

INSTALLATION INSTRUCTIONS

Electric Heat Accessory

Single Phase

EHIA05KB10	EHIA07KN10	EHIA15KB10
EHIA05KN10	EHIA10KB10	EHIA20KB10
EHIA07KB10	EHIA10KN10	EHIA25KB10


Three Phase

EHIA10HB10	EHIA20HB10
EHIA15HB10	EHIA25HB10

SAFETY CONSIDERATIONS

Improper installation adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause death, personal injury, or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory--authorized kits or accessories when modifying this product Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses, protective clothing, and work gloves. Use quenching cloth for brazing operations. Have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions included in literature and attached to the unit. Consult local building codes, the current editions of the National Electrical Code (NEC) NFPA 70. In Canada refer to the current editions of the Canadian Electrical Code CSA C22.1

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the furnace and in instructions or manuals, be alert to the potential for personal injury. Understand the signal words DANGER, WARNING, CAUTION and NOTE. The words DANGER, WARNING, and CAUTION are used with the safety alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies a hazard which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

Introduction

The EHIA electric heaters are designed specifically for the following revised Modular Blower units with a sales code and series change of **B1 & C1**. The Modular units have been updated with new electronic fan control boards.

208/230v PSC Blower	208/230v Variable-Speed Blower
MF08B1500B1	MV08B1500B1
MF12F1900B1	MV12F1900B1
MF16J2200B1	MV16J2200B1
MF20L2400B1	MV20L2400B1

208/230v PSC Blower	208/230v Variable-Speed Blower
MF080014C1	MV080014C1
MF120017C1	MV120017C1
MF160021C1	MV160021C1
MF200024C1	MV200024C1



WARNING

PERSONAL INJURY, AND/OR PROPERTY DAMAGE HAZARD

Failure to carefully read and follow this warning could result in equipment malfunction, property damage, personal injury and/or death.

Installation or repairs made by unqualified persons could result in equipment malfunction, property damage, personal injury and/or death.

The information contained in this manual is intended for use by a qualified service technician familiar with safety procedures and equipped with proper tools and test instruments.

Follow all safety codes. Wear safety glasses, protective clothing, and work gloves. Use quenching cloth for brazing operations. Have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions included in literature and attached to the unit. Consult local building codes, the current editions of the National Electrical Code (NEC) NFPA 70. In Canada refer to the current editions of the Canadian Electrical Code CSA C22.1

Accessory Heater Usage		
Model	Description	Used With MF & MV
EHIA05KB10	5 kW Single-Phase w/C.B.	08, 12, 16, 20
EHIA05KN10	5 kW Single-Phase w/T.B.	08, 12, 16, 20
EHIA07KB10	7.5 kW Single-Phase w/C.B.	08, 12, 16, 20
EHIA07KN10	7.5 kW Single-Phase w/T.B.	08, 12, 16, 20
EHIA10KB10	10 kW Single-Phase w/C.B.	08, 12, 16, 20
EHIA10KN10	10 kW Single-Phase w/T.B.	08, 12, 16, 20
EHIA15KB10	15 kW Single-Phase w/C.B.	08, 12, 16, 20
EHIA20KB10	20 kW Single-Phase w/C.B.	12, 16, 20
EHIA25KB10	25 kW Single-Phase w/C.B.	16, 20
EHIA10HB10	10 kW 3-Phase w/C.B.	12, 16, 20
EHIA15HB10	15 kW 3-Phase w/C.B.	12, 16, 20
EHIA20HB10	20 kW 3-Phase w/C.B.	16, 20
EHIA25HB10	25 kW 3-Phase w/C.B.	16, 20

KB = single-phase C.B. = circuit breaker
 KN = single-phase T.B. = terminal block
 HB = three-phase

NOTE: EHIA electric heaters are not backwards compatible with any of the previous MF or MV models prior to **B1**.

NOTE: Supply voltage, amperage, fuse and disconnect switch sizes **MUST** conform with all technical specifications in this manual and on the unit rating plate.

Adapter and filler plates are shipped with the indoor units to be used with electric heat as needed depending on unit size and heater size.

**WARNING****ELECTRICAL SHOCK HAZARD**

Failure to follow this warning could result in personal injury or death.

Before installing, modifying, or servicing system, main electrical disconnect switch must be in the OFF position and install a lockout tag. There may be more than one electrical supply to the furnace. Check accessories and cooling unit for additional electrical supplies that must be shut off during furnace servicing. Lockout and tag switch with a suitable warning label. Verify proper operation after servicing.

1. Shut **OFF** electric power at unit disconnect switch or service panel.

**CAUTION****CUT HAZARD**

Failure to follow this caution may result in personal injury.

Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate clothing, safety glasses and gloves when handling parts and servicing furnaces.

2. Remove the front panel from unit and locate adapter and filler plates, with screws inside package.
3. Attach adapter plate and filler plate to heater if required to match opening in cabinet.

4. **Right Hand Airflow Application Only/Heaters with CB.** If indoor section is going to be used for right hand airflow, the circuit breakers will have to be removed and rotated 180°, so the OFF position will be **DOWN** when the cabinet is positioned on the right side. This is an NEC requirement. **DO ONE SET OF BREAKERS AT A TIME to make sure wires are reconnected properly.** Loosen terminal screws on the wires and gently pull wires back from breaker. Remove screws securing breaker and rotate 180°, then reconnect wires to breaker. Proper torque for terminal screws is 35 inch pounds.

5. Insert the heater into the cabinet opening as shown in **Figure 1**, so the heater support rod goes into the hole in back of the cabinet. **Exercise caution to prevent tearing of insulation or damage to heater element.**

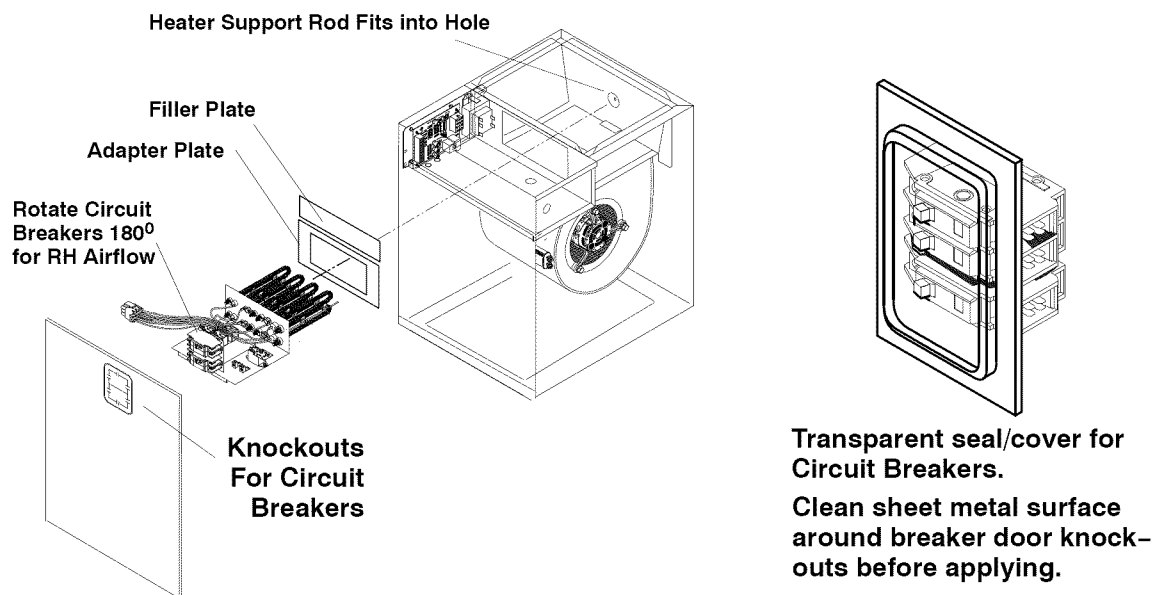
6. Secure the electric heat accessory with four screws.

7. Connect the 9-pin heater wiring harness to receptacle located inside cabinet. A perfect match and positive connection must be made between the plug and receptacle. The plug will interlock with receptacle when properly seated. Harness contains both 24V and high-voltage wiring. Blower power is provided through heater harness.

8. Install front door panel. **NOTE:** If the heater has circuit breakers, remove the appropriate knockout(s) in the door panel to match circuit breaker location. Clean the perimeter area around the opening. If greasy or highly soiled use alcohol to clean the area.

9. **Circuit Breakers Models only:** Remove backing from the circuit breaker cover seal and align it with the embossed area so it covers the circuit breakers. Press firmly around the edges so it seals properly. Seal helps to minimize moisture infiltration which can affect electronic components.

10. Mark an "X" in the appropriate box for the heater on the indoor unit rating plate.

Figure 1**Installing The Electric Heat Accessory**

Representative drawing only, some models may vary in appearance.

Wiring

All line voltage connections and ground connections **MUST** be made with copper wire.

The power supply wiring **MUST** have overcurrent protection. This can be either fuses or circuit breakers. The maximum size for the overcurrent protection is shown in the column labeled "Max. Fuse or NEC HACR Breaker (Amps)" in the Electrical Data Table or on the unit rating plate.

