

WIRING DIAGRAMS

Models HER, VE, PTE electric unit heaters

Units built after 12/1/19

Two-In One Diagrams

Two wiring diagrams are furnished for each circuit configuration in this manual. Included are a connection diagram at the left for field installation and a circuit schematic at the right to aid in continuity and trouble shooting.

Solid lines show pre-wiring performed at the factory; dotted lines inform the installer of connections required to put the heater in operation.

NOTE: As indicated in every diagram, all wiring must comply with the National Electrical Code and all local codes. All components must agree with their respective power source.

Wiring Diagram Selection

Diagrams are readily identified in the page location index on the following page. This allows for the correct wiring diagram to be selected using the model, size, and power code of the unit heater.

Select the correct wiring diagrams as follows:

1. Determine unit heater model and size.
2. Select power code number from Table 2.1.
3. Reference unit heater model in the Page Location Index (Table 2.2) with power code number of the corresponding wiring diagram.

⚠ CAUTION

Turn off all power to unit before wiring. Failure to wire this unit according to this wiring diagram may result in injury to the installer or user. For deviations, contact factory.

Abbreviations and Symbols

To facilitate interpretation and enable simplification the abbreviations and symbols have been selected as recommended by ANSI (American National Standards Institute) and NEMA (National Electrical Manufacturers Association) standards.

XFMR or TR	Transformer
V	Volts
Hz	Cycle or Hertz
ϕ	Phase
LC	Limit Control
THERM or TH	Thermostat
G	Ground
HTR	Heater
H	Hot or High
SW	Switch
C	Common
"J" Box	Junction Box
L	Low
H₁, H₂, etc.	Transformer Primary Terminals
O.L.C.	Overload Contact
R	Relay
Rc	Relay Contact
VA	Volt-Ampere
X1,X2, etc.	Transformer Secondary Terminals
L1, L2, etc.	Electric Load Terminals
T1, T2, etc.	Starter or Motor Terminals

Wire Color Coding

BK	Black
BU	Blue
R	Red
W	White
Y	Yellow

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2-424.8 — WIRING DIAGRAMS MODELS HER, VE, PTE

Table 2.1

Power Code Selection

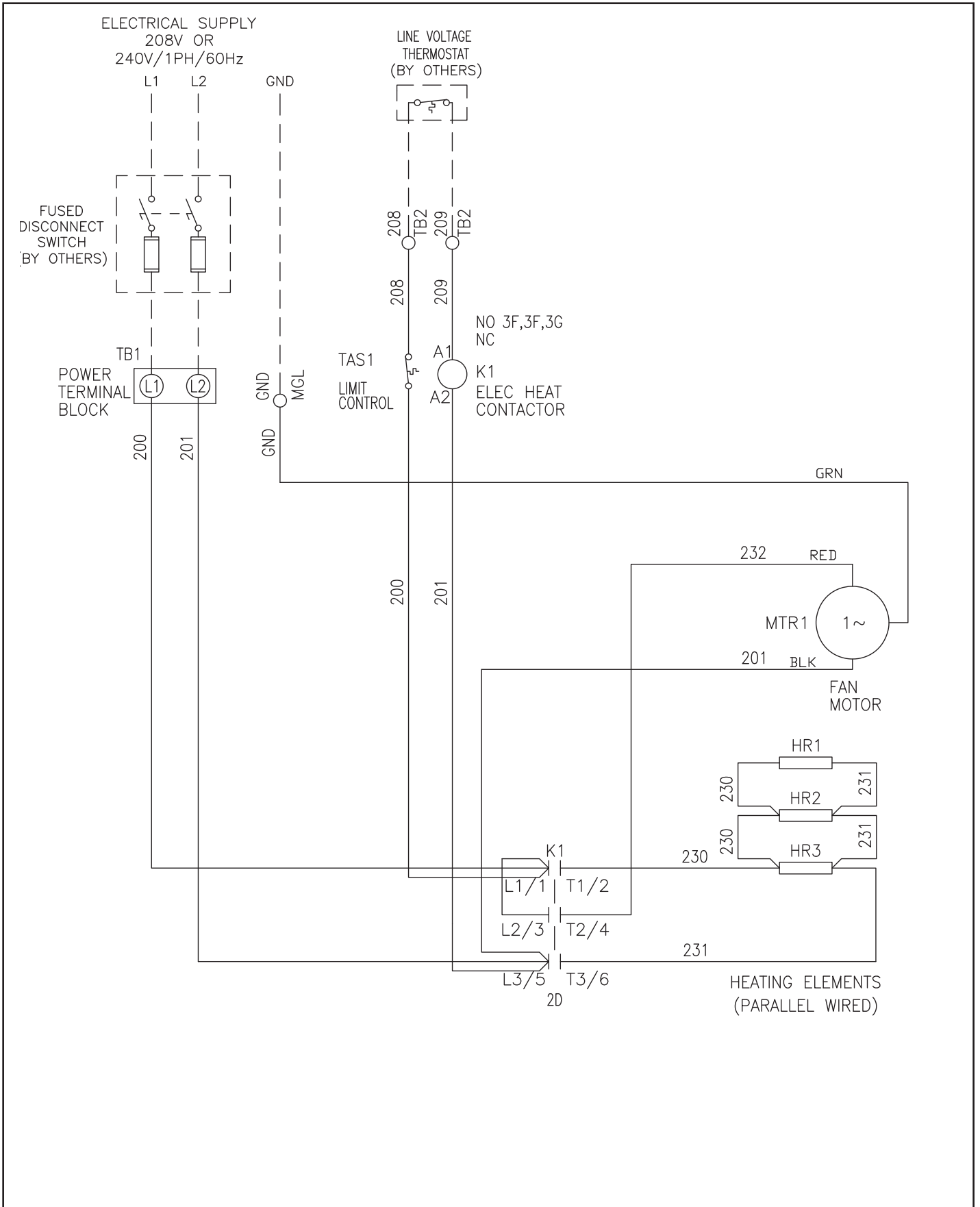
	Power Supply (Volts/Phase)					
	208V/1	240V/1	208V/3	240V/3	480V/3	600v/3
Power Code	11	12	31	32	33	34

