

**INSTALLATION INSTRUCTIONS FOR LOW AMBIENT KIT (23V26; 619589-10)
USED ON KGC/KCC300 PACKAGED ROOFTOP UNITS**

Shipping and Packing List

Package 1 of 1 contains:

- 2- Head pressure control (A190)
- 1- Temperature switch bracket
- 1- Wiring harness - A190 to K254
- 1- Wiring harness - A191 to K255
- 1-Wiring harness - K58, K118 to S201, S201 power
- 1-Wiring harness - K58, K118 to CMC-0-OUT power
- 1-Wiring harness - A190-HP to CMC-FAN1, 2 power
- 1- Bag assembly containing:
 - 2-Pressure transducers (A188, A189)
 - 2-Temperature switches (S201, S202)
 - 10-Wire ties
 - 1-Wiring diagram
 - 2-Screws, #8-32 X 1/2 TFS
 - 2-Screws, #8-32 X 1-1/4 TFS

Installation

- 1 - Disconnect all power to unit and open access panels.
- 2 - Install head pressure controls (A190 & A191) in the control section as shown in FIGURE 1. Secure with screws (provided).
- 3 - Using the ICM Omni App, set the head pressure controller as follows:
 - Probe Type: Pressure
 - Setpoint: 355 psig
 - Hard Start: 0.1s
 - Minimum Voltage Output: 32%
- 4 - Install the temperature switch mounting bracket onto the mullion. Align the bracket with the 4th screw from the top of the unit; secure with provided screw. See FIGURE 1.
- 5 - Install the temperature switches onto the bracket.
- 6 - Install the pressure transducers on compressor 1 (stg. 1) and compressor 2 (stg. 2). liquid line pressure tap as shown in FIGURE 2.

⚠ 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.

Low Voltage Wiring

- 1 - Disconnect unit wires routed to K10-A and K150-A and reconnect. See FIGURE 3.
- 2 - Disconnect unit wires to CMC1-0-OUT and CMC2-0-OUT and reconnect. See FIGURE 3 and FIGURE 4.
- 3 - Use 24V harnesses (4), (5), (6), provided in this kit, to make wire connections as shown in FIGURE 3 and FIGURE 4.
- 4 - Connect A188 & A189 pressure transducer quick-connects to A190 & A191 head pressure controls. See FIGURE 4.

Application

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

Operation

When ambient temperature drops below 55°F (adjustable), S201 and S202 temperature switches open to de-energize K10 and K150 relay coils. Condenser fans 1, 2, 4 & 5 are de-energized.

Liquid line pressure transducer A188 and A189 convert the pressure to an analog signal which is sent to the head pressure controls (A190, A191). The head pressure control provides a variable output which slows Condenser Fan 2 & 4 operation at lower ambient temperatures.

⚠ 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 installer (or equivalent), service agency or the gas supplier.

⚠ WARNING

To prevent serious injury or death:

- 1- Lock-out/tag-out before performing maintenance.
- 2- If system power is required (e.g., smoke detector maintenance), disable power to blower, remove fan belt where applicable, and ensure all controllers and thermostats are set to the "OFF" position before performing maintenance.
- 3- Always keep hands, hair, clothing, jewelry, tools, etc., away from moving parts.