Connect supply voltage wires to the Circuit Breakers on the heater or to the terminal block on the heater. Power for the blower motor is supplied through the connector from the heater to the control board.

Grounding

Permanently ground the electric heat accessory in accordance with local codes and ordinances and in the United States with National Electrical Code ANSI/NFPA70-2011 or current edition. Use a copper conductor of the appropriate size from the electric heat accessory ground lug, to a grounding lug on the circuit breaker panel. On models with more than one circuit, a separate copper ground wire **MUST** be connected for *each* circuit.



WARNING

ELECTRICAL SHOCK HAZARD

Failure follow this warning could result in personal injury or death.

The unit cabinet must have an uninterrupted or unbroken ground to minimize personal injury if an electrical fault should occur. The ground may consist of electrical wire or metal conduit when installed in accordance with existing electrical codes.

Heater Staging

The electric heater elements and modular blower controls are factory circuited for single-stage electric heat operation. Refer to Electric Heat Staging Table A-1 for all available heaters. On larger heaters the electric heat can be staged (1st & 2nd and/or 3rd) via the indoor wall thermostat, or by using an accessory ODTs (outdoor thermostat temperature switch). Controlled heater staging may satisfy requirements imposed by some electric utilities. Refer to Table A-2 for two-stage capable heaters and Table A-3 for three-stage capable heaters. Refer to the indoor modular install-

ation instructions for suggested low-voltage control wiring regarding staging.

Rectifier and Time Delay Boards

Each heater element is controlled by a relay mounted on the heater panel. The relay has a 24V DC coil. Each relay has a small rectifier board attached directly to the relay coil terminals. The rectifier board converts incoming 24V AC control signal to DC. Some heaters may have up to three relays. Both the second and third (relay) rectifier boards have a built-in R2 jumper time-delay feature. When the jumper is uncut, the time delay allows the second stage heat to be energized approximately five (5) seconds after the first stage. On 20kW and 25kW heaters models (table A-3), the third-stage relay R2 jumper is factory cut. This provides an eight (8) second delay after first stage relay closes.

Air Flow

Air flow requirements are different between MF and MV. Refer to MF and MV Installation Instructions for airflow set-up information.

Temperature Rise Check

Temperature rise is the difference between the supply and return air temperatures.

NOTE: The temperature rise can be adjusted by changing the heating speed tap at the unit's blower terminal block. Refer to the unit's *Installation Instructions* for airflow information.

A temperature rise greater than 60°F (33.3°C) is not recommended.

1. To check the temperature rise through the unit, place thermometers in the supply and return air ducts as close to the unit as possible, avoiding direct radiant heat from the heater elements.
2. Open **ALL** registers and duct dampers.
3. Set thermostat Heat-Cool selector to **HEAT**.
4. Set the thermostat temperature setting as high as it will go.
5. Turn electric power **ON**.
6. Operate unit **AT LEAST** 5 minutes, then check temperature rise.

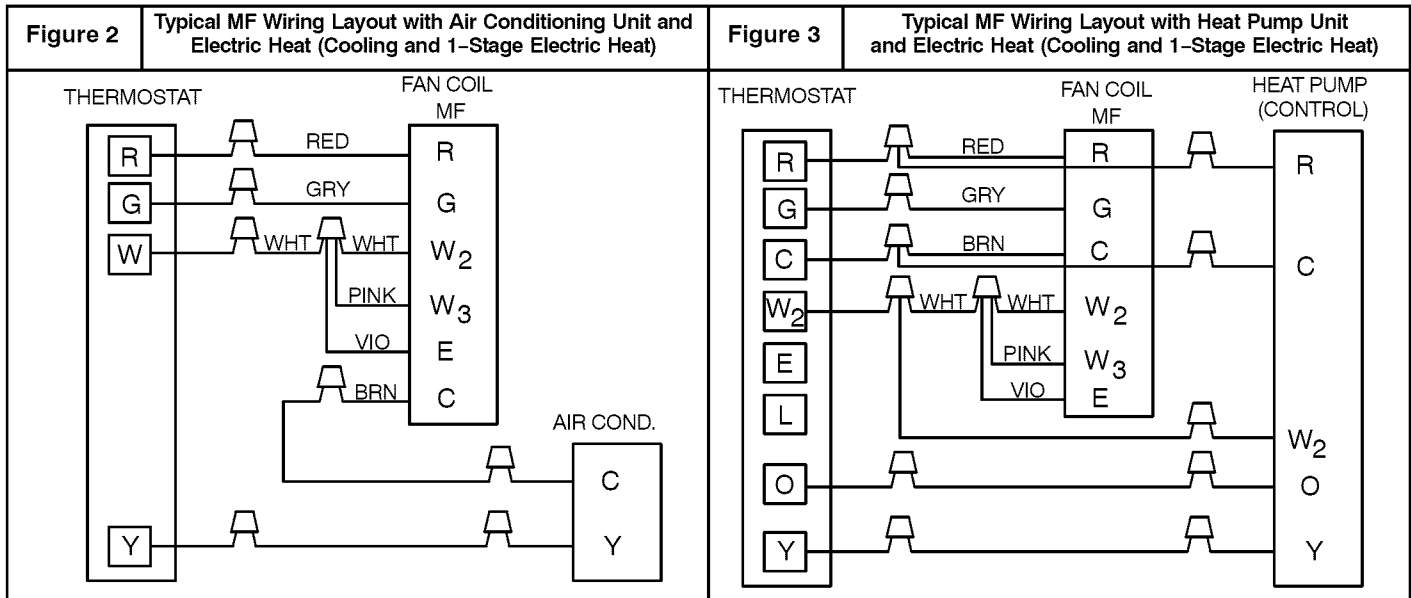
NOTE: The maximum outlet air temperature for all models is 200°F (93.3°C).

7. Set thermostat to normal temperature setting.
8. Turn electric power **OFF**.
9. Be sure to seal all holes in ducts if any were created during this process.

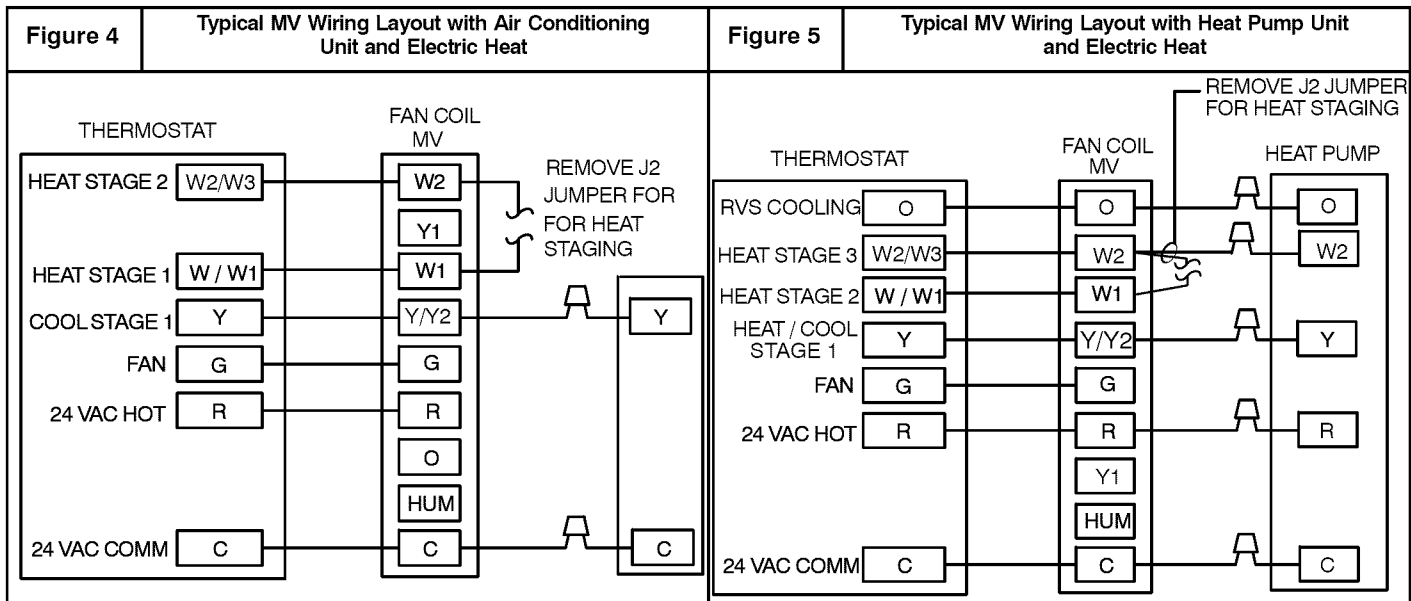
Table A	Electric Heat Staging		
	A-1	A-2	A-3
	Single-Stage Operation (no staging, all electric heat together)	Two-Stage Capable	Three-Stage Capable
Single-Phase	EHIA05KB / KN EHIA07KB / KN EHIA10KB / KN EHIA15KB EHIA20KB EHIA25KB	EHIA15KB EHIA20KB EHIA25KB	EHIA25KB10
Three-Phase	EHIA10HB EHIA15HB EHIA20HB EHIA25HB	EHIA10HB EHIA15HB EHIA20HB EHIA25HB	EHIA20HB EHIA25HB

NOTE: KB is single-phase with circuit breaker.
KN is single-phase with terminal block (non-breaker).
HB is three-phase with circuit breaker.

