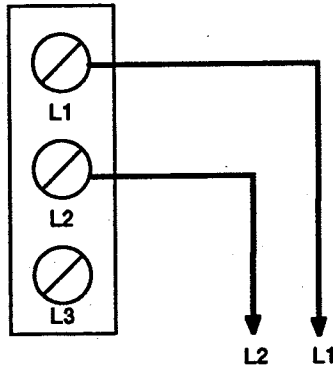


B-Field Wiring Line Voltage to B19 / CB19 Units without Electric Heat

TB2
TERMINAL
BLOCK



NOTE-REFER TO UNIT RATING PLATE FOR
MINIMUM CIRCUIT AMPACITY AND MAX.
OVERCURRENT PROTECTION SIZE.

NOTE-USE COPPER CON-
DUCTORS ONLY SUITABLE
FOR 75°C (167°F).

————— LINE VOLTAGE

L2 L1
208-230 / 60 / 1 (P voltage units)
OR
460 / 60 / 1 (G voltage units)

C-Field Wiring Electric Heat to CB19

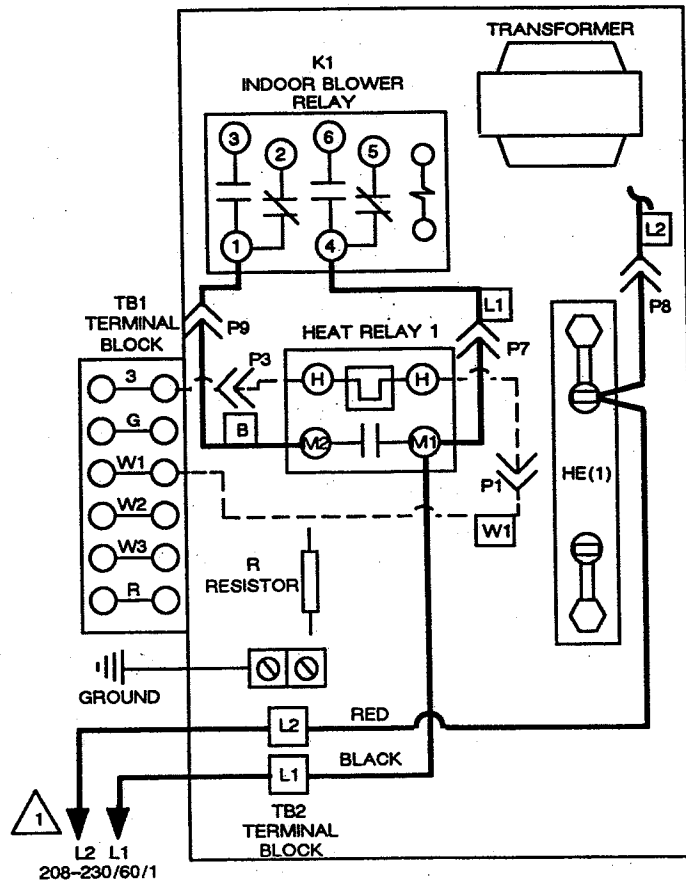
FIELD WIRING AND LINE VOLTAGE CONNECTIONS FOR ECB19-2.5P AND 5P UNITS

NOTE-REFER TO UNIT RATING PLATE FOR
MINIMUM CIRCUIT AMPACITY AND MAX.
OVERCURRENT PROTECTION SIZE.

————— LINE VOLTAGE
- - - - - LOW VOLTAGE
NEC CLASS 2

NOTE-USE COPPER CON-
DUCTORS ONLY SUITABLE
FOR 75°C (167°F).

MINIMUM WIRE SIZE	
UNIT	WIRE SIZE
ECB19-2.5-1P	12
ECB19-5.0-1P	10

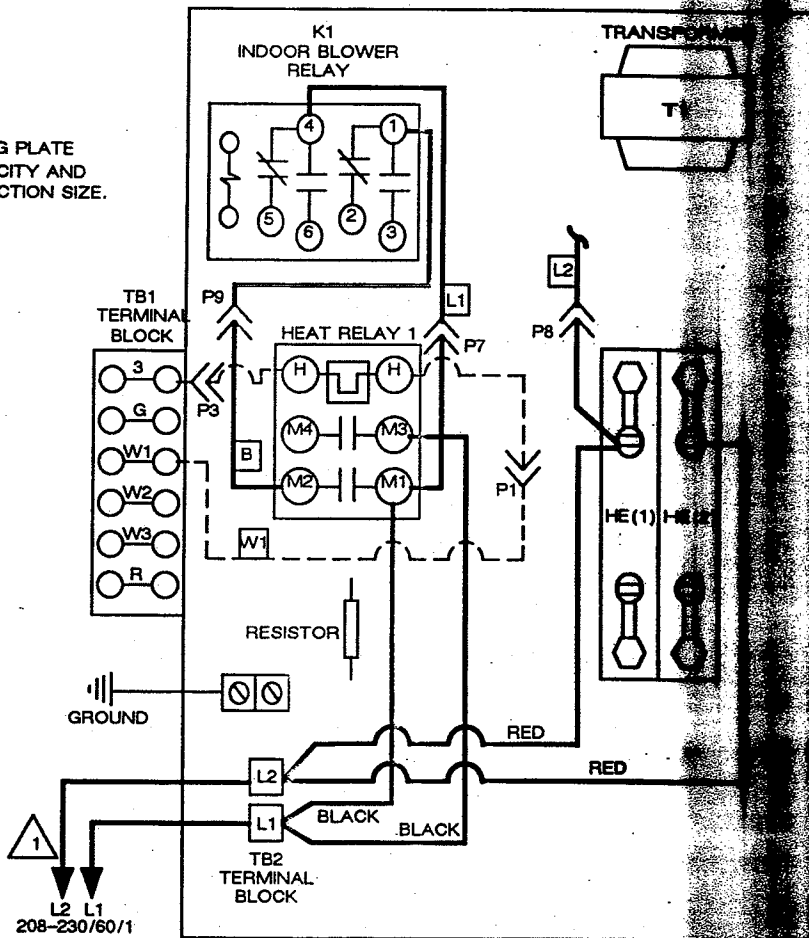


1 NO CONDUCTOR TO EXCEED 125V TO GROUND.

FIELD WIRING AND LINE VOLTAGE CONNECTIONS FOR ECB19-6P, 7P AND 8P UNITS

NOTE-REFER TO UNIT RATING PLATE FOR MINIMUM CIRCUIT AMPACITY AND MAX. OVERCURRENT PROTECTION SIZE.

NOTE-USE COPPER CONDUCTORS ONLY, SUITABLE FOR 75°C (167°F).



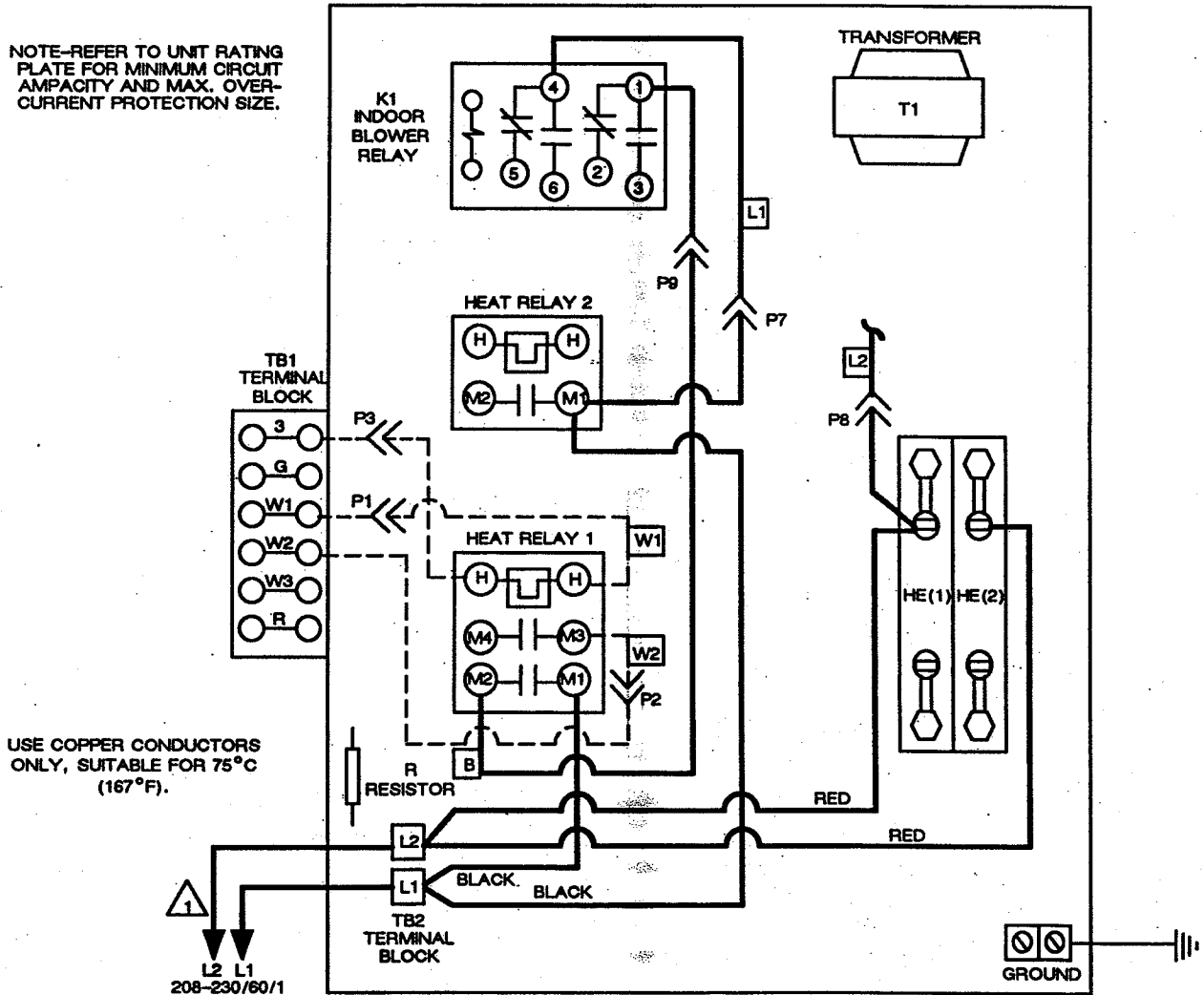
1 NO CONDUCTOR TO EXCEED 125V TO GROUND.