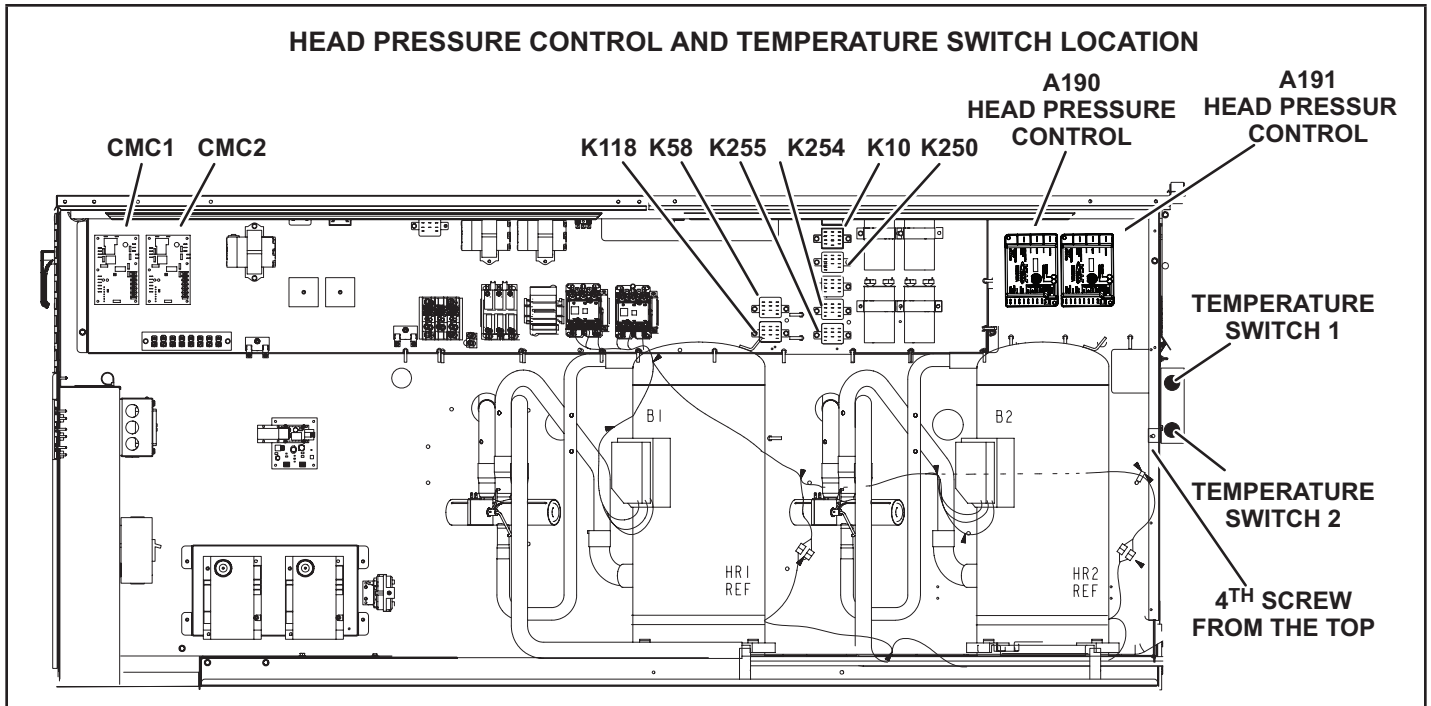


FIGURE 1

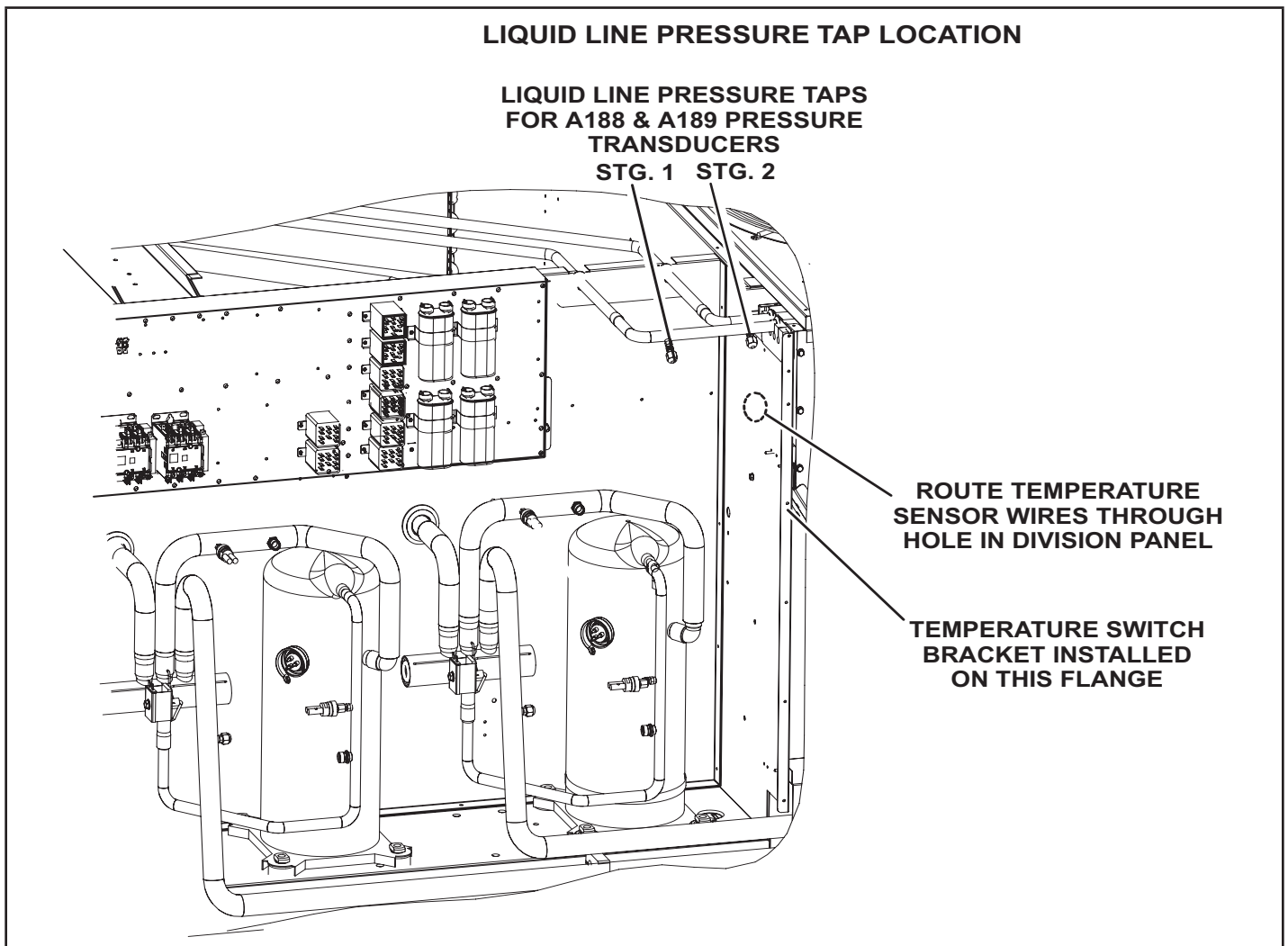


FIGURE 2

TEMPERATURE SWITCH, CMC-OUT, K58, K118 WIRING - HARNESSSES (4) AND (5)