MF WIRING



MV WIRING



TECHNICAL DATA (MF only) Single Phase with Circuit Breaker

Heater Model	Supply Volt-	Nom. Heat-BTUH	Heat KW	kW Per Element	Supply Circuit No.	Heater kW Per Circuit	Heater AMPS.	Max Motor AMPS.	FLA Total AMPS.	MCA Min Circuit Ampacity	Maximum Overcur-Protective Device (AMPS.)	Recommended **				
												Supply Wire 75 ° C. Copper			Ground Wire	
												# of Wires	Wire Size	Max. Length (Ft)	# of Wires	Min Size
EHIA05KB10	240	16378	4.8	4.8	Single	4.8	20.0	6	26.0	32.5	35	2	8	113	1	10
	208	12283	3.6	3.6	Single	3.6	17.3	6	23.3	29.1	30	2	10	118	1	10
EHIA07KB10	240	24567	7.2	3.6	Single	7.2	30.0	6	36.0	45.0	45	2	8	81	1	10
	208	18425	5.4	2.7	Single	5.4	26.0	6	32.0	40.0	40	2	8	92	1	10
EHIA10KB10	240	32756	9.6	4.8	Single	9.6	40.0	6	46.0	57.5	60	2	6	101	1	10
	208	24567	7.2	3.6	Single	7.2	34.6	6	40.6	50.8	60	2	6	115	1	10
EHIA15KB10	240	49134	14.4	4.8	Single	14.4	60.0	6	66.0	82.5	90	2	4	113	1	8
					Mult. 1	9.6	40.0	6	46.0	57.5	60	2	6	101	1	10
					Mult. 2	4.8	20.0	0	20.0	25.0	25	2	10	95	1	10
	208	36851	10.8	3.6	Single	10.8	51.9	6	57.9	72.4	80	2	4	128	1	8
EHIA20KB10	240	65513	19.2	4.8	Single	19.2	80.0	6	86.0	107.5	110	2	2	137	1	6
					Mult. 1	9.6	40.0	6	46.0	57.5	60	2	6	101	1	10
					Mult. 2	9.6	40.0	0	40.0	50.0	50	2	8	73	1	10
	208	49134	14.4	3.6	Single	14.4	69.2	6	75.2	94.0	100	2	3	124	1	10
EHIA25KB10	240	81891	24	4.8	Single	24	100.0	6	106.0	132.5	150	2	1/0	177	1	6
					Mult. 1	9.6	40.0	6	46.0	57.5	60	2	6	102	1	10
					Mult. 2	9.6	40.0	0	40.0	50.0	50	2	8	74	1	10
	Mult. 3	4.8	20.0	0	20.0	25.0	25	2	12	60	1	10				
208	61418	18	3.6	Single	18	86.5	6	92.5	115.7	125	2	1	161	1	6	
					Mult. 1	7.2	34.7	6	40.7	50.8	60	2	6	104	1	10
					Mult. 2	7.2	34.7	0	34.7	43.3	45	2	8	77	1	10
					Mult. 3	3.6	17.3	0	17.3	21.7	25	2	12	62	1	10

TECHNICAL DATA (MF only) Single-Phase with Terminal Block

Heater Model	Supply Volt-	Nom. Heat-BTUH	Heat KW	kW Per Element	Supply Circuit No.	Heater kW Per Circuit	Heater AMPS.	Max Motor AMPS.	FLA Total AMPS.	MCA Min Circuit Ampacity	Maximum Overcur-Protective Device (AMPS.)	Recommended **				
												Supply Wire 75 ° C. Copper			Ground Wire	
												# of Wires	Wire Size	Max. Length (Ft)	# of Wires	Min Size
EHIA05KN10	240	16378	4.8	4.8	Single	4.8	20.0	6	26.0	32.5	35	2	8	113	1	10
	208	12283	3.6	3.6	Single	3.6	17.3	6	23.3	29.1	30	2	10	118	1	10
EHIA07KN10	240	24567	7.2	3.6	Single	7.2	30.0	6	36.0	45.0	45	2	8	81	1	10
	208	18425	5.4	2.7	Single	5.4	26.0	6	32.0	40.0	40	2	8	92	1	10
EHIA10KN10	240	32756	9.6	4.8	Single	9.6	40.0	6	46.0	57.5	60	2	6	101	1	10
	208	24567	7.2	3.6	Single	7.2	34.6	6	40.6	50.8	60	2	6	115	1	10

TECHNICAL DATA (MF only) Three Phase with Circuit Breaker

Heater Model	Supply Volt-	Nom. Heat-BTUH	Heat KW	kW Per Element	Supply Circuit No.	Heater kW Per Circuit	Heater AMPS.	Max Motor AMPS.	FLA Total AMPS.	MCA Min Circuit Ampacity	Maximum Overcur-Protective Device (AMPS.)	Recommended **				
												Supply Wire 75 ° C. Copper			Ground Wire	
												# of Wires	Wire Size	Max. Length (Ft)	# of Wires	Min Size
EHIA10HB10	240	32756	9.6	3.2	Single	9.6	23.1	6	29.1	36.4	40	3	8	117	1	10
	208	24567	7.2	2.4	Single	7.2	20.0	6	26.0	32.5	35	3	8	131	1	10
EHIA15HB10	240	49134	14.4	4.8	Single	14.4	34.7	6	40.7	50.9	60	3	6	132	1	8
	208	36851	10.8	3.6	Single	10.8	30.0	6	36.0	45.0	45	3	8	94	1	10
EHIA20HB10	240	65513	19.2	3.2	Single	19.2	46.2	6	52.2	65.3	70	3	4	165	1	8
					Mult. 1	6.4	15.4	6	21.4	26.8	30	3	10	102	1	10
					Mult. 2	12.8	30.8	0	30.8	38.5	40	3	8	110	1	10
	208	49134	14.4	2.4	Single	14.4	40.0	6	46.0	57.5	60	3	6	117	1	8
EHIA25HB10	240	81891	24	4	Single	24	57.8	6	63.8	79.8	80	3	4	135	1	8
					Mult. 1	8	19.3	6	25.3	31.6	35	3	8	134	1	10
					Mult. 2	16	38.5	0	38.5	48.2	50	3	8	88	1	10
	208	61418	18	3	Single	18	50.0	6	56.0	70.0	70	3	4	153	1	8
					Mult. 1	6	16.7	6	22.7	28.3	30	3	10	96	1	10
					Mult. 2	12	33.3	0	33.3	41.7	45	3	8	102	1	10

Conversion: 1 foot = .3048 meters

** Must conform to local building codes and national standards

USA: National Electrical Code (NEC) ANSI/NFPA 70-2011

CANADA: Canadian Electrical Code CSA C22.1

TECHNICAL DATA (MV only) Single Phase with Circuit Breaker

Heater Model	Supply Volt-	Nom. Heat-BTUH	Heat KW	kW Per Element	Supply Circuit No.	Heater kW Per Circuit	Heater AMPS.	Max Motor AMPS.	FLA Total AMPS.	MCA Min Circuit Ampacity	Maximum Overcurrent Protective Device (AMPS.)	Recommended **				
												Supply Wire 75 ° C. Copper			Ground Wire	
												# of Wires	Wire Size	Max. Length (Ft)	# of Wires	Min Size
EHIA05KB10	240	16378	4.8	4.8	Single	4.8	20.0	7.3	27.3	34.1	35	2	8	108	1	10
	208	12283	3.6	3.6	Single	3.6	17.3	7.3	24.6	30.8	35	2	8	119	1	10
EHIA07KB10	240	24567	7.2	3.6	Single	7.2	30.0	7.3	37.3	46.6	50	2	8	79	1	10
	208	18425	5.4	2.7	Single	5.4	26.0	7.3	33.3	41.6	45	2	8	88	1	10
EHIA10KB10	240	32756	9.6	4.8	Single	9.6	40.0	7.3	47.3	59.1	60	2	6	99	1	10
	208	24567	7.2	3.6	Single	7.2	34.6	7.3	41.9	52.4	60	2	6	111	1	10
EHIA15KB10	240	49134	14.4	4.8	Single	14.4	60.0	7.3	67.3	84.1	90	2	4	110	1	8
					Mult. 1	9.6	40.0	7.3	47.3	59.1	60	2	6	99	1	10
					Mult. 2	4.8	20.0	0	20.0	25.0	25	2	10	95	1	10
	208	36851	10.8	3.6	Single	10.8	51.9	7.3	59.2	74.0	80	2	4	126	1	8
					Mult. 1	7.2	34.6	7.3	41.9	52.4	60	2	6	111	1	10
					Mult. 2	3.6	17.3	0	17.3	21.6	25	2	10	109	1	10
EHIA20KB10	240	65513	19.2	4.8	Single	19.2	80.0	7.3	87.3	109.1	110	2	2	135	1	6
					Mult. 1	9.6	40.0	7.3	47.3	59.1	60	2	6	99	1	10
					Mult. 2	9.6	40.0	0	40.0	50.0	50	2	8	73	1	10
	208	49134	14.4	3.6	Single	14.4	69.2	7.3	76.5	95.7	100	2	3	122	1	6
					Mult. 1	7.2	34.6	7.3	41.9	52.4	60	2	6	111	1	10
					Mult. 2	7.2	34.6	0	34.6	43.3	45	2	8	85	1	10
EHIA25KB10	240	81891	24	4.8	Single	24	100.0	7.3	107.3	134.1	150	2	10	175	1	6
					Mult. 1	9.6	40.0	6.0	46.0	57.5	60	2	6	102	1	10
					Mult. 2	9.6	40.0	0	40.0	50.0	50	2	8	74	1	10
	208	61418	18	3.6	Mult. 3	4.8	20.0	0	20.0	25.0	25	2	12	60	1	10
					Single	18	86.5	7.3	93.8	117.3	125	2	1	159	1	6
					Mult. 1	7.2	34.7	6.0	40.7	50.8	60	2	6	104	1	10
Mult. 2	7.2	34.7	0	34.7	43.3	45	2	8	77	1	10					
Mult. 3	3.6	17.3	0	17.3	21.7	25	2	12	62	1	10					