MINIMUM WIRE SIZE	
UNIT	WIRE SIZE
ECB19-6.0-1P	
ECB19-7.0-1P	
ECB19-8.0-1P	

— LINE VOLTAGE
- - - LOW VOLTAGE
NEED CLASS

FIELD WIRING AND LINE VOLTAGE CONNECTIONS FOR ECB19-10P UNITS

NOTE-REFER TO UNIT RATING
PLATE FOR MINIMUM CIRCUIT
AMPACITY AND MAX. OVER-
CURRENT PROTECTION SIZE.



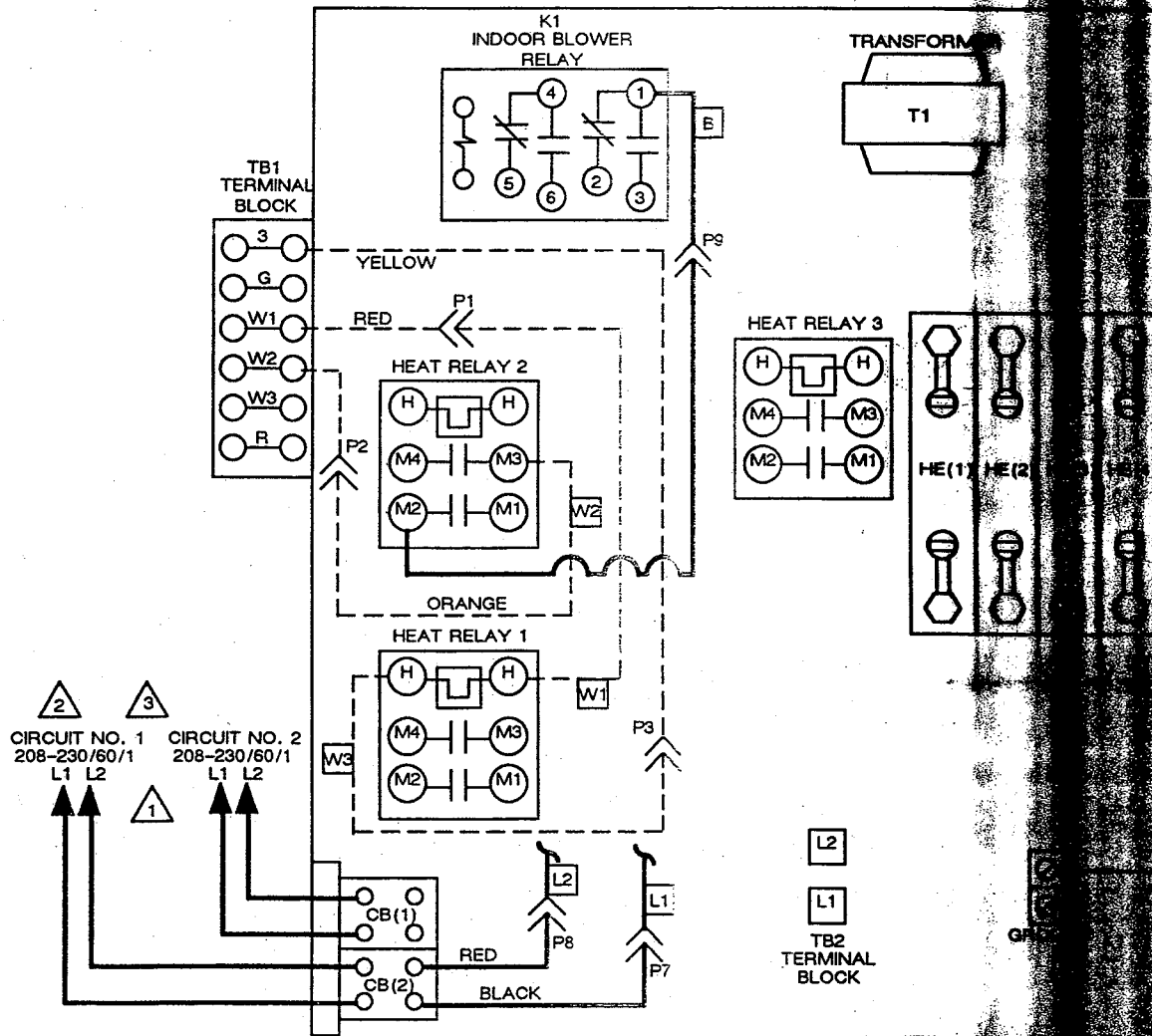
USE COPPER CONDUCTORS
ONLY, SUITABLE FOR 75°C
(167°F).

1 NO CONDUCTOR TO EXCEED 125V TO GROUND.

MINIMUM WIRE SIZE	
UNIT	WIRE SIZE
ECB19-10.0-1P	6

— LINE VOLTAGE
- - - LOW VOLTAGE
NEC CLASS 2

FIELD WIRING AND LINE VOLTAGE CONNECTIONS FOR ECB19-12.5P, 15P AND 20P UNITS

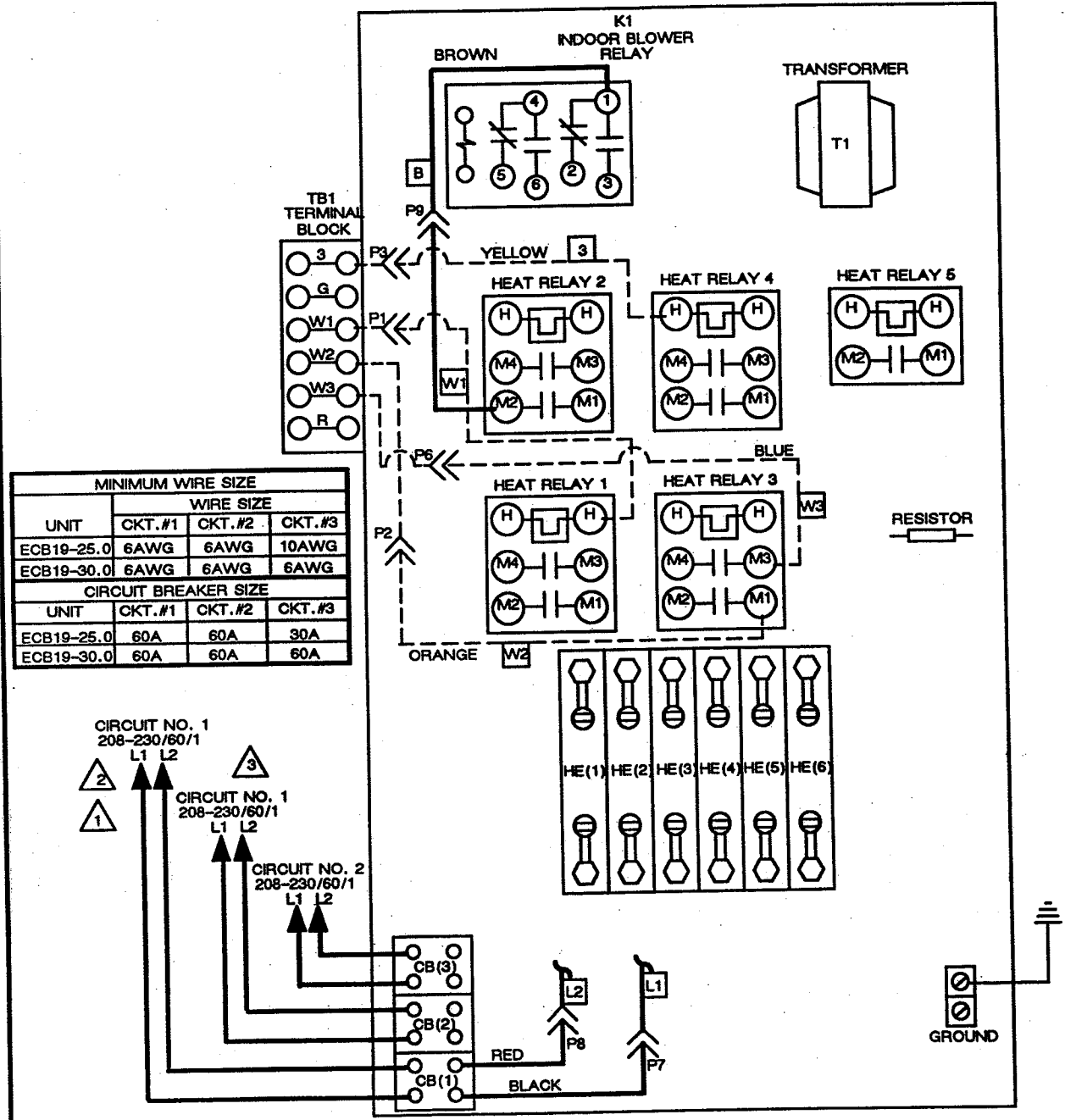


- 1 NO CONDUCTOR TO EXCEED 125V TO GROUND.
- 2 REFER TO SINGLE DISCONNECT POWER SOURCE RATING PLATE ON INDOOR UNIT FOR MIN. CIRCUIT AMPACITY, MIN. WIRE SIZES AND MAX. OVERCURRENT PROTECTION.
- 3 USE COPPER CONDUCTORS ONLY, SUITABLE FOR 75°C (167°F).