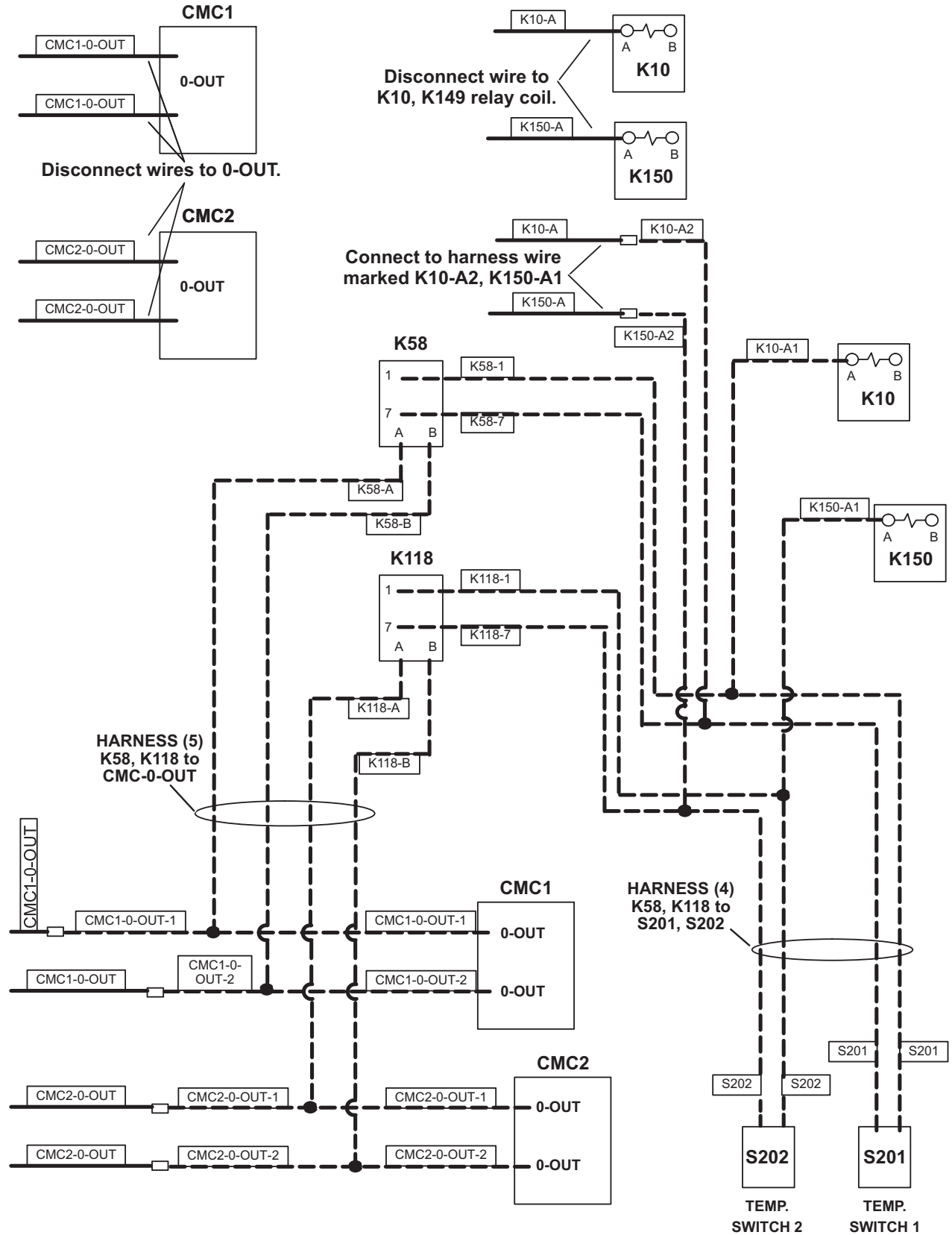
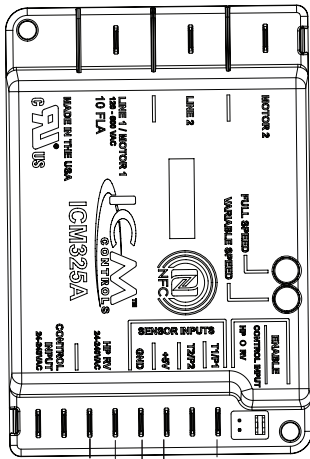


FIGURE 3

24V HARNESS WIRING - HARNESSES (1) AND (6)