TECHNICAL DATA (MV only) Single-Phase with Terminal Block

Heater Model	Supply Volt-	Nom. Heat-BTUH	Heat KW	kW Per Element	Supply Circuit No.	Heater kW Per Circuit	Heater AMPS.	Max Motor AMPS.	FLA Total AMPS.	MCA Min Circuit Ampacity	Maximum Overcurrent Protective Device (AMPS.)	Recommended **				
												Supply Wire 75 ° C. Copper			Ground Wire	
												# of Wires	Wire Size	Max. Length (Ft)	# of Wires	Min Size
EHIA05KN10	240	16378	4.8	4.8	Single	4.8	20.0	7.3	27.3	34.1	35	2	8	108	1	10
	208	12283	3.6	3.6	Single	3.6	17.3	7.3	24.6	30.8	35	2	8	119	1	10
EHIA07KN10	240	24567	7.2	3.6	Single	7.2	30.0	7.3	37.3	46.6	50	2	8	79	1	10
	208	18425	5.4	2.7	Single	5.4	26.0	7.3	33.3	41.6	45	2	8	88	1	10
EHIA10KN10	240	32756	9.6	4.8	Single	9.6	40.0	7.3	47.3	59.1	60	2	6	99	1	10
	208	24567	7.2	3.6	Single	7.2	34.6	7.3	41.9	52.4	60	2	6	111	1	10

TECHNICAL DATA (MV only) Three-Phase with Circuit Breaker

Heater Model	Supply Volt-	Nom. Heat-BTUH	Heat KW	kW Per Element	Supply Circuit No.	Heater kW Per Circuit	Heater AMPS.	Max Motor AMPS.	FLA Total AMPS.	MCA Min Circuit Ampacity	Maximum Overcurrent Protective Device (AMPS.)	Recommended **				
												Supply Wire 75 ° C. Copper			Ground Wire	
												# of Wires	Wire Size	Max. Length (Ft)	# of Wires	Min Size
EHIA10HB10	240	32756	9.6	3.2	Single	9.6	23.1	7.3	30.4	38.0	40	3	8	112	1	10
	208	24567	7.2	2.4	Single	7.2	20.0	7.3	27.3	34.1	35	3	8	125	1	10
EHIA15HB10	240	49134	14.4	4.8	Single	14.4	34.7	7.3	42.0	52.5	60	3	6	128	1	10
	208	36851	10.8	3.6	Single	10.8	30.0	7.3	37.3	46.6	50	3	8	91	1	10
EHIA20HB10	240	65513	19.2	3.2	Single	19.2	46.2	7.3	53.5	66.9	70	3	4	161	1	8
					Mult. 1	6.4	15.4	7.3	22.7	28.4	30	3	10	96	1	10
					Mult. 2	12.8	30.8	0	30.8	38.5	40	3	8	110	1	10
	208	49134	14.4	2.4	Single	14.4	40.0	7.3	47.3	59.1	60	3	6	114	1	10
					Mult. 1	4.8	13.3	7.3	20.6	25.8	30	3	10	106	1	10
					Mult. 2	9.6	26.7	0	26.7	33.3	35	3	8	127	1	10
EHIA25HB10	240	81891	24	4	Single	24	57.8	7.3	65.1	81.4	90	3	4	132	1	8
					Mult. 1	8	19.3	7.3	26.6	33.2	35	3	8	128	1	10
					Mult. 2	16	38.5	0	38.5	48.2	50	3	8	88	1	10
	208	61418	18	3	Single	18	50.0	7.3	57.3	71.7	80	3	4	150	1	8
					Mult. 1	6	16.7	7.3	24.0	30.0	30	3	10	91	1	10
					Mult. 2	12	33.3	0	33.3	41.7	45	3	8	102	1	10

Conversion: 1 foot = .3048 meters

** Must conform to local building codes and national standards

USA: National Electrical Code (NEC) ANSI/NFPA 70-2011

CANADA: Canadian Electrical Code CSA C22.1

HEATER STAGING (MF & MV)

Single-Phase							
ELECTRIC HEATER	VOLTAGE	TOTAL HEAT KW		1st STAGE KW (W1)		2nd STAGE KW (W2)	
		208V	240V	208V	240V	208V	240V
EHIA05KB10	208-240/1/60	3.6	4.8	3.6	4.8	-	-
EHIA07KB10	208-240/1/60	5.4	7.2	5.4	7.2	-	-
EHIA10KB10	208-240/1/60	7.2	9.6	7.2	9.6	-	-
EHIA15KB10	208-240/1/60	10.8	14.4	7.2	9.6	3.6	4.8
EHIA20KB10	208-240/1/60	14.4	19.2	7.2	9.6	7.2	9.6
EHIA25KB10	208-240/1/60	18	24	7.2	9.6	10.8	14.4
EHIA05KN10	208-240/1/60	3.6	4.8	3.6	4.8	-	-
EHIA07KN10	208-240/1/60	5.4	7.2	5.4	7.2	-	-
EHIA10KN10	208-240/1/60	7.2	9.6	7.2	9.6	-	-

Three-Phase							
ELECTRIC HEATER	VOLTAGE	TOTAL HEAT KW		1st STAGE KW (W1)		2nd STAGE KW (W2)	
		208v	240v	208v	240v	208v	240v
EHIA10HB10	208-240/3/60	7.2	9.6	7.2	9.6	-	-
EHIA15HB10	208-240/3/60	10.8	14.4	10.8	14.4	-	-
EHIA20HB10	208-240/3/60	14.4	19.2	4.8	6.4	9.6	12.8
EHIA25HB10	208-240/3/60	18	24	6	8	12	16

ELECTRIC HEATER STATIC PRESSURE DROP - ESP IN WC (MF & MV)

Single-Phase						
CFM	EHIA05	EHIA07	EHIA10	EHIA15	EHIA20	EHIA25
600	0.01	0.01	0.01	-	-	-
700	0.01	0.01	0.01	-	-	-
800	0.01	0.01	0.01	0.01	-	-
900	0.01	0.01	0.01	0.01	-	-
1000	0.01	0.01	0.01	0.01	0.02	-
1100	0.01	0.01	0.01	0.02	0.02	-
1200	0.01	0.01	0.01	0.02	0.02	-
1300	0.01	0.02	0.02	0.02	0.02	-
1400	0.01	0.02	0.02	0.02	0.03	0.03
1500	0.01	0.02	0.02	0.02	0.03	0.04
1600	0.01	0.02	0.02	0.03	0.03	0.04
1700	0.01	0.02	0.02	0.03	0.03	0.04
1800	0.01	0.02	0.02	0.03	0.04	0.04
1900	0.01	0.02	0.02	0.03	0.04	0.05
2000	0.01	0.02	0.02	0.03	0.04	0.05