MINIMUM WIRE SIZE	
UNIT	WIRE SIZE
ECB19-12.5-1P (Ckt.#1)	10
ECB19-12.5-1P (Ckt.#2)	10
ECB19-15.0-1P (Ckt.#1)	10
ECB19-15.0-1P (Ckt.#2)	10
ECB19-20.0-1P (Ckt.#1)	10
ECB19-20.0-1P (Ckt.#2)	10

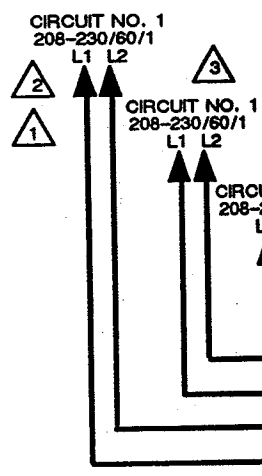
——— LINE VOLTAGE
 - - - - - LOW VOLTAGE
 NEC CLASS

FIELD WIRING AND LINE VOLTAGE CONNECTIONS FOR ECB19-25P AND 30P UNITS



UNIT	MINIMUM WIRE SIZE		
	WIRE SIZE		
	CKT. #1	CKT. #2	CKT. #3
ECB19-25.0	6AWG	6AWG	10AWG
ECB19-30.0	6AWG	6AWG	6AWG

UNIT	CIRCUIT BREAKER SIZE		
	WIRE SIZE		
	CKT. #1	CKT. #2	CKT. #3
ECB19-25.0	60A	60A	30A
ECB19-30.0	60A	60A	60A

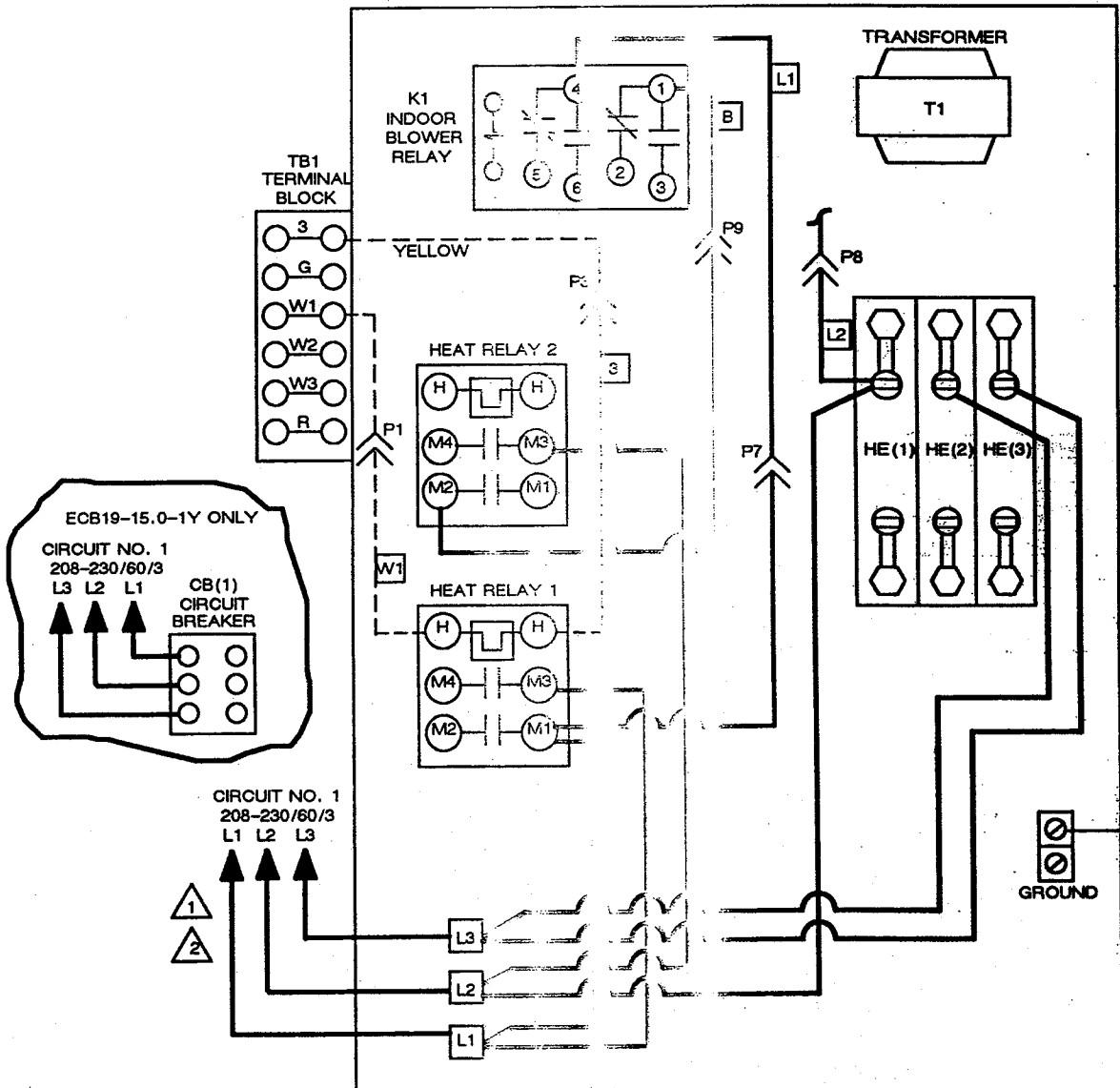


— LINE VOLTAGE
- - - LOW VOLTAGE NEC CLASS 2

- 1 NO CONDUCTOR TO EXCEED 125V TO GROUND.
- 2 REFER TO SINGLE DISCONNECT POWER SOURCE RATING PLATE ON INDOOR UNIT FOR MIN. CIRCUIT AMPACITY, MIN. WIRE SIZES AND MAX. OVERCURRENT PROTECTION.
- 3 USE COPPER CONDUCTORS ONLY, SUITABLE FOR 75°C (167°F).

FIGURE 9

**FIELD WIRING AND LINE VOLTAGE CONNECTIONS
FOR ECB19-5Y, 7.5Y, 10Y AND 15Y UNITS**



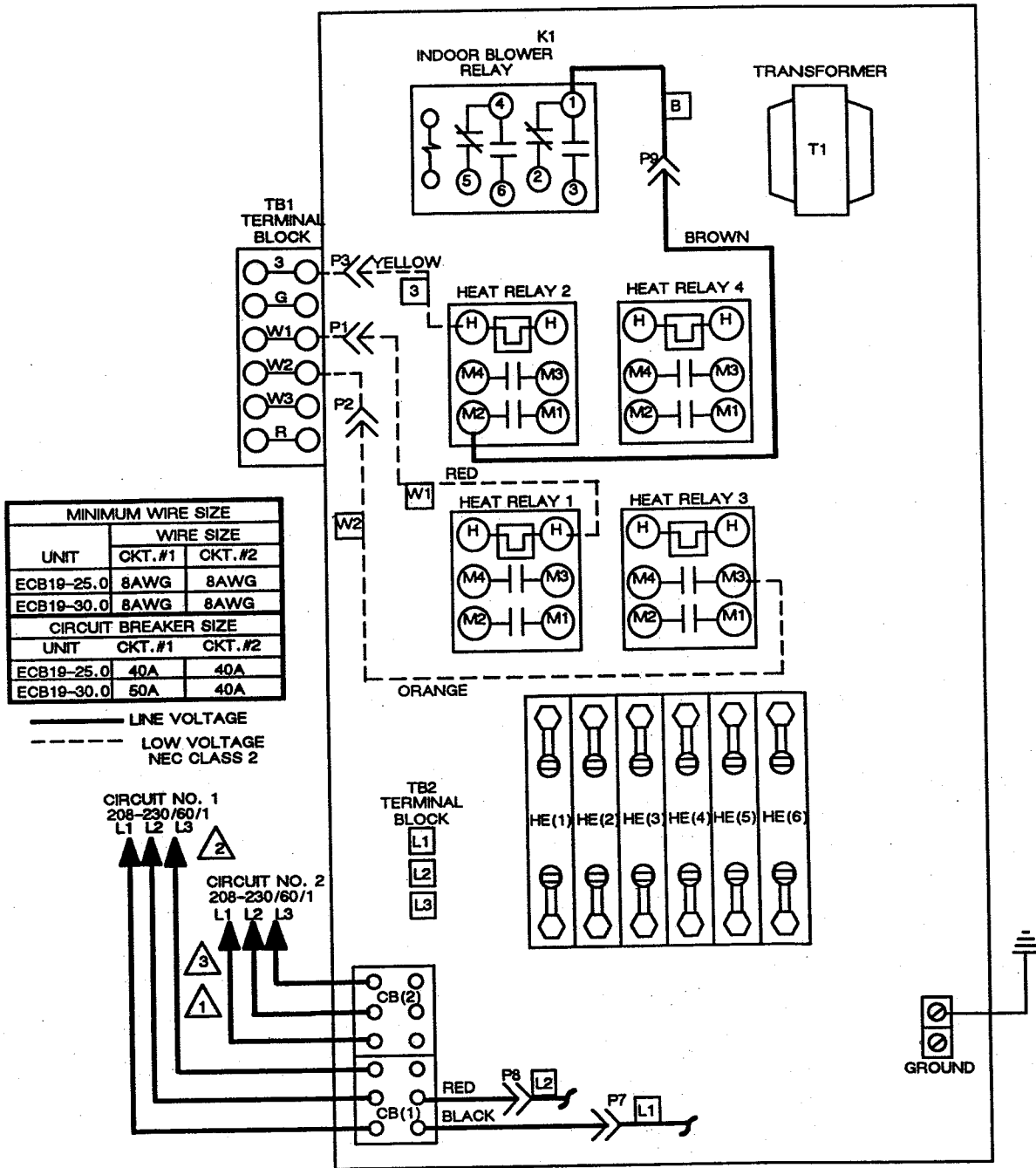
- 1 NO CONDUCTOR TO EXCEED 125V TO GROUND.
- 2 USE COPPER CONDUCTORS ONLY, SUITABLE FOR TEMPERATURES INDICATED IN TABLE.