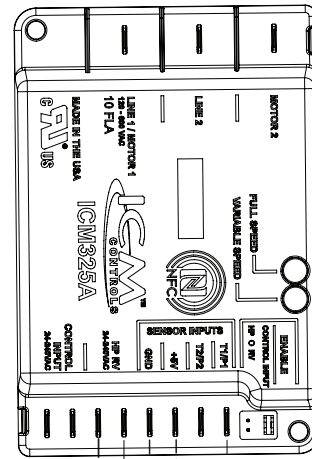
A190
HEAD PRESSURE CONTROL



A188
STG 1
PRESSURE
TRANSDUCER



A191
HEAD PRESSURE CONTROL



A189
STG 2
PRESSURE
TRANSDUCER



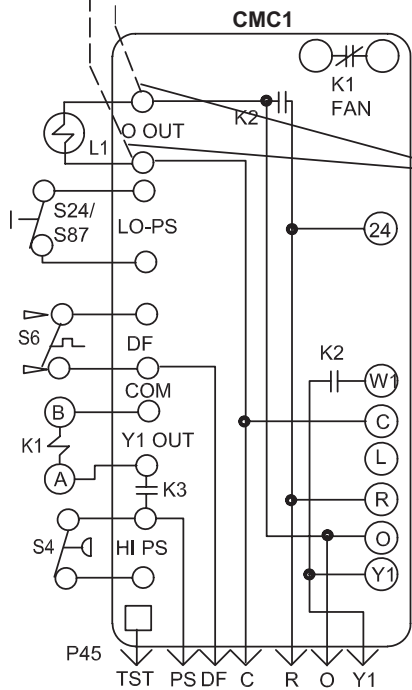
CONNECT
A188 LEADS
TO A190



CONNECT
A189 LEADS
TO A191

HARNESS (6)
A190-HP to
CMC-FAN1, 2

PIGGY BACK TERMINALS
PROVIDED ON THESE
WIRES
TO RECONNECT UNIT
CMC2-0-OUT WIRES



PIGGY BACK TERMINALS
PROVIDED ON THESE
WIRES TO
RECONNECT UNIT
CMC1-0-OUT WIRES

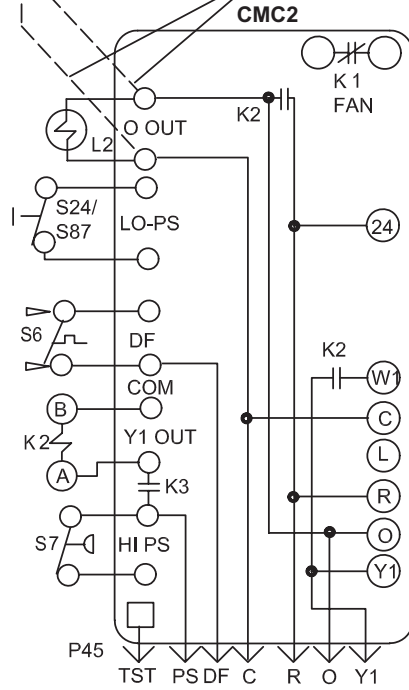


FIGURE 4

High Voltage Wire Connections

- 1 - Connect wires labeled "A190-L2" and "A191-L2" to the terminal marked Line 2 on the ICM controllers A190 & A191.
- 2 - Connect wires labeled "A190-M" & "A191-M" to the terminal marked "Motor 2" on ICM controllers A190 & A191.
- 3 - Disconnect factory wires to K254 terminals 4 & 6. Reconnect these wires to the kit harness (2) as shown in FIGURE 5.
- 4 - Disconnect factory wires to K255 terminals 4 & 6. Reconnect these wires to the kit harness (3) as shown in FIGURE 5.
- 5 - Make sure all connections are secure.
- 6 - Bundle wiring and use wire ties to route wiring away from sharp edges.
- 7 - Place the wiring diagram provided in this kit on the inside of the control door.
- 8 - Close unit panels and restore power.