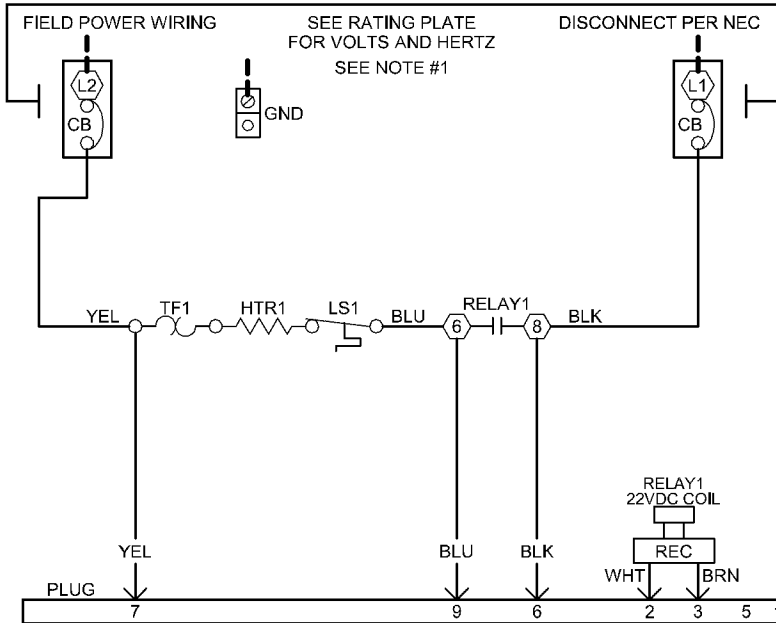
Three-Phase						
CFM	-	-	EHIA10	EHIA15	EHIA20	EHIA25
600	-	-	0.01	-	-	-
700	-	-	0.01	-	-	-
800	-	-	0.01	0.01	-	-
900	-	-	0.01	0.01	-	-
1000	-	-	0.01	0.01	0.02	-
1100	-	-	0.01	0.02	0.02	-
1200	-	-	0.01	0.02	0.02	-
1300	-	-	0.02	0.02	0.02	-
1400	-	-	0.02	0.02	0.03	0.03
1500	-	-	0.02	0.02	0.03	0.04
1600	-	-	0.02	0.03	0.03	0.04
1700	-	-	0.02	0.03	0.03	0.04
1800	-	-	0.02	0.03	0.04	0.04
1900	-	-	0.02	0.03	0.04	0.05
2000	-	-	0.02	0.03	0.04	0.05

WIRING DIAGRAM FOR **SINGLE-PHASE** HEAT ACCESSORIES WITH CIRCUIT BREAKER

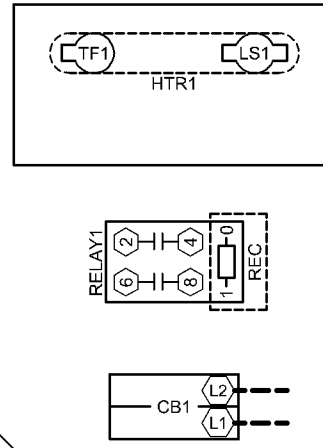
EHIA05KB10

SCHEMATIC DIAGRAM SINGLE SUPPLY CIRCUIT

HEATER VA: 1.7



COMPONENT ARRANGEMENT



LEGEND

- CB CIRCUIT BREAKER
- GND EQUIPMENT GROUND
- HTR HEATER
- LS LIMIT SWITCH
- REC RECTIFIER
- TDR TIME DELAY RECTIFIER
- TF THERMAL FUSE
- FIELD POWER WIRING
- MARKED TERMINAL
- ⤵ PLUG AND RECEPTACLE

NOTES:

1. Use Copper Wire (75° Min) Only Between Disconnect Switch And Unit.
2. To Be Wired In Accordance With Nec And Local Codes.
3. If Any Of The Original Wire, As Supplied, Must Be Replaced, Use The Same Or Equivalent Type Wire.

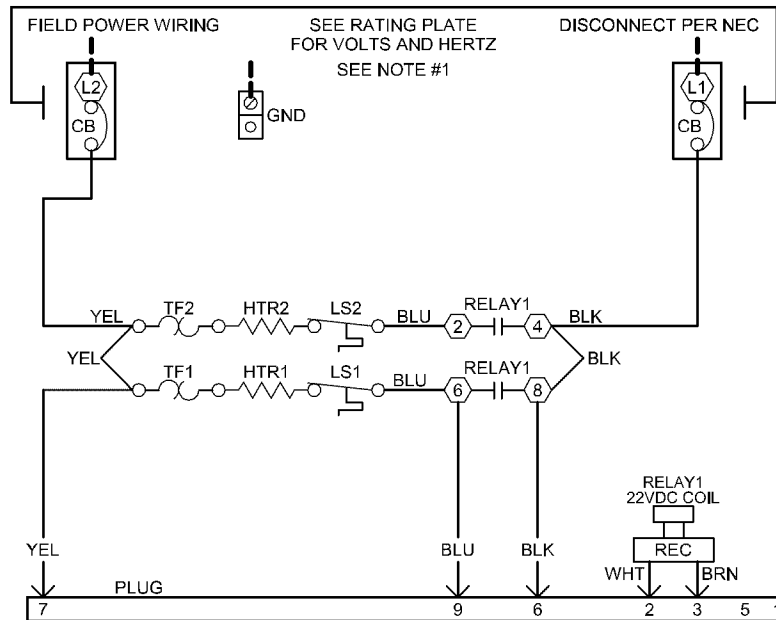
111002195 rev.1

EHIA05KB10

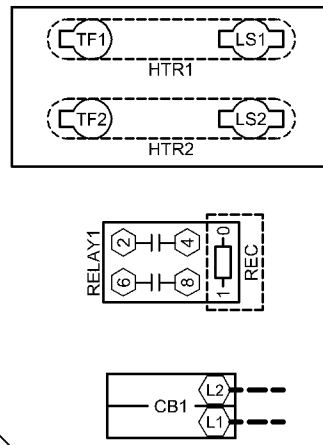
EHIA07KB10 / EHIA10KB10

SCHEMATIC DIAGRAM SINGLE SUPPLY CIRCUIT

HEATER VA: 1.7



COMPONENT ARRANGEMENT



LEGEND

- CB CIRCUIT BREAKER
- GND EQUIPMENT GROUND
- HTR HEATER
- LS LIMIT SWITCH
- REC RECTIFIER
- TDR TIME DELAY RECTIFIER
- TF THERMAL FUSE
- FIELD POWER WIRING
- MARKED TERMINAL
- ⤵ PLUG AND RECEPTACLE

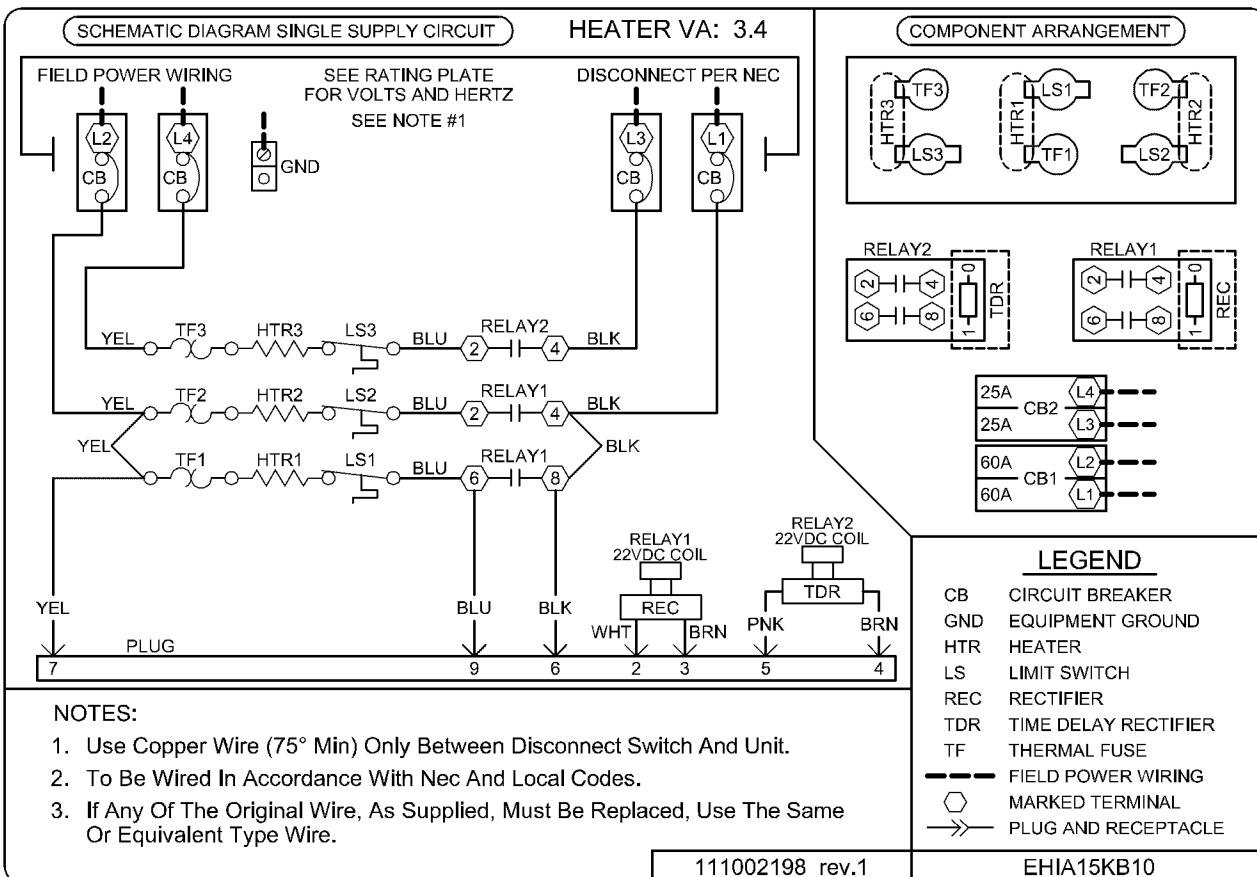
NOTES:

1. Use Copper Wire (75° Min) Only Between Disconnect Switch And Unit.
2. To Be Wired In Accordance With Nec And Local Codes.
3. If Any Of The Original Wire, As Supplied, Must Be Replaced, Use The Same Or Equivalent Type Wire.