MINIMUM WIRE SIZE	
UNIT	WIRE SIZE
ECB19-5.0-1Y	12AWG (75°C)
ECB19-7.5-1Y	10AWG (75°C)
ECB19-10.0-1Y	8AWG (75°C)
ECB19-15.0-1Y	6AWG (75°C)

— LINE VOLTAGE
 - - - - - LOW VOLTAGE NEC CLASS 2

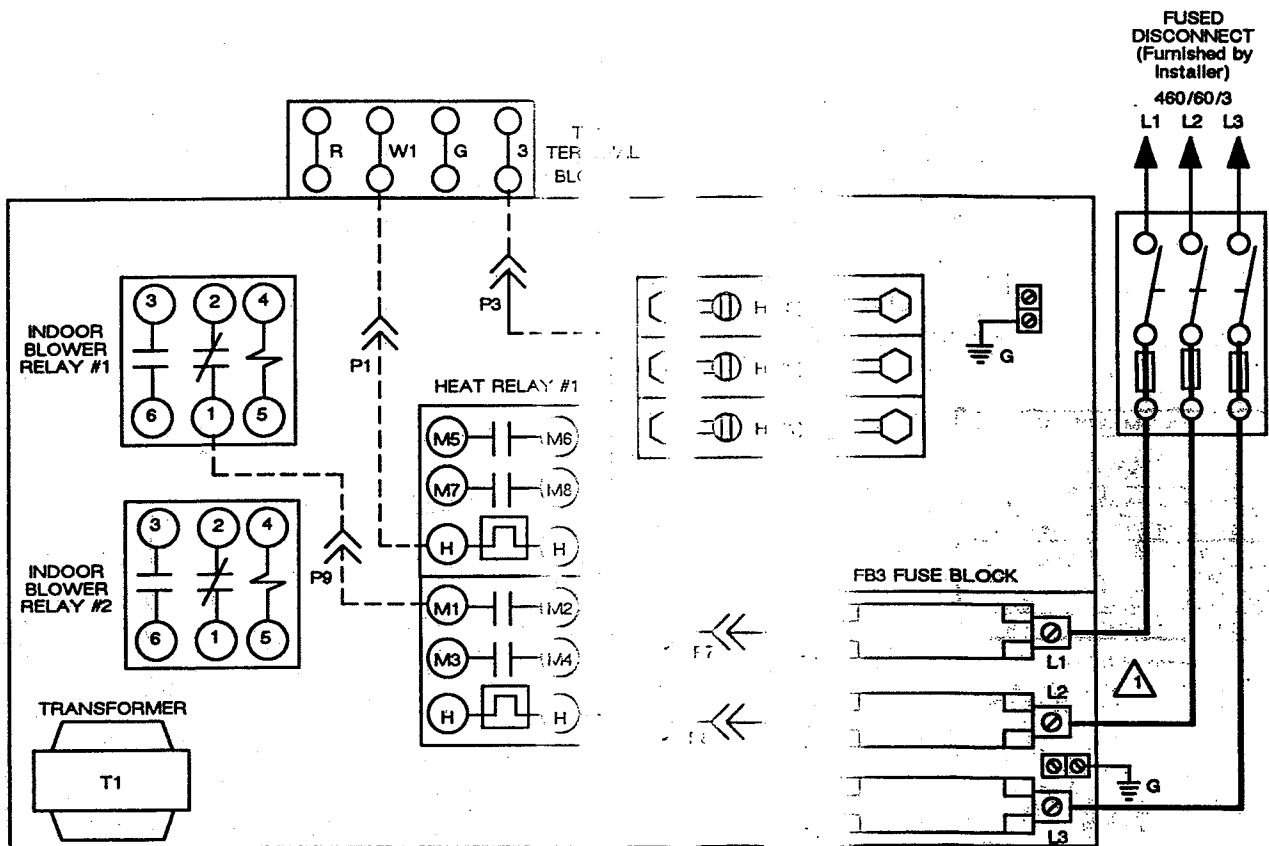
FIGURE 10
Page 24

FIELD WIRING AND LINE VOLTAGE CONNECTIONS FOR ECB19-20Y AND 25Y UNITS



- ⚠️ 1 NO CONDUCTOR TO EXCEED 125V TO GROUND.
- ⚠️ 2 REFER TO SINGLE DISCONNECT POWER SOURCE RATING PLATE ON INDOOR UNIT FOR MIN. CIRCUIT AMPACITY, MIN. WIRE SIZES AND MAX. OVERCURRENT PROTECTION.
- ⚠️ 3 USE COPPER CONDUCTORS ONLY, SUITABLE FOR TEMPERATURES INDICATED IN TABLE.

**FIELD WIRING AND LINE VOLTAGE CONNECTIONS
FOR ECB19-7G, 10G AND 15G**



MINIMUM WIRE SIZE	
UNIT	WIRE SIZE
ECB19-7.0-1G	14AWG (75°C)
ECB19-10.0-1G	12AWG (75°C)
ECB19-15.0-1G	10AWG (75°C)

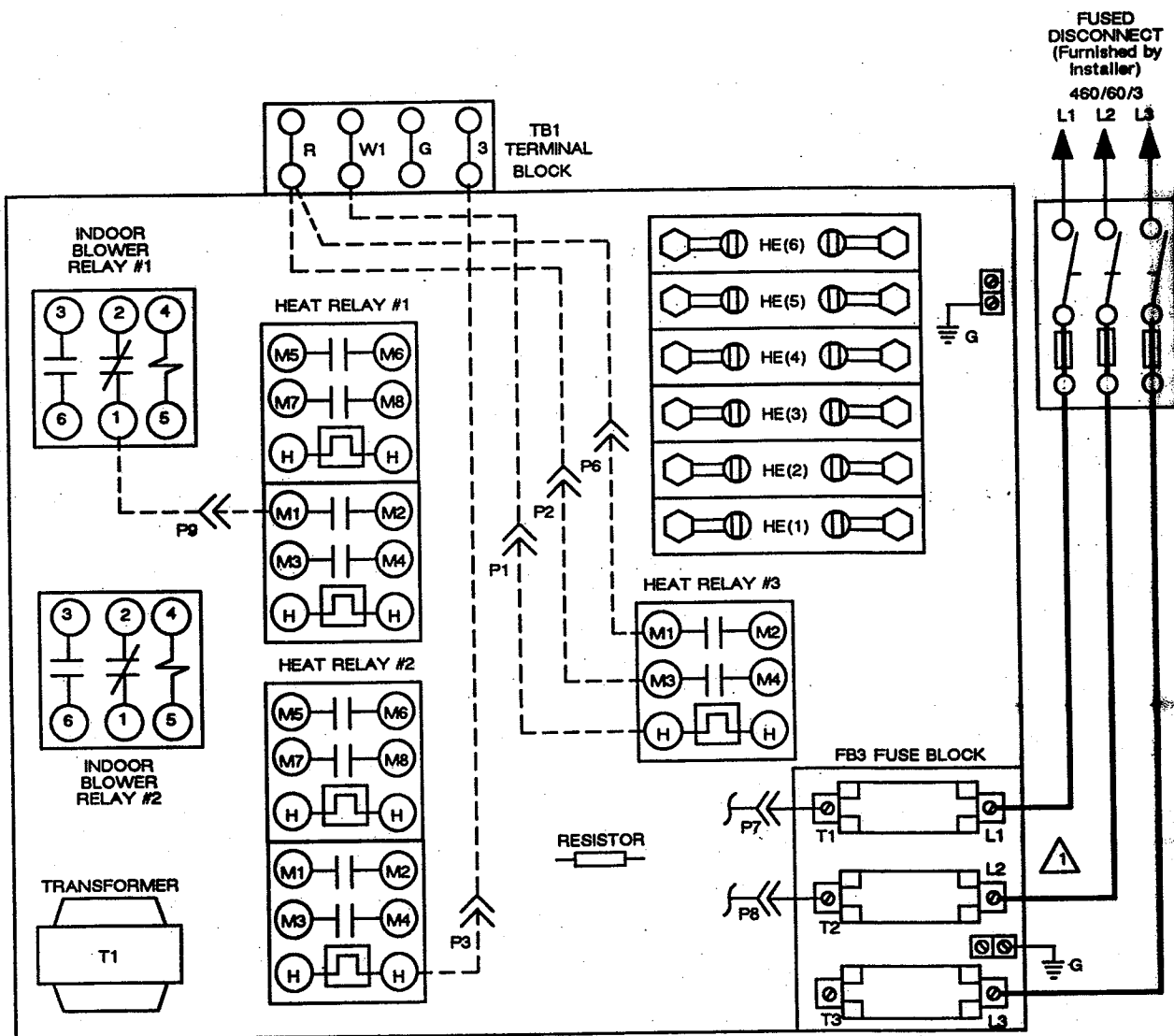
USE COPPER CONDUCTORS ONLY, SUITABLE FOR TEMPERATURES INDICATED IN TABLE.

NOTE-REFER TO UNIT RATING FOR MINIMUM CIRCUIT CAPACITY AND MAX. OVERCURRENT PROTECTION SIZE.

— LINE VOLTAGE
- - - - - LOW VOLTAGE
NEC CLASS 2

NOTE-ALL REMAINING WIRES FACTORY INSTALLED.

FIELD WIRING AND LINE VOLTAGE CONNECTIONS FOR ECB19-20G AND 25G UNITS



MINIMUM WIRE SIZE	
UNIT	WIRE SIZE
ECB19-20.0-1G	8AWG (75°C)
ECB19-25.0-1G	8AWG (75°C)

USE COPPER CONDUCTORS ONLY, SUITABLE FOR TEMPERATURES INDICATED IN TABLE.

