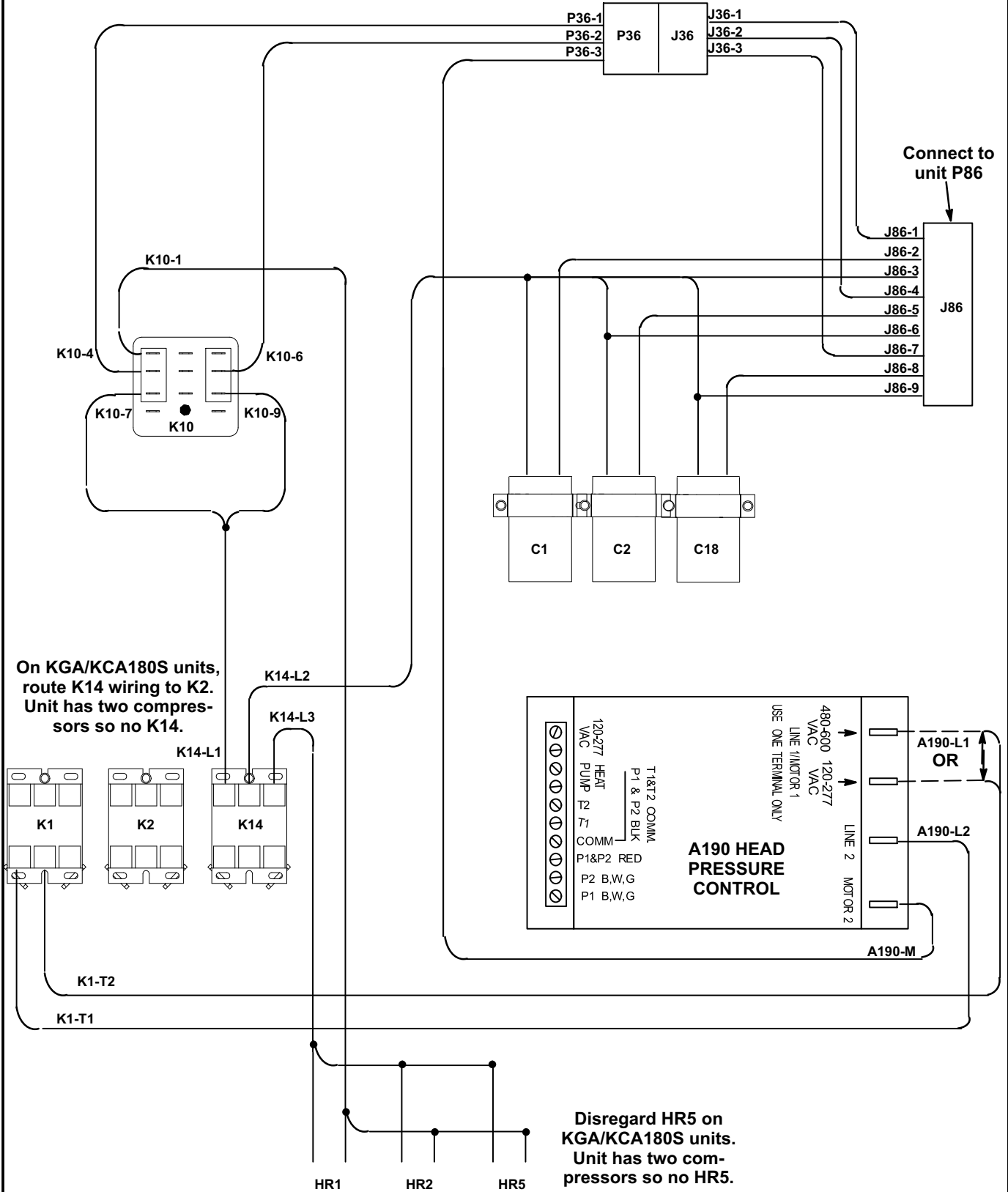


FIGURE 6

Set-Up A19 Thermostat

Apply power to unit

- 1- Apply power to unit.
- 2- Press the 'SET' button on the A19 Thermostat.
- 3- Choose 'F' for Fahrenheit, and press 'SET' to continue.
- 4- Set S1 to 55, and press 'SET' to continue.
- 5- Set DIF1 to 0, and press 'SET' to continue.
- 6- Select 'C1' and press 'SET' to continue.
- 7- Set S2 to 55, and press 'SET' to continue.
- 8- Set DIF2 to 0, and press 'SET' to continue.
- 9- Select 'C2' and press 'SET' to finish programming the controller.

Note: For Celsius readings, set S1 and S2 to 12.