111002197 rev.1

EHIA07KB10 / EHIA10KB10

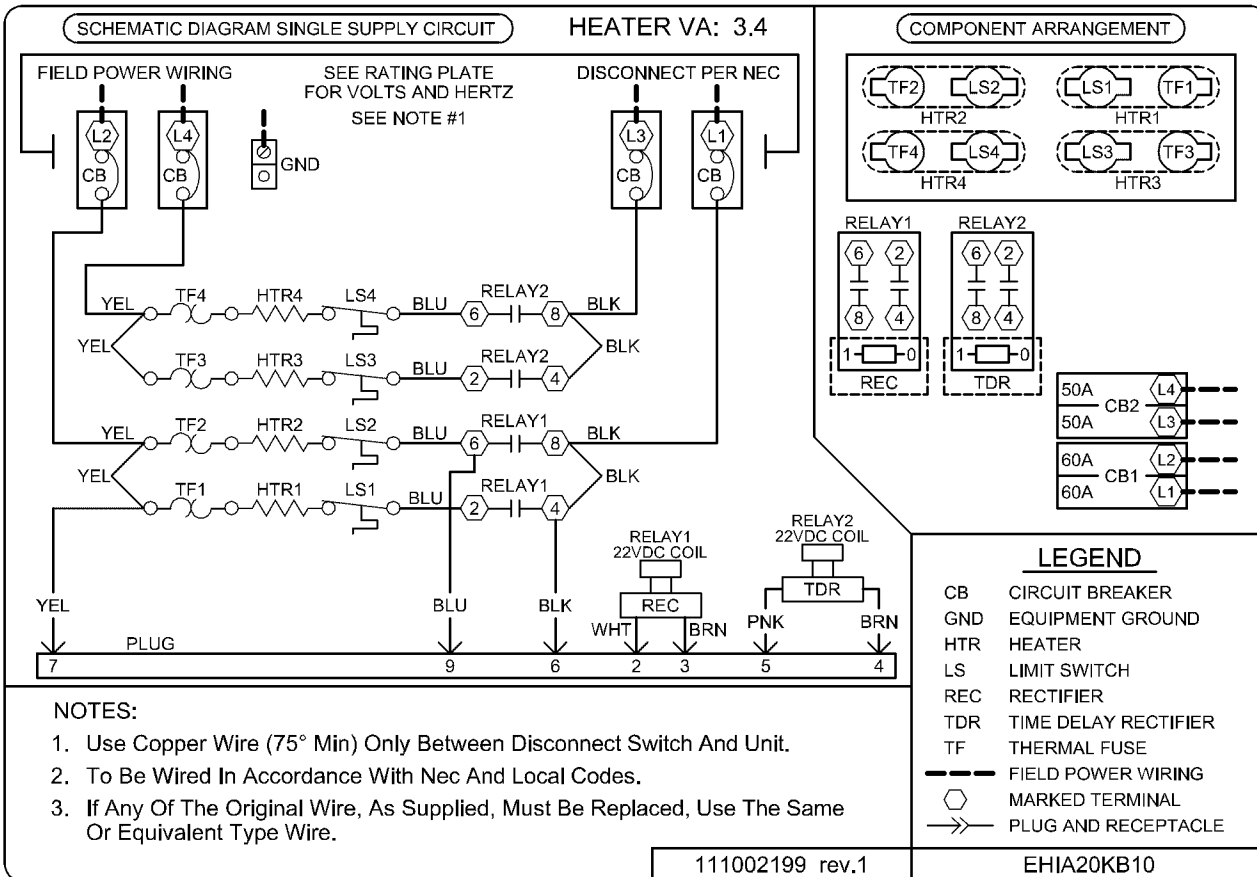
EHIA15KB10



NOTES:

1. Use Copper Wire (75° Min) Only Between Disconnect Switch And Unit.
2. To Be Wired In Accordance With Nec And Local Codes.
3. If Any Of The Original Wire, As Supplied, Must Be Replaced, Use The Same Or Equivalent Type Wire.

EHIA20KB10



NOTES:

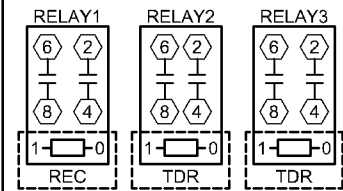
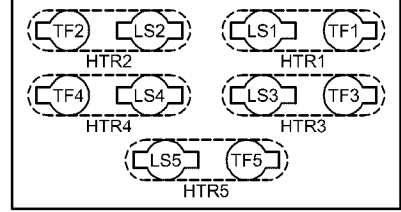
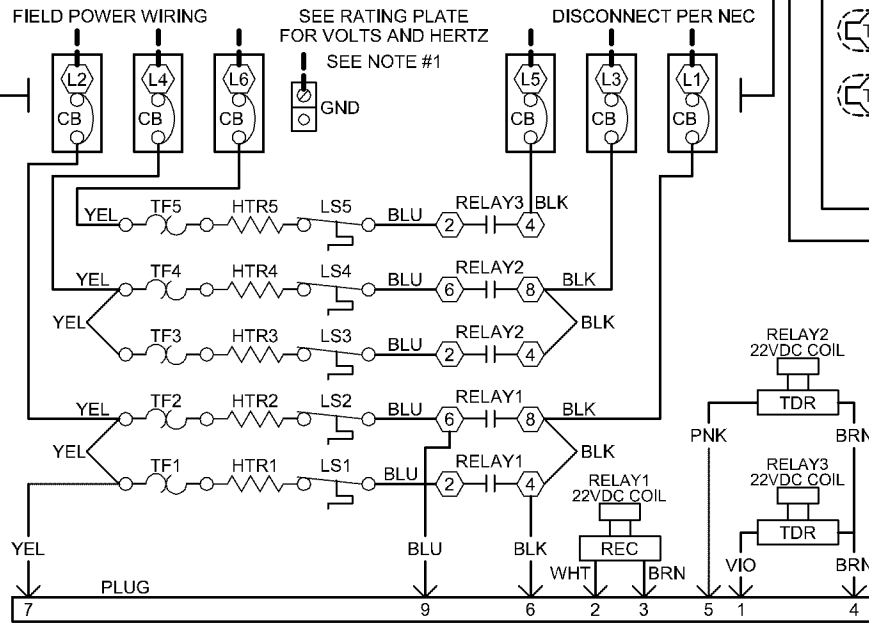
1. Use Copper Wire (75° Min) Only Between Disconnect Switch And Unit.
2. To Be Wired In Accordance With Nec And Local Codes.
3. If Any Of The Original Wire, As Supplied, Must Be Replaced, Use The Same Or Equivalent Type Wire.

EHIA25KB10

SCHEMATIC DIAGRAM SINGLE SUPPLY CIRCUIT

HEATER VA: 5.1

COMPONENT ARRANGEMENT



LEGEND

CB	CIRCUIT BREAKER
GND	EQUIPMENT GROUND
HTR	HEATER
LS	LIMIT SWITCH
REC	RECTIFIER
TDR	TIME DELAY RECTIFIER
TF	THERMAL FUSE
---	FIELD POWER WIRING
○	MARKED TERMINAL
→	PLUG AND RECEPTACLE

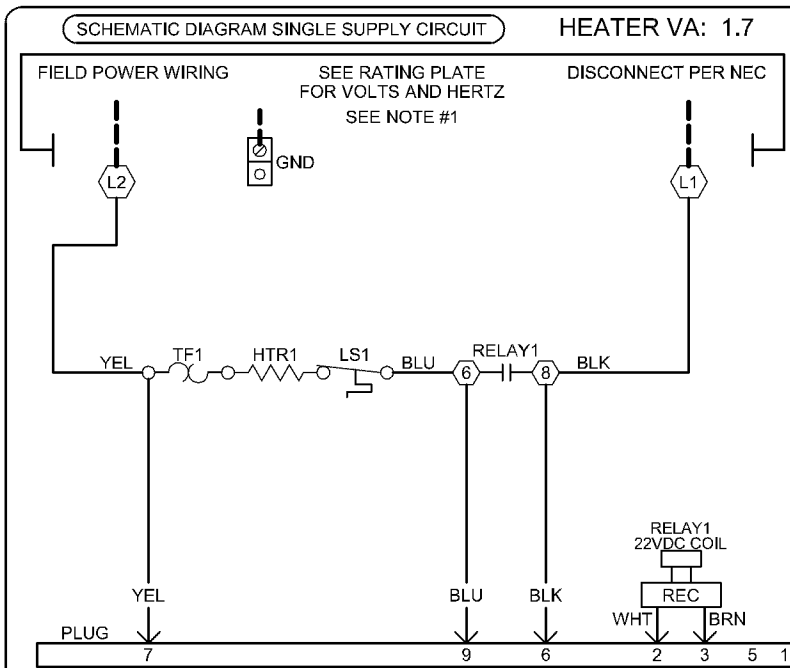
- NOTES:**
1. Use Copper Wire (75° Min) Only Between Disconnect Switch And Unit.
 2. To Be Wired In Accordance With Nec And Local Codes.
 3. If Any Of The Original Wire, As Supplied, Must Be Replaced, Use The Same Or Equivalent Type Wire.