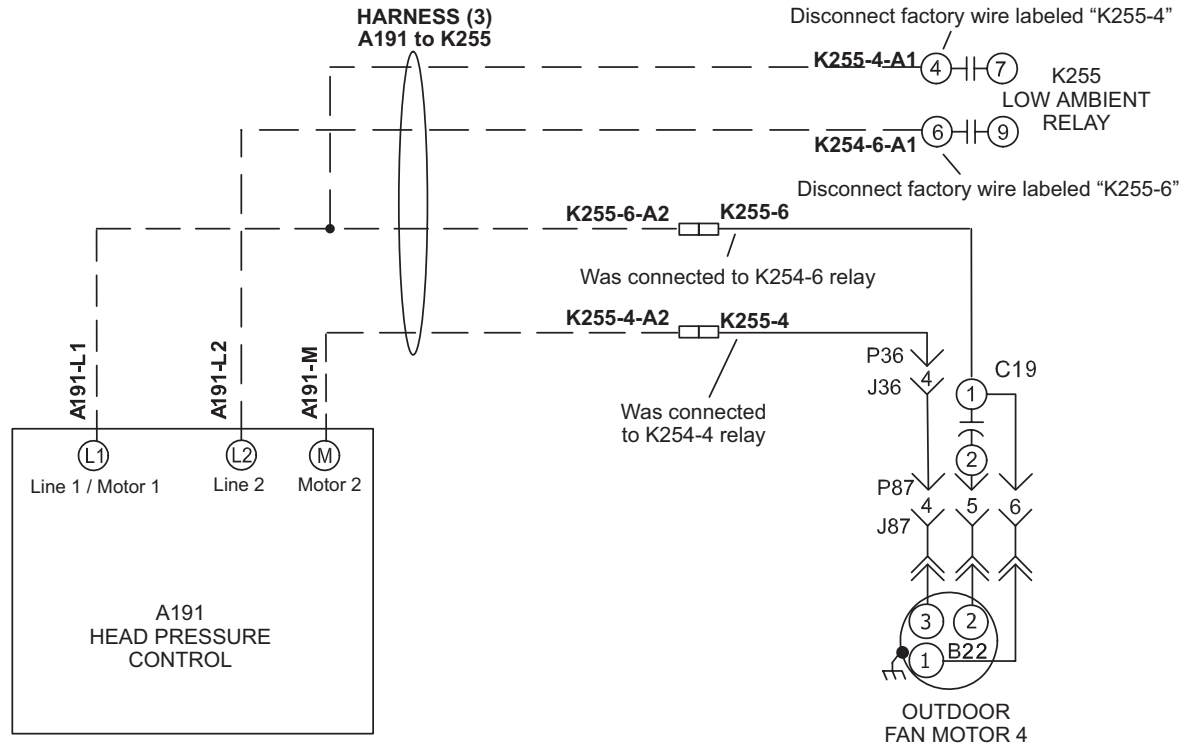
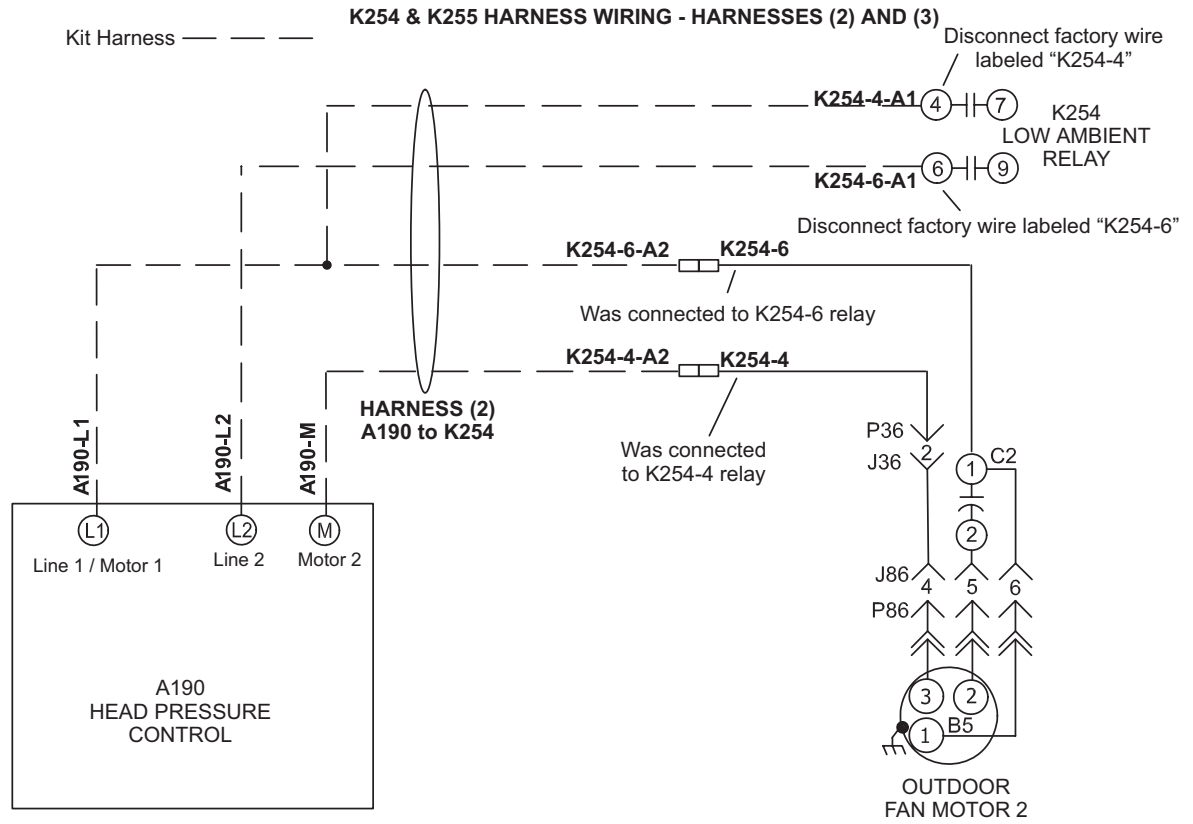