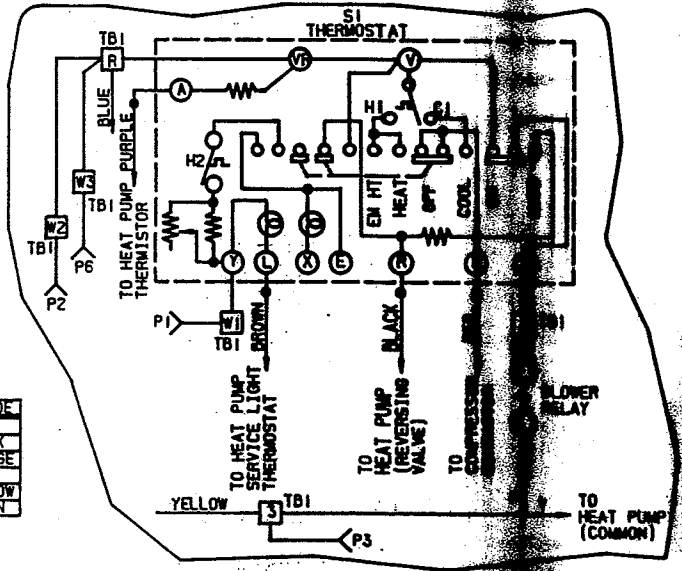
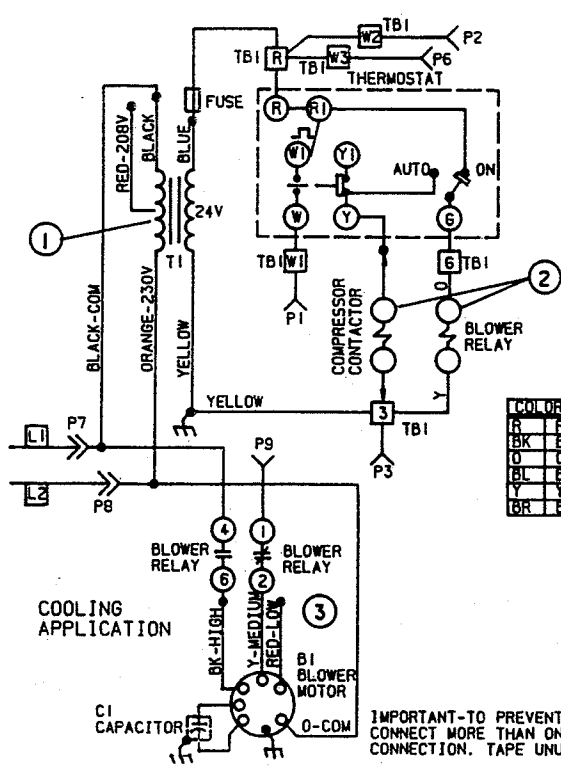
NOTE-REFER TO UNIT RATING PLATE FOR MINIMUM CIRCUIT AMPACITY AND MAX. OVER-CURRENT PROTECTION SIZE.

— LINE VOLTAGE
 - - - - - LOW VOLTAGE
 NEC CLASS 2

NOTE-ALL REMAINING WIRES FACTORY INSTALLED.

FIGURE 12

D-Unit Diagrams and Operation Sequence



LENNY'S		WIRING DIAGRAM	
COILS-BLOWER COIL UNITS			
CB19-21-IP	CB19-51-	CBH19-21-IP	
CB19-26-IP	CB19-65-	CBH19-26-IP	
CB19-31-IP	819-51-IP	CBH19-31-IP	
CB19-41-IP	819-65-IP	CBH19-41-IP	

IMPORTANT-TO PREVENT MOTOR BURNOUT, NEVER CONNECT MORE THAN ONE MOTOR LEAD TO ANY ONE CONNECTION. TAPE UNUSED MOTOR LEADS SEPARATELY.

B19-51P and 65P CB19-21P, 26P, 31P, 41P, 51P and 65P CBH19-21P, 26P, 31P and 41P

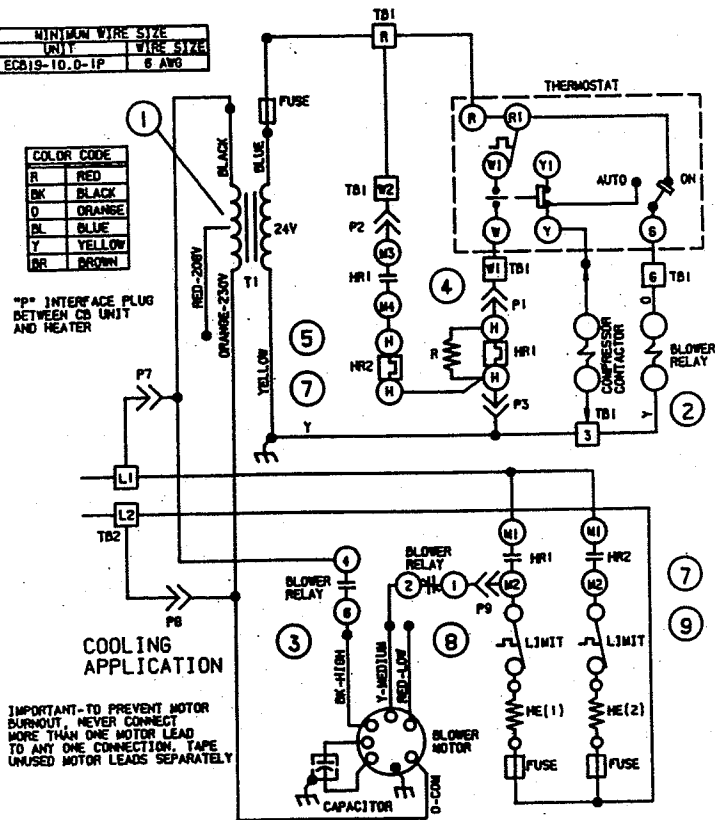
Operation Sequence:

- 1- Transformer supplies 24VAC power to indoor thermostat, indoor unit and outdoor unit controls.
- 2- On compressor demand, blower relay and compressor contactor are energized. Blower relay contacts 4-6 close to energize blower on high speed.
- 3- When compressor demand stops, blower relay is de-energized and contacts 4-6 open. Blower motor stops.

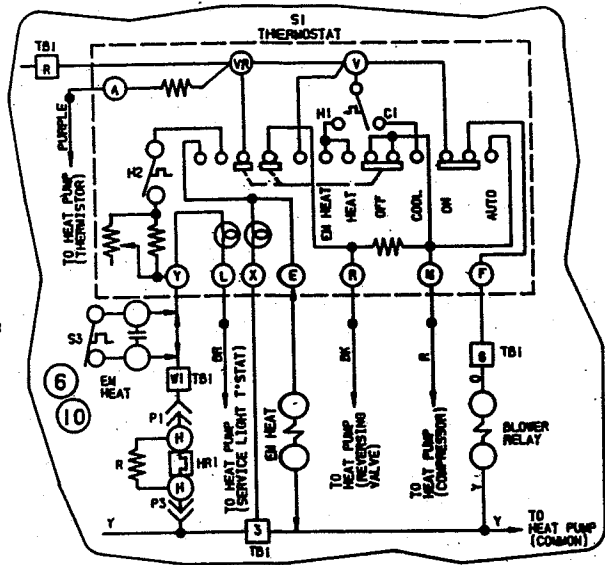
MINIMUM WIRE SIZE	UNIT	WIRE SIZE
ECB19-10.0-1P		6 AWG

COLOR CODE	
R	RED
BK	BLACK
O	ORANGE
BL	BLUE
Y	YELLOW
BR	BROWN

P INTERFACE PLUG BETWEEN CO UNIT AND HEATER



IMPORTANT-TO PREVENT MOTOR BURNOUT, NEVER CONNECT MORE THAN ONE MOTOR LEAD TO ANY ONE CONNECTION. TAPE UNUSED MOTOR LEADS SEPARATELY

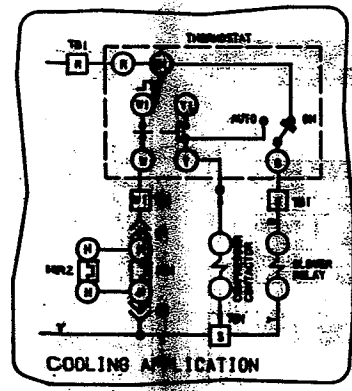
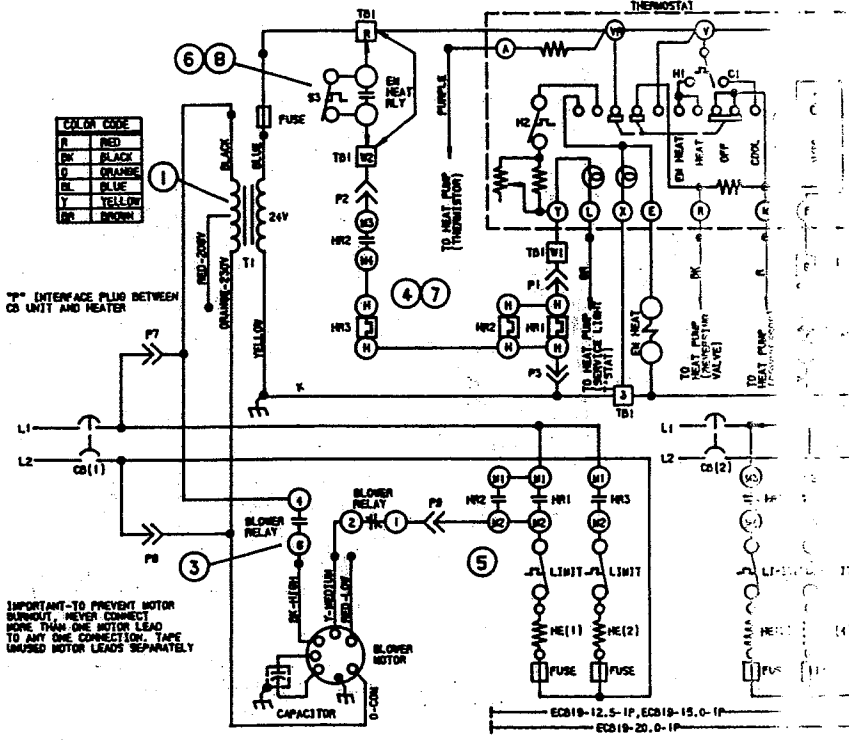