111002200 rev.1

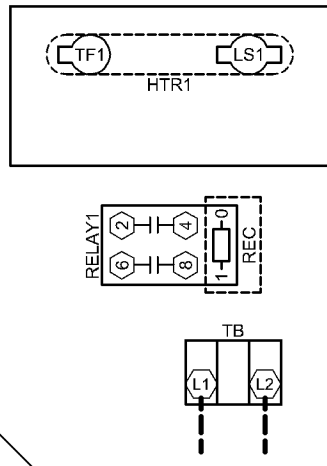
EHIA25KB10

WIRING DIAGRAM FOR **SINGLE-PHASE** HEAT ACCESSORIES WITH
TERMINAL BLOCK (NON-BREAKER)

EHIA05KN10



COMPONENT ARRANGEMENT



LEGEND

- GND EQUIPMENT GROUND
- HTR HEATER
- LS LIMIT SWITCH
- REC RECTIFIER
- TB TERMINAL BLOCK
- TDR TIME DELAY RECTIFIER
- TF THERMAL FUSE
- FIELD POWER WIRING
- MARKED TERMINAL
- ⤵ PLUG AND RECEPTACLE

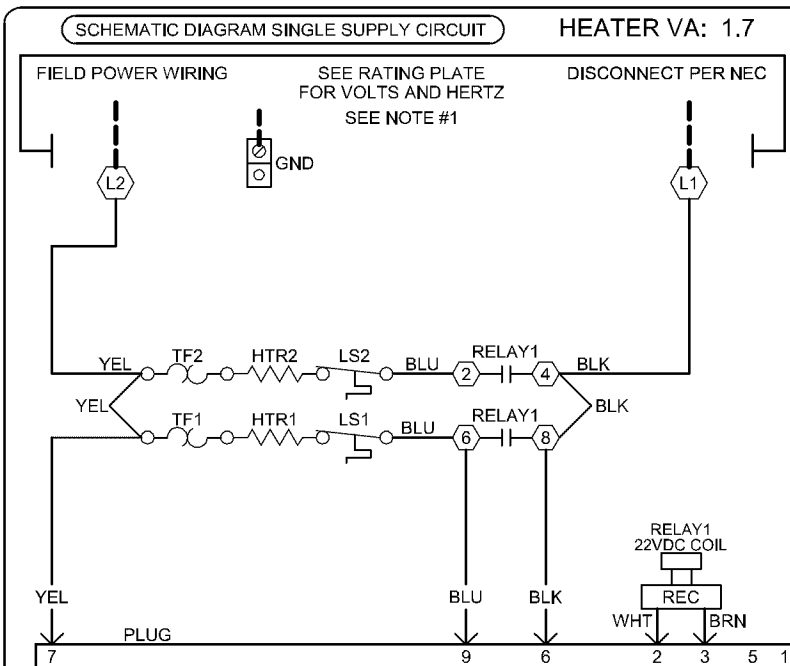
NOTES:

1. Use Copper Wire (75° Min) Only Between Disconnect Switch And Unit.
2. To Be Wired In Accordance With Nec And Local Codes.
3. If Any Of The Original Wire, As Supplied, Must Be Replaced, Use The Same Or Equivalent Type Wire.

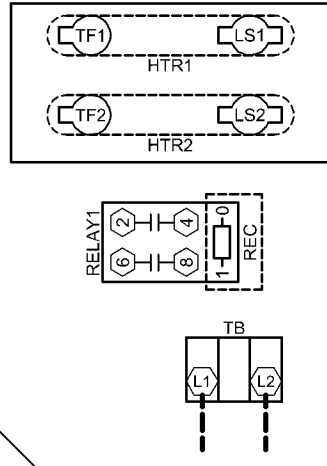
111002192 rev.1

EHIA05KN10

EHIA07KN10 / EHIA10KN10



COMPONENT ARRANGEMENT



LEGEND

- GND EQUIPMENT GROUND
- HTR HEATER
- LS LIMIT SWITCH
- REC RECTIFIER
- TB TERMINAL BLOCK
- TDR TIME DELAY RECTIFIER
- TF THERMAL FUSE
- FIELD POWER WIRING
- MARKED TERMINAL
- ⤵ PLUG AND RECEPTACLE

NOTES:

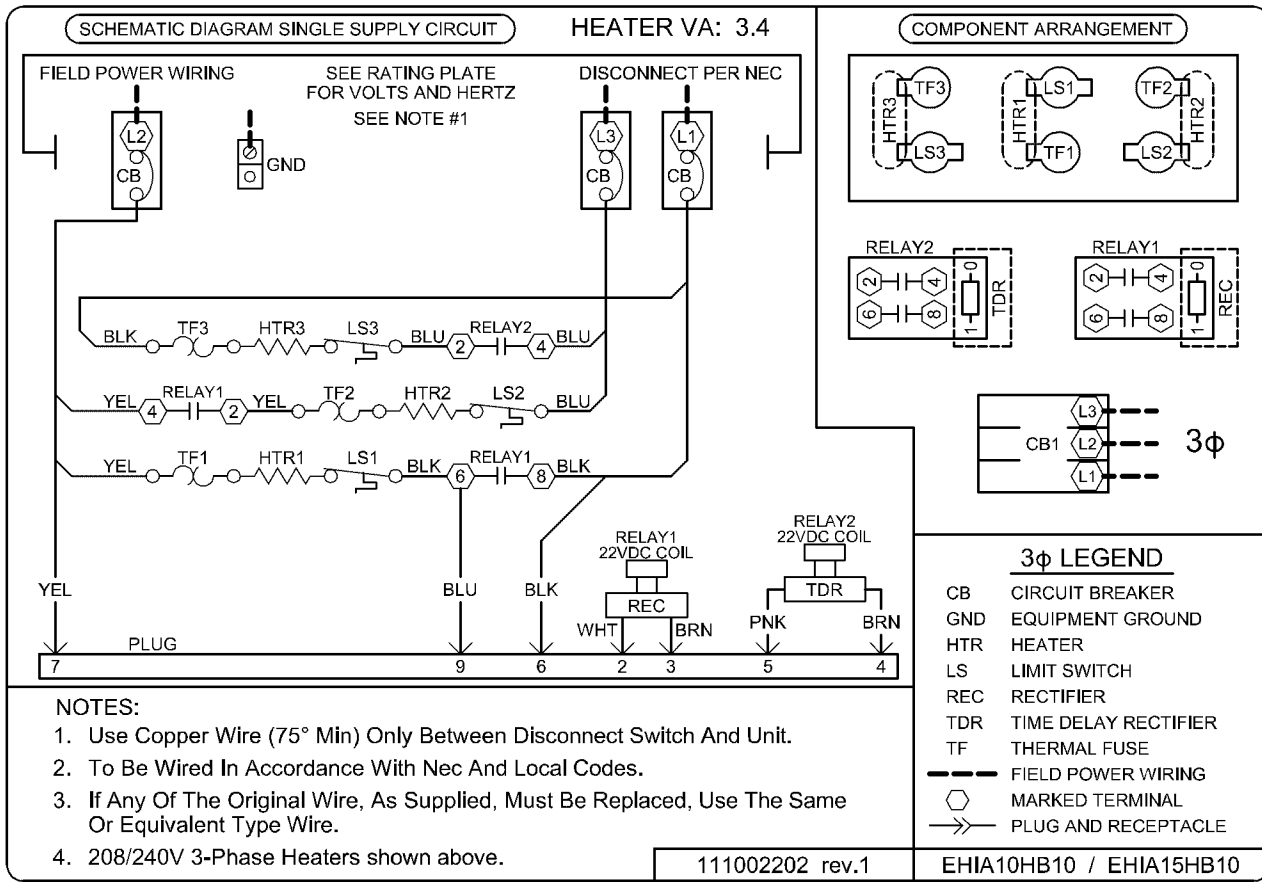
1. Use Copper Wire (75° Min) Only Between Disconnect Switch And Unit.
2. To Be Wired In Accordance With Nec And Local Codes.
3. If Any Of The Original Wire, As Supplied, Must Be Replaced, Use The Same Or Equivalent Type Wire.