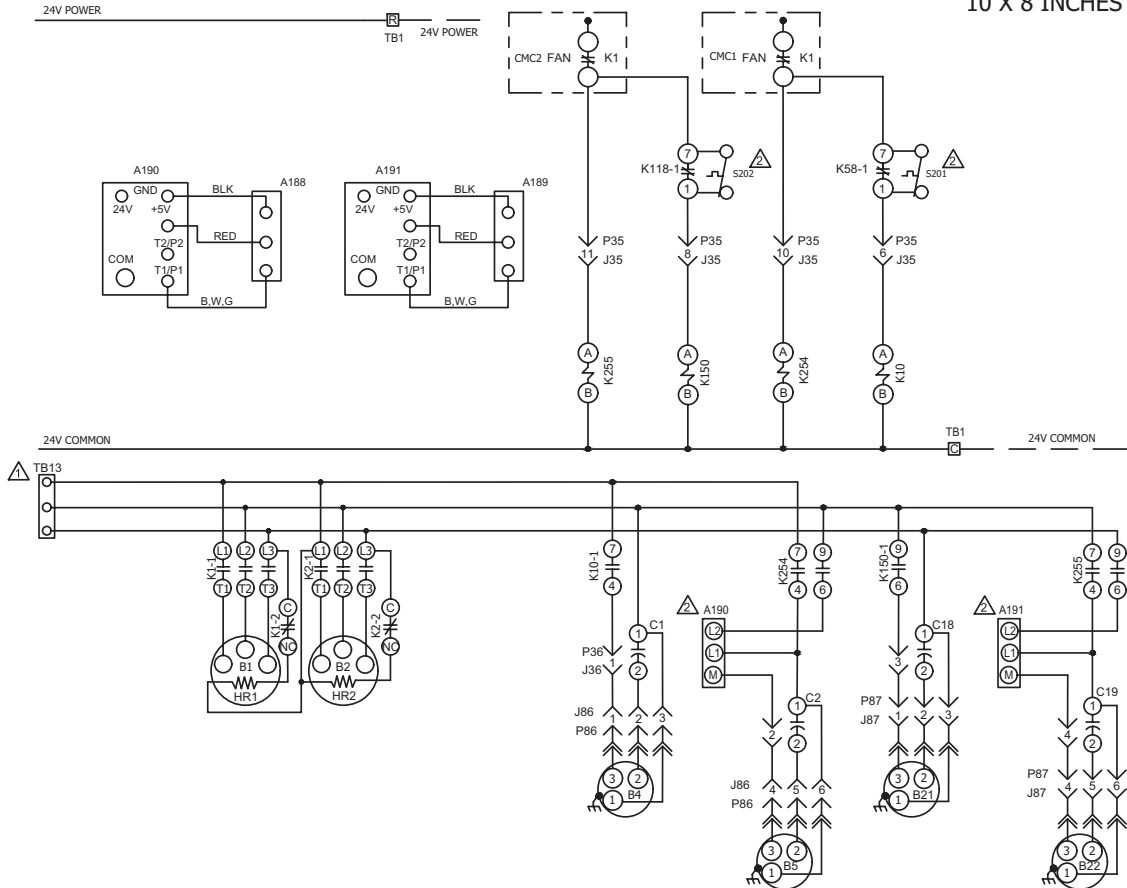