LENNOX Industries Inc.	WIRING DIAGRAM	5/88
HEATING UNITS-ELECTRIC		
ECB19-10.0-1P		

ECB19-10P

Operation Sequence:

- 1- Transformer supplies 24VAC power to indoor thermostat; indoor unit and outdoor unit controls.
- 2- On compressor demand, blower relay and compressor contactor are energized. Blower relay contacts 4-6 close to energize blower on high speed. Contacts 1-2 open to disconnect heating speed.
- 3- When compressor demand stops, blower relay is de-energized and contacts 4-6 open to de-energize blower. Contacts 1-2 close to re-connect heating speed.
- 4- On heating demand, heat relay HR1 and resistor R are energized.
- 5- 1-110 sec. later contacts M1-M2 close to energize 1st heating element and energize blower on heating speed then M3-M4 close to energize heat relay HR2.
- 6- Optional outdoor thermostat, if installed, must be closed before HR2 can energize. When HR2 is energized, HR2 M1-M2 contacts close 1-110 sec. later to energize 2nd heating element.
- 7- When heating demand stops HR1 and R are de-energized.
- 8- Within 1-110 sec., HR1 terminals M3-M4 open to de-energize HR2 then HR1 terminals M1-M2 open to de-energize 1st stage heating element and blower.
- 9- 1-110 sec, after HR2 is de-energized, HR2 terminals M1-M2 open to de-energize 2nd heating element.
- 10- When there is a call for emergency heat, emergency heat relay closes to shunt across outdoor thermostat and energize HR1. Compressor contactor is locked out by indoor thermostat.



HEAT PUMP	CIRCUIT	TERMINAL	CIRCUIT	TERMINAL	CIRCUIT	TERMINAL
ECB19-12.5P	1-P	M1	2-P	M2	3-P	M3
ECB19-15.0P	1-P	M1	2-P	M2	3-P	M3
ECB19-20.0P	1-P	M1	2-P	M2	3-P	M3

LENNOX WIRING DIAGRAM 5/88

HEATING UNIT - ELECTRIC

ECB19-12.5P 1-P
 ECB19-15.0P 1-P
 ECB19-20.0P 1-P

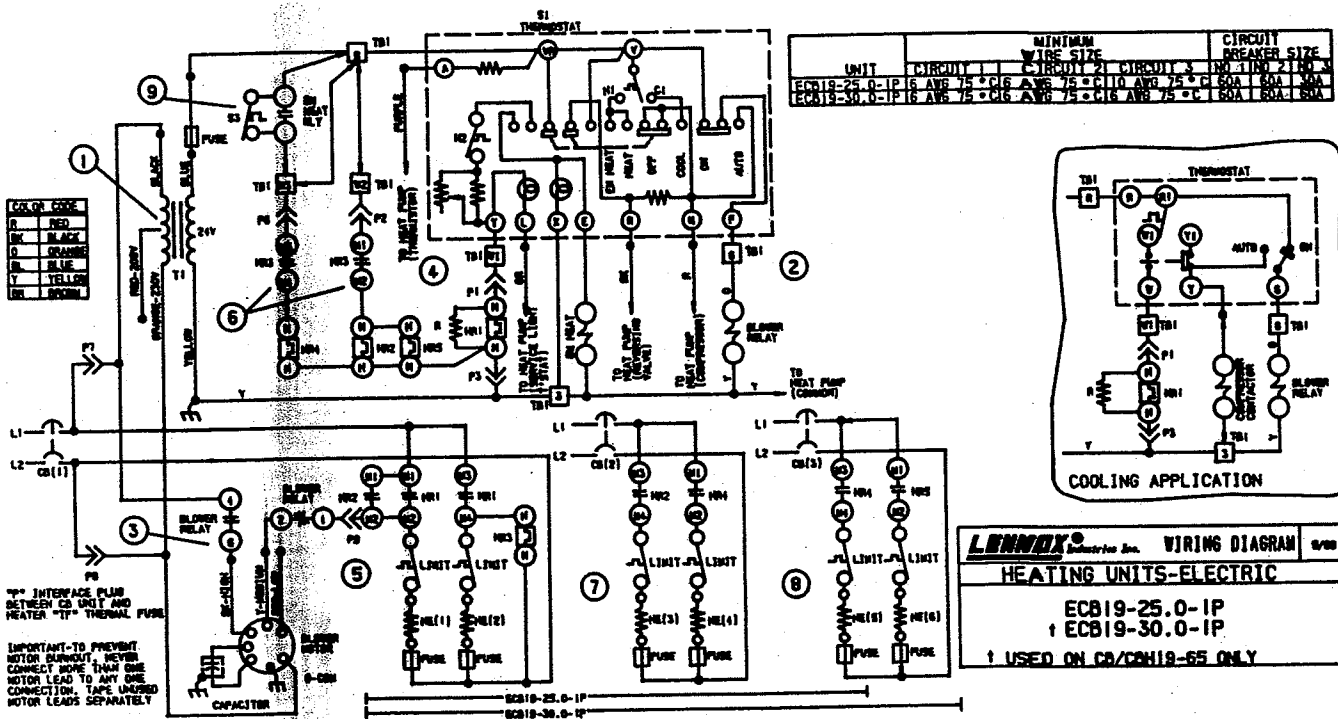
USED ON CB/CB19-41, 51, 65 ONLY

ECB19-12.5P, 15P and 20.0P

Operation Sequence:

- 1- Transformer supplies 24VAC power to indoor thermostat, indoor unit and outdoor unit controls.
- 2- On compressor demand, blower relay and compressor contactor are energized. Blower relay contacts 4-6 close to energize blower on high speed. Contacts 1-2 open to disconnect heating speed.
- 3- When compressor demand stops, blower relay is de-energized and contacts 4-6 open to de-energize blower. Contacts 1-2 close to reconnect heating speed.
- 4- On heating demand, heat relays HR1 and HR2 are energized.

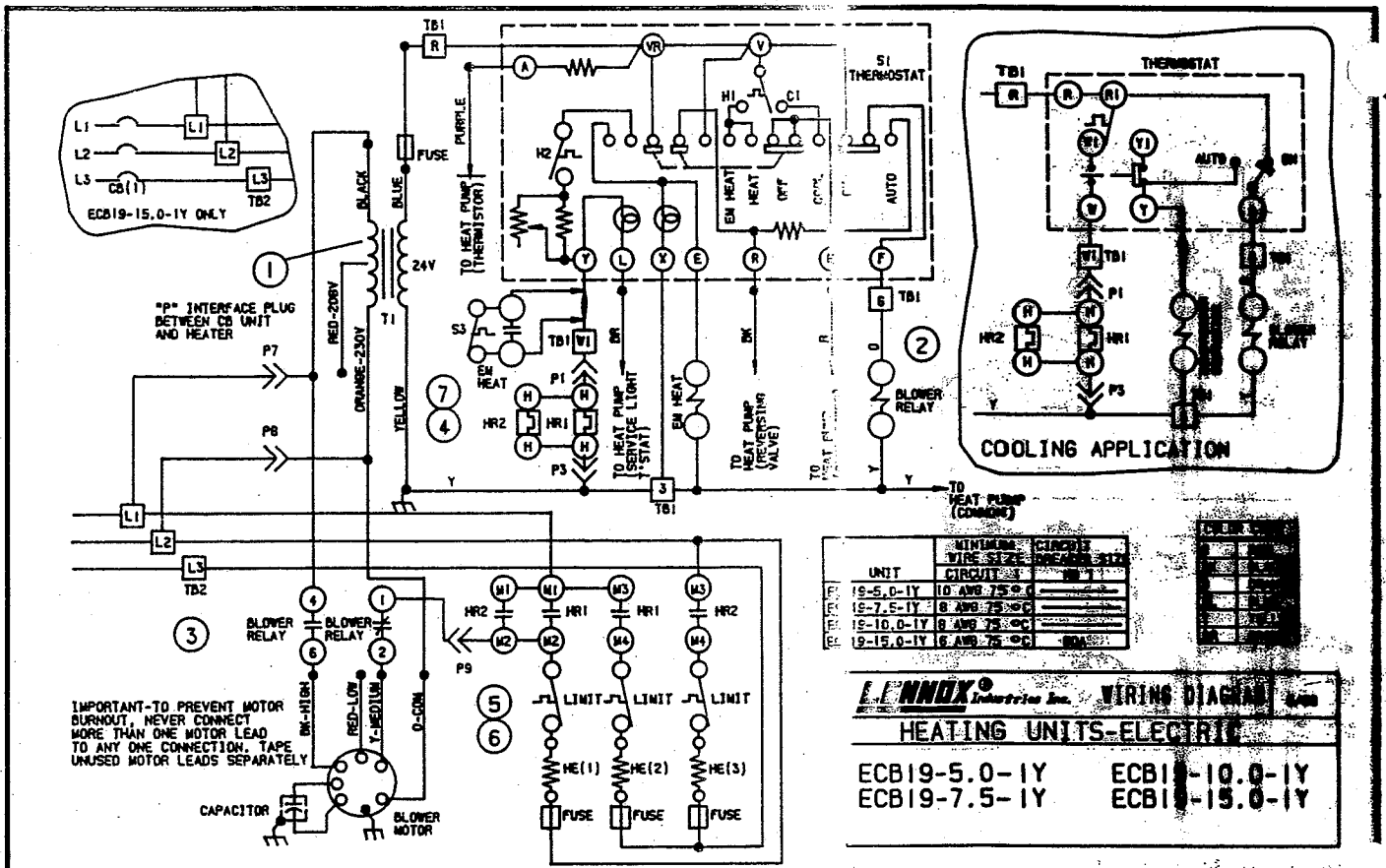
- 5- Within 1-110 sec., HR1 terminals M1-M2 and HR2 terminals M1-M2 energize 1st heating element and energize blower on heating speed. Then (within same 1-110 sec.) HR1 terminals M3-M4 close to energize 2nd heating element and HR2 terminals M3-M4 close to energize HR3.
- 6- On call for outdoor thermostat, if installed, must be closed before heat relay HR3 can energize. Within 1-110 sec., HR3 terminals M1-M2 close to energize 2nd heating element then M3-M4 close to energize 4th heating element (if so equipped).
- 7- When heating demand stops, HR1 and HR2 are de-energized first followed by HR3. Heat relay terminals operate on a first on last off basis within 1-110 sec. after being de-energized.
- 8- When there is a call for emergency heat, emergency heat relay closes to shunt across outdoor thermostat. Heat relay HR3 is energized in sequence after HR1 and HR2. Compressor contactor is locked out by indoor thermostat.