111002194 rev.1

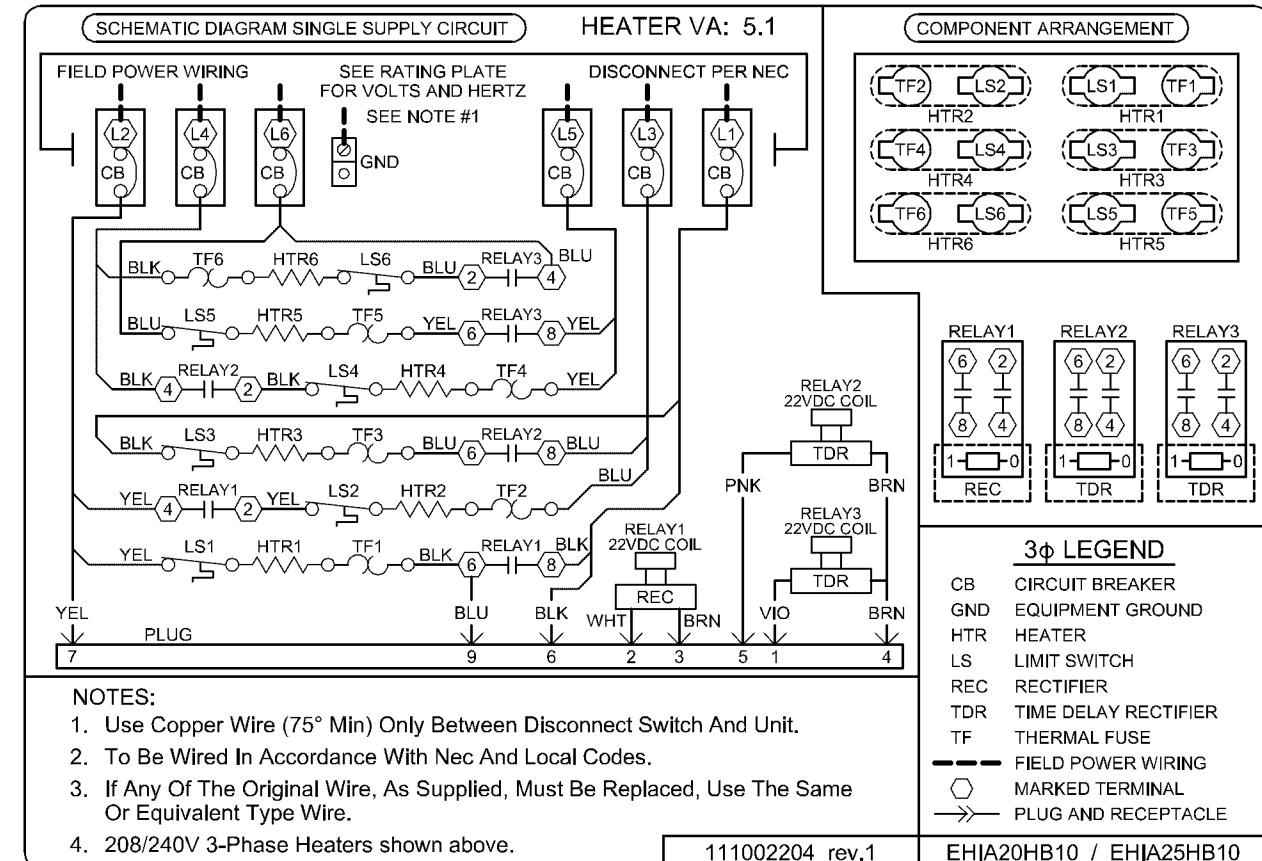
EHIA07KN10 / EHIA10KN10

WIRING DIAGRAM FOR **THREE-PHASE** HEAT ACCESSORIES

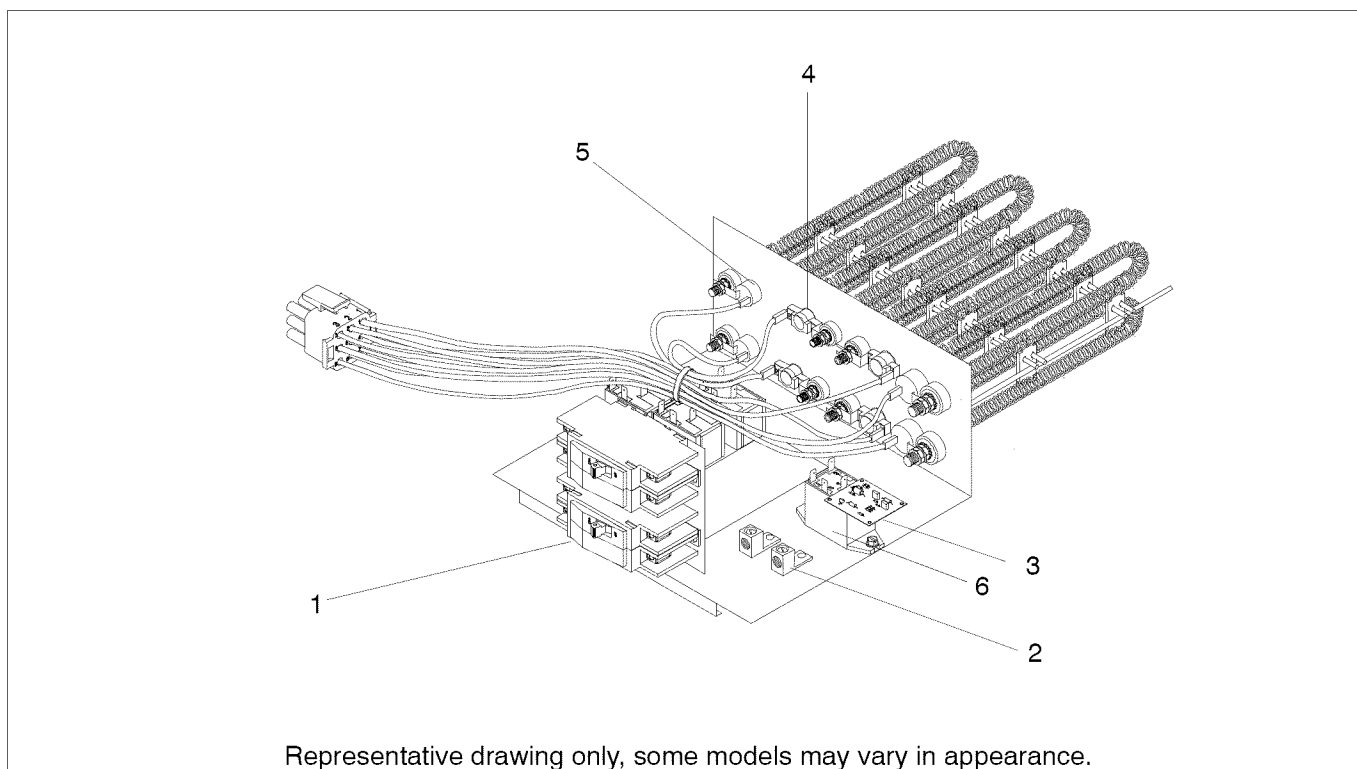
EHIA10HB10 / EHIA15HB10



EHIA20HB10 / EHIA25HB10



Replacement Parts



ELECTRIC HEAT ACCESSORY PARTS LIST															
KEY NO.	DESCRIPTION	PART NO.	1-Phase						3-Phase						
			EHIA05KN10	EHIA07KN10	EHIA10KN10	EHIA05KB10	EHIA07KB10	EHIA10KB10	EHIA15KB10	EHIA20KB10	EHIA25KB10	EHIA10HB10	EHIA15HB10	EHIA20HB10	EHIA25HB10
1	Circuit Breaker, 25 Amp	1082008	-	-	-	-	-	-	1	-	1	-	-	-	-
	Circuit Breaker, 35 Amp	1082010	-	-	-	1	-	-	-	-	-	-	-	-	-
	Circuit Breaker, 45 Amp	1082012	-	-	-	-	1	-	-	-	-	-	-	-	-
	Circuit Breaker, 50 Amp	1082013	-	-	-	-	-	-	-	1	1	-	-	-	-
	Circuit Breaker, 60 Amp	1082014	-	-	-	-	-	1	1	1	1	-	-	-	-
	Circuit Breaker, 30 Amp, 3P	1083190	-	-	-	-	-	-	-	-	-	-	-	1	-
	Circuit Breaker, 40 Amp, 3P	1084792	-	-	-	-	-	-	-	-	-	1	-	1	1
	Circuit Breaker, 45 Amp, 3P	1084793	-	-	-	-	-	-	-	-	-	-	-	-	1
	Circuit Breaker, 60 Amp, 3P	1080913	-	-	-	-	-	-	-	-	-	-	1	-	-
2	Lug, Ground	91590	1	1	1	1	1	1	2	2	3	1	1	2	2
3	Rectifier Board	1171780	1	1	1	1	1	1	1	1	1	1	1	1	1
	Rectifier Board	1171906	-	-	-	-	-	-	1	1	2	1	1	2	2
4	Limit, Thermal - L140-40F	1176270	-	-	-	-	-	-	-	4	5	-	-	-	6
	Limit, Thermal - L145-40F	1176271	1	2	2	1	2	2	3	-	-	3	3	6	-
5	Thermal Cutoff	1176269	1	2	2	1	2	2	3	4	5	3	3	6	6
6	Relay	1172506	1	1	1	1	1	1	2	2	3	2	2	3	3
][PARTS NOT SHOWN															
][	Circuit Breaker Seal	1087843	-	-	-	1	1	1	1	1	1	1	1	1	1