FIGURE 5

10 X 8 INCHES



KEY	COMPONENT
A188	PRESSURE TRANSDUCER, COMP 2
A189	PRESSURE TRANSDUCER, COMP 4
A190	PRESSURE CONTROLLER, COMP 2, LOW AMBIENT KIT
A191	PRESSURE CONTROLLER, COMP 4, LOW AMBIENT KIT
B1	COMPRESSOR 1
B2	COMPRESSOR 2
B4	MOTOR, OUTDOOR FAN 1
B5	MOTOR, OUTDOOR FAN 2
B21	MOTOR, OUTDOOR FAN 3
B22	MOTOR, OUTDOOR FAN 4
C1	CAPACITOR, OUTDOOR FAN 1
C2	CAPACITOR, OUTDOOR FAN 2
C18	CAPACITOR, OUTDOOR FAN 3
C19	CAPACITOR, OUTDOOR FAN 4
CMC1	TIMER, DEFROST, COMPRESSOR 1
CMC2	TIMER, DEFROST, COMPRESSOR 2
J/P 35	JACK/ PLUG, RUN TEST
J/P 36	JACK/ PLUG, RUN TEST OD FANS
HR1	HEATER, COMPRESSOR 1
HR2	HEATER, COMPRESSOR 2
K1,-1,2	CONTACTOR, COMPRESSOR 1
K2,-1,2	CONTACTOR, COMPRESSOR 2
K10,-1	RELAY, OUTDOOR FAN 1
K58,-1	RELAY, LOW AMBIENT KIT COMP 1
K118,-1	RELAY, LOW AMBIENT KIT COMP 2
K150,-1	RELAY, OUTDOOR FAN 3
K254	RELAY, LOW AMBIENT KIT FAN 2
K255	RELAY, LOW AMBIENT KIT FAN 4

DENOTES OPTIONAL COMPONENTS
 LIVE VOLTAGE FIELD INSTALLED

S201	SWITCH, LOW AMBIENT TEMP SENSOR 1
S202	SWITCH, LOW AMBIENT TEMP SENSOR 2
TB1	TERMINAL STRIP, 24V
TB13	TERMINAL STRIP, POWER DISTRIBUTION

- REFER TO UNIT RATING PLATE FOR MINIMUM CIRCUIT AMPACITY AND MAXIMUM OVERCURRENT PROTECTION
- REFER TO INSTRUCTION SHEETS FOR LOW AMBIENT HARNESS INSTALLATION PROCEDURE

WARNING-ELECTRIC SHOCK HAZARD CAN CAUSE INJURY OR DEATH. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES

FOR USE WITH COPPER CONDUCTORS ONLY
DISCONNECT ALL POWER BEFORE SERVICING

IF ANY WIRE IN THIS APPLIANCE IS REPLACED, IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING, INSULATION THICKNESS AND TERMINATION

2024/04	WIRING DIAGRAM	04/24
	538273-02	
HEAT/COOL - MSAV		
KH C-BOX - 180S-240S - G, J, Y VOLT LOW AMBIENT KIT		
SECTION B		REV. 2
Supersedes	New Form No.	
538273-01	538273-02	

© Lennox Commercial

FIGURE 6