ECB19-25P and 30P

Operation Sequence:

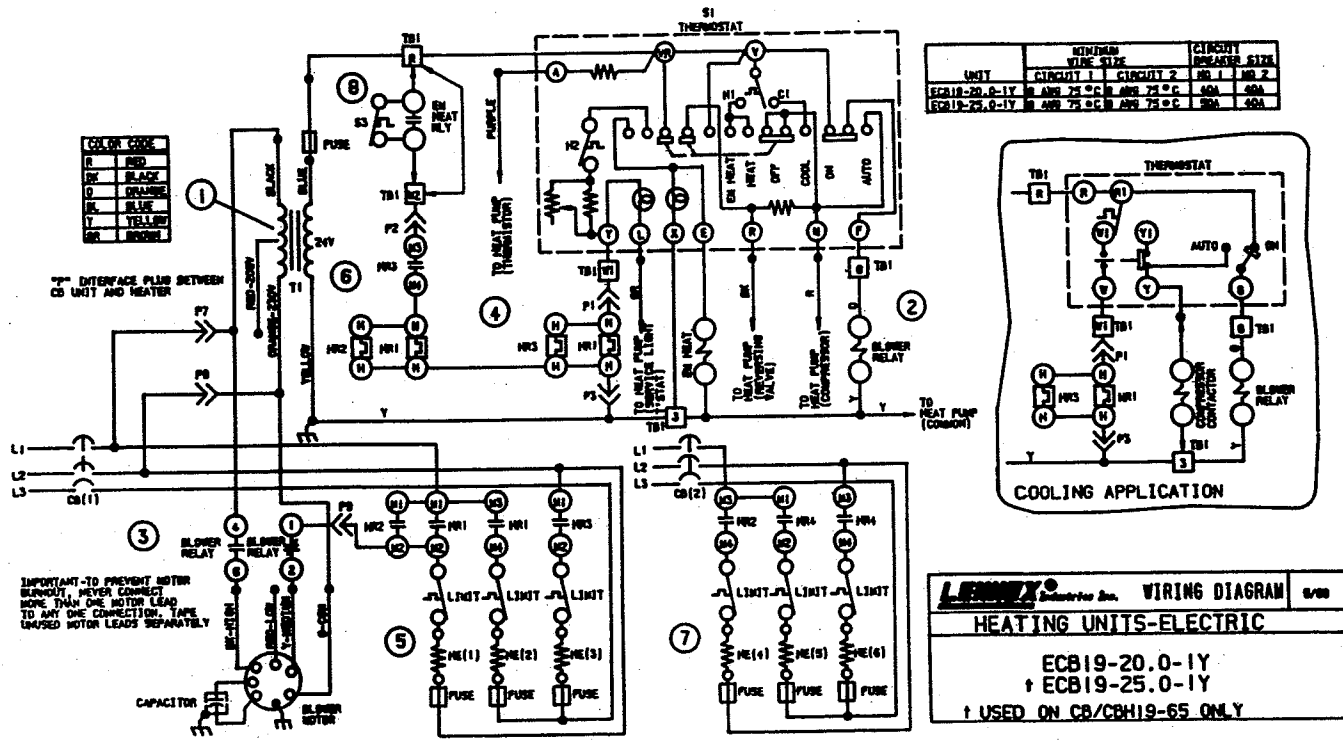
- 1- Transformer supplies 24VAC power to indoor thermostat, indoor unit and outdoor unit controls.
- 2- On compressor demand, blower relay and compressor contactor are energized. Blower relay contacts 4-6 close to energize blower on high speed. Contacts 1-2 open to disconnect heating speed.
- 3- When compressor demand stops, blower relay is de-energized and contacts 4-6 open to de-energize blower. Contacts 1-2 close to reconnect heating speed.
- 4- On heating demand, heat relay HR1 and resistor R are energized.
- 5- 1-110 sec. later contacts M1-M2 close to energize 1st heating element and energize blower on heating speed then M3-M4 close to energize 2nd heating element and heat relay HR3.
- 6- 1-110 sec. after HR3 is energized, terminals M1-M2 close to energize heat relays HR2 and HR5 (if so equipped) then M3-M4 terminals close to energize heat relay HR4 (optional outdoor thermostat, if installed, must be closed before heat relay HR4 can energize).
- 7- Within 1-110 sec. after HR2, HR4 and HR5 are energized, HR2 terminals M1-M2 close to lock-in blower operation, HR4 terminals M1-M2 close to energize 4th heating element and HR5 terminals M1-M2 (if so equipped) close to energize 6th heating element. Then HR2 terminals M3-M4 close to energize 3rd heating element and HR4 terminals M3-M4 close to energize 5th heating element.
- 8- When heating demand stops, Heat relay HR1 is de-energized first followed by HR3. Then HR2 and HR5 are de-energized followed by HR4. Heat relay terminals operate on a first on last off basis within 1-110 sec. after being de-energized.
- 9- When there is a call for emergency heat, emergency heat relay closes to shunt across outdoor thermostat. Heat relay HR4 is energized in sequence after HR1, HR3, HR2 and HR5. Compressor contactor is locked out by indoor thermostat.



ECB19-5Y, 7.5Y, 10Y and 15Y

Operation Sequence:

- 1- Transformer supplies 24VAC power to indoor thermostat, indoor unit and outdoor unit controls.
- 2- On compressor demand, blower relay and compressor contactor are energized. Blower relay contacts 4-6 close to energize blower on high speed. Contacts 1-2 open to disconnect heating speed.
- 3- When compressor demand stops, blower relay is de-energized and contacts 4-6 open to de-energize blower. Contacts 1-2 close to re-connect heating speed.
- 4- On heating demand, heat relays HR1 and HR2 are energized (optional outdoor thermostat, if installed, must be closed before heat relays HR1 and HR2 can energize).
- 5- Within 1-110 sec., HR1 terminals M1-M2 and HR2 terminals M1-M2 energize 1st heating element and energize blower on heating speed. Then (within same 1-110 sec.) HR1 terminals M3-M4 close to energize 2nd heating element and HR2 terminals M3-M4 close to energize 3rd heating element.
- 6- When heating demand stops, heat relays HR1 and HR2 are de-energized together. Heat relay terminals operate on a first or last off basis within 1-110 sec. after being de-energized.
- 7- When there is a call for emergency heat, emergency heat relay closes to shunt across outdoor thermostat. Compressor contactor is locked out by indoor thermostat.



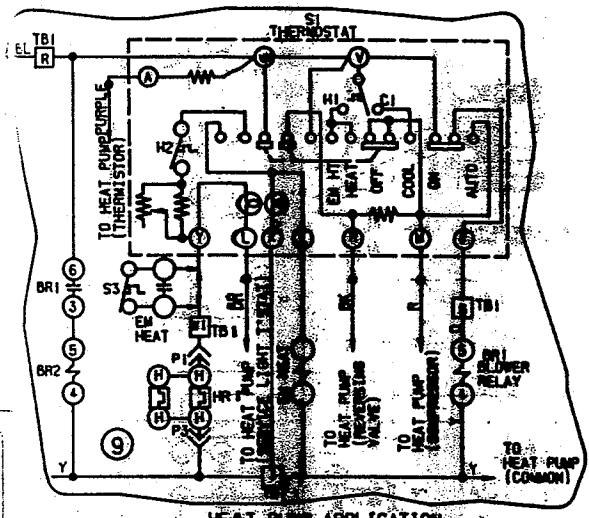
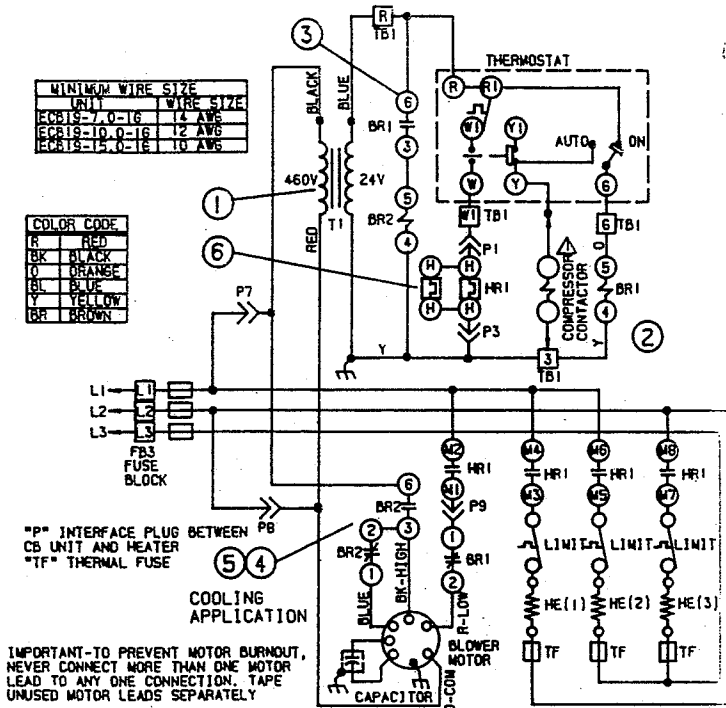
ECB19-20Y and 25Y

Operation Sequence:

- 1- Transformer supplies 24VAC power to indoor thermostat, indoor unit and outdoor unit controls.
- 2- On compressor demand, blower relay and compressor contactor are energized. Blower relay contacts 4-6 close to energize blower on high speed. Contacts 1-2 open to disconnect heating speed.
- 3- When compressor demand stops, blower relay is de-energized and contacts 4-6 open to de-energize blower. Contacts 1-2 close to re-connect heating speed.
- 4- On heating demand, heat relays HR1 and HR3 are energized.
- 5- Within 1-110 sec., HR1 terminals M1-M2 energize 1st heating element and energize blower on heating speed while HR3 terminals M1-M2 energize 3rd heating element. Then (within same 1-110 sec.) HR1 terminals M3-M4 close to energize 2nd heating element and HR3 terminals M3-M4 close to energize heat relays HR2 and HR4.
- 6- Within 1-110 sec. after HR2 and HR4 are energized, HR2 terminals M1-M2 close to lock-in blower operation and HR4 terminals M1-M2 energize 5th heating element. Then (within same 1-110 sec.) HR2 terminals M3-M4 close to energize 4th heating element and HR4 terminals M3-M4 close to energize 6th heating element.
- 7- When heating demand stops, heat relays HR1 and HR3 are de-energized together. Then heat relays HR2 and HR4 are de-energized together. Heat relay terminals operate on a first on last off basis within 1-110 sec. after being de-energized.
- 8- When there is a call for emergency heat, emergency heat relay closes to shunt across outdoor thermostat and energize heat relays HR2 and HR4 in sequence after HR1 and HR3. Compressor contactor is locked out by indoor thermostat.

UNIT	WIRE SIZE
ECB19-7.0-16	14 AWG
ECB19-10.0-16	12 AWG
ECB19-15.0-16	10 AWG

COLOR CODE	WIRE COLOR
R	RED
BR	BLACK
O	ORANGE
BL	BLUE
Y	YELLOW
BRN	BROWN

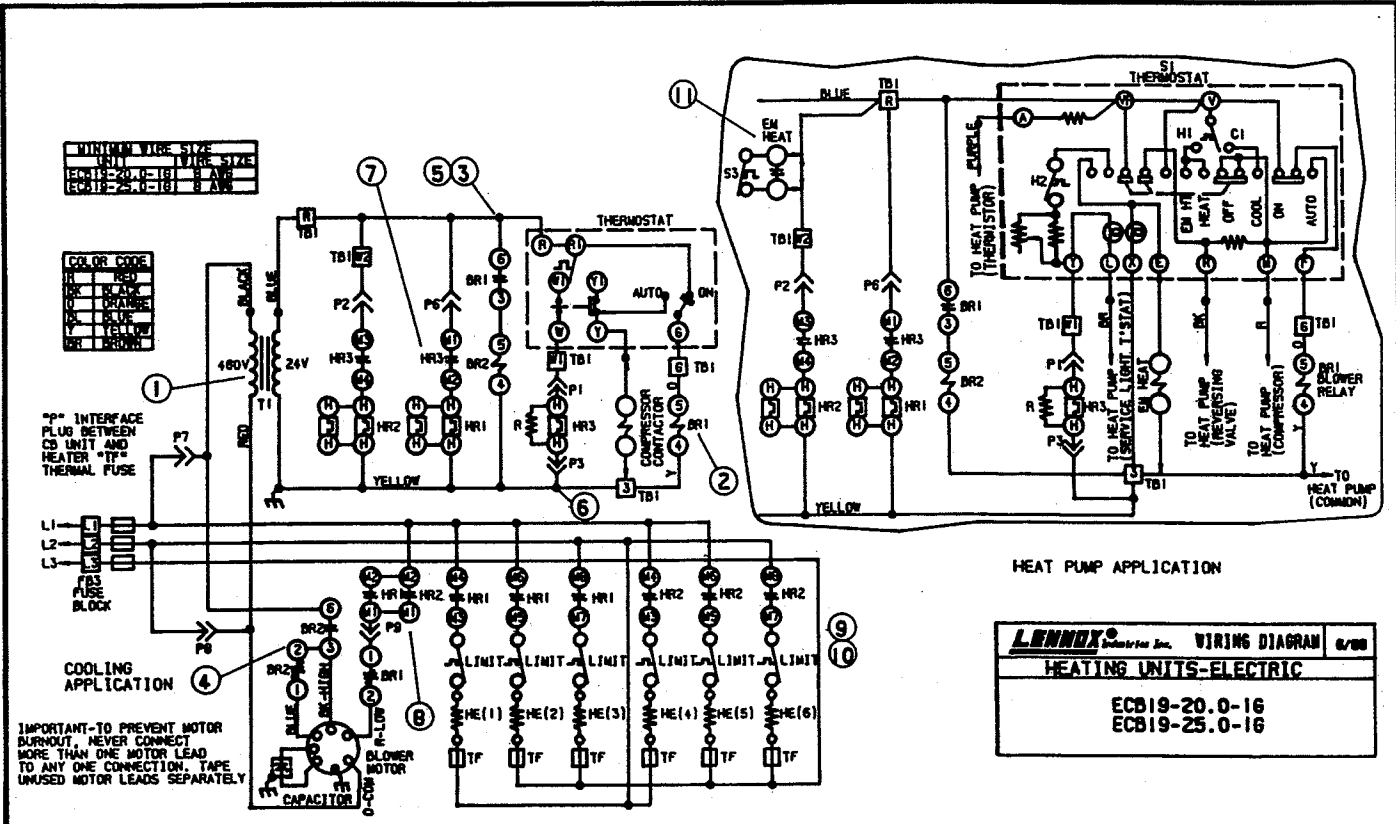


WIRING DIAGRAM 6/76	
HEATING UNITS-ELECTRIC	
ECB19-7.0-16	
ECB19-10.0-16	
ECB19-15.0-16	

ECB19-7G, 10G and 15G

Operation Sequence:

- 1- Transformer supplies 24VAC power to indoor thermostat, indoor unit and outdoor unit controls.
- 2- On compressor demand, blower relay 1 (BR1) and compressor contactor are energized. BR1 terminals 3-6 close to energize blower relay 2 (BR2) and terminals 1-2 open to disconnect heating speed.
- 3- BR2 terminals 3-6 close to energize blower on high speed and terminals 1-2 open to disconnect blower motor heating speed internal wiring.
- 4- When compressor demand stops, BR1 is de-energized. Terminals 1-2 close to re-connect heating speed and terminals 3-6 open to de-energize BR2.
- 5- BR2 terminals 3-6 open to de-energize the blower and terminals 1-2 close to connect heating speed internal wiring.
- 6- On a heating demand heat relay HR1 is energized (optional outdoor thermostat, if installed, must be closed before heat relay HR1 can energize).
- 7- Within 1-110 sec., HR1 terminals M1-M2 and M3-M4 close together to energize the blower on heating speed and energize 1st heating element. Then (also within the same 1-110 sec.), terminals M5-M6 close to energize 2nd heating element before terminals M7-M8 close to energize 3rd heating element.
- 8- When heating demand stops, heat relay HR1 is de-energized. Heat relay terminals operate on a first on last off basis within 1-110 sec. after being de-energized.
- 9- When there is a call for emergency heat, emergency heat relay closes to shunt across outdoor thermostat. Compressor contactor is locked out by indoor thermostat.



ECB19-20G and 25G

Operation Sequence:

- 1- Transformer supplies 24VAC power to indoor thermostat, indoor unit and outdoor unit controls.
- 2- On compressor demand, blower relay 1 (BR1) and compressor contactor are energized. BR1 terminals 3-6 close to energize blower relay 2 (BR2) and terminals 1-2 open to disconnect heating speed.
- 3- BR2 terminals 3-6 close to energize blower on high speed and terminals 1-2 open to disconnect blower motor heating speed internal wiring.
- 4- When compressor demand stops, BR1 is de-energized. Terminals 1-2 close to re-connect heating speed and terminals 3-6 open to de-energize BR2.
- 5- BR2 terminals 3-6 open to de-energize the blower and terminals 1-2 close to connect heating speed internal wiring.
- 6- On a heating demand heat relay HR3 and resistor R are energized.
- 7- Within 1-110 sec., HR3 terminals M1-M2 close to energize heat relay HR1 then HR3 terminals M3-M4 close to energize heat relay HR2.
- 8- Within 1-110 sec. after HR1 is energized, HR1 terminals M1-M2 close to energize blower on heating speed and M3-M4 close to energize 1st heating element. Then (also within the same 1-110 sec.) terminals M5-M6 close to energize 2nd heating element before terminals M7-M8 close to energize 3rd heating element.
- 9- Within 1-110 sec. after HR2 is energized, HR2 terminals M1-M2 close to lock-in blower on heating speed and M3-M4 close to energize 4th heating element. Then (also within the same 1-110 sec.) terminals M5-M6 close to energize 5th heating element before terminals M7-M8 close to energize 6th heating element.
- 10- When heating demand stops, heat relay HR3 is de-energized. Then heat relay HR1 is de-energized followed by heat relay HR2. Heat relay terminals operate on a first on last off basis within 1-110 sec. after being de-energized.
- 11- When there is a call for emergency heat, emergency heat relay closes to shunt across outdoor thermostat and energize heat relay HR2 in sequence after HR3. Compressor contactor is locked out by indoor thermostat.