Table 2.2

Electric Unit Heater Page Location Index

Model No.	Power Code					
	11	12	31	32	33	34
HER 30	3	3	5	5	8	9
HER 50	3	3	5	5	8	9
HER 75	3	3	5	5	8	9
HER100	4	4	5	5	8	9
HER125	-	-	5	5	8	9
HER150	-	-	6	5	8	9
HER200	-	-	7	7	8	9
HER250	-	-	7	7	8	9
VE 50	-	10	11	11	12	-
VE 75	-	10	11	11	12	-
VE100	-	10	11	11	12	-
VE150	-	-	14	14	15	-
VE200	-	-	-	14	15	-
VE250	-	-	-	-	15	-
VE300	-	-	-	-	13	-
VE400	-	-	-	-	13	-
VE500	-	-	-	-	13	-
PTE300	-	-	-	-	13	-
PTE400	-	-	-	-	13	-
PTE500	-	-	-	-	13	-

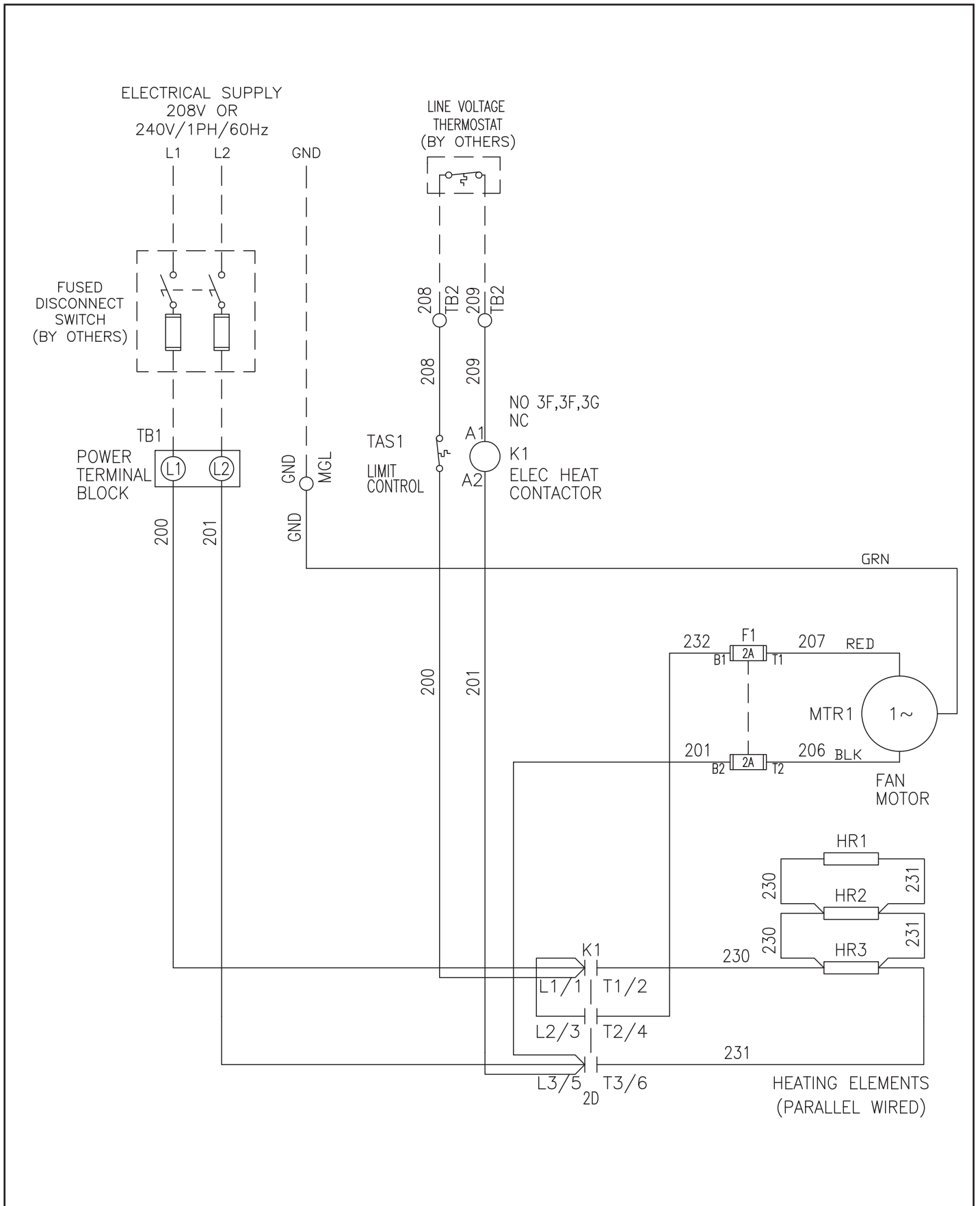
2-424.8 — WIRING DIAGRAM MODEL HER



5H1052640001

208V or 240V, single-phase power supply, 3kw, 5kw, 7.5kw, Horizontal Models

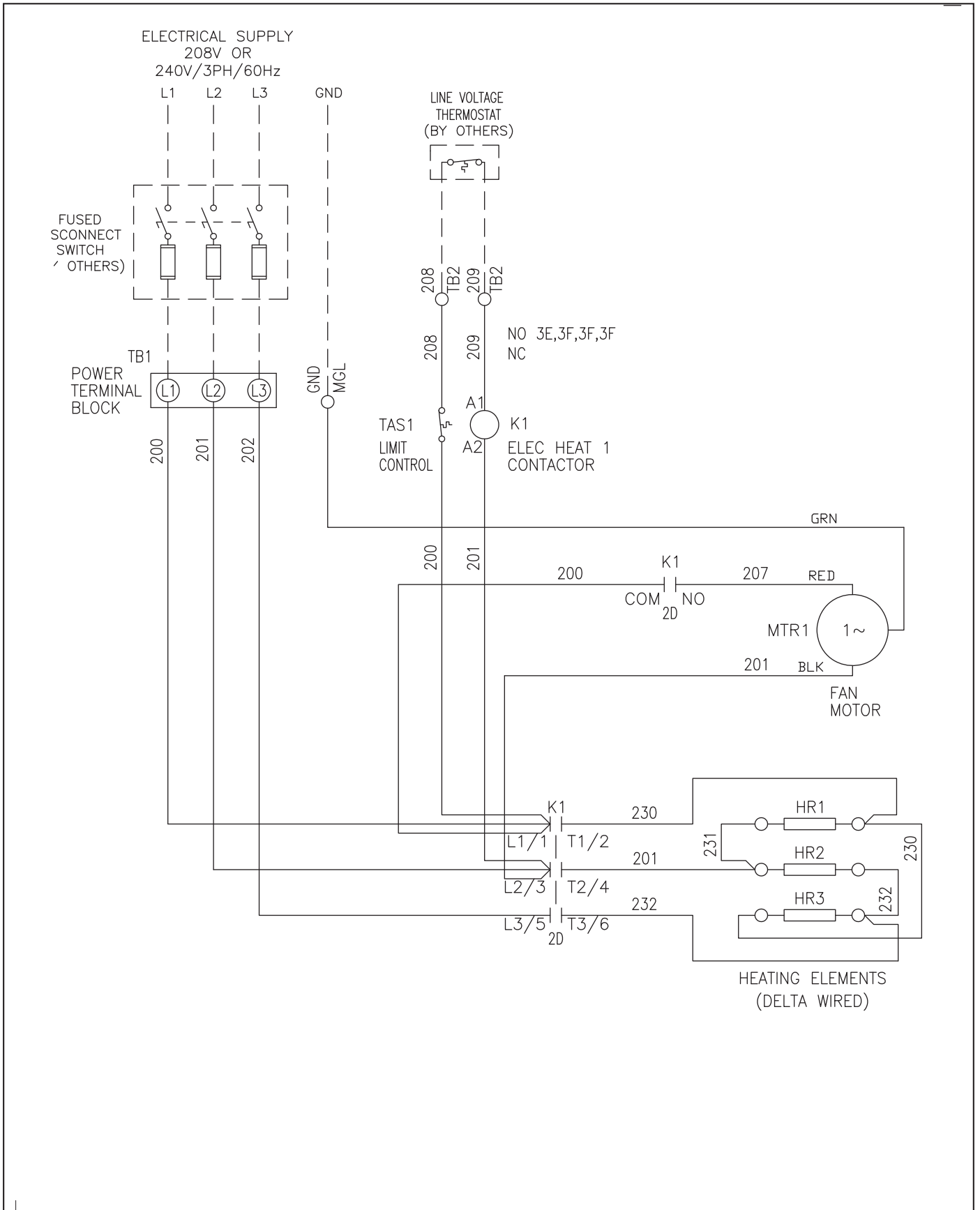
2-424.8 — WIRING DIAGRAM MODEL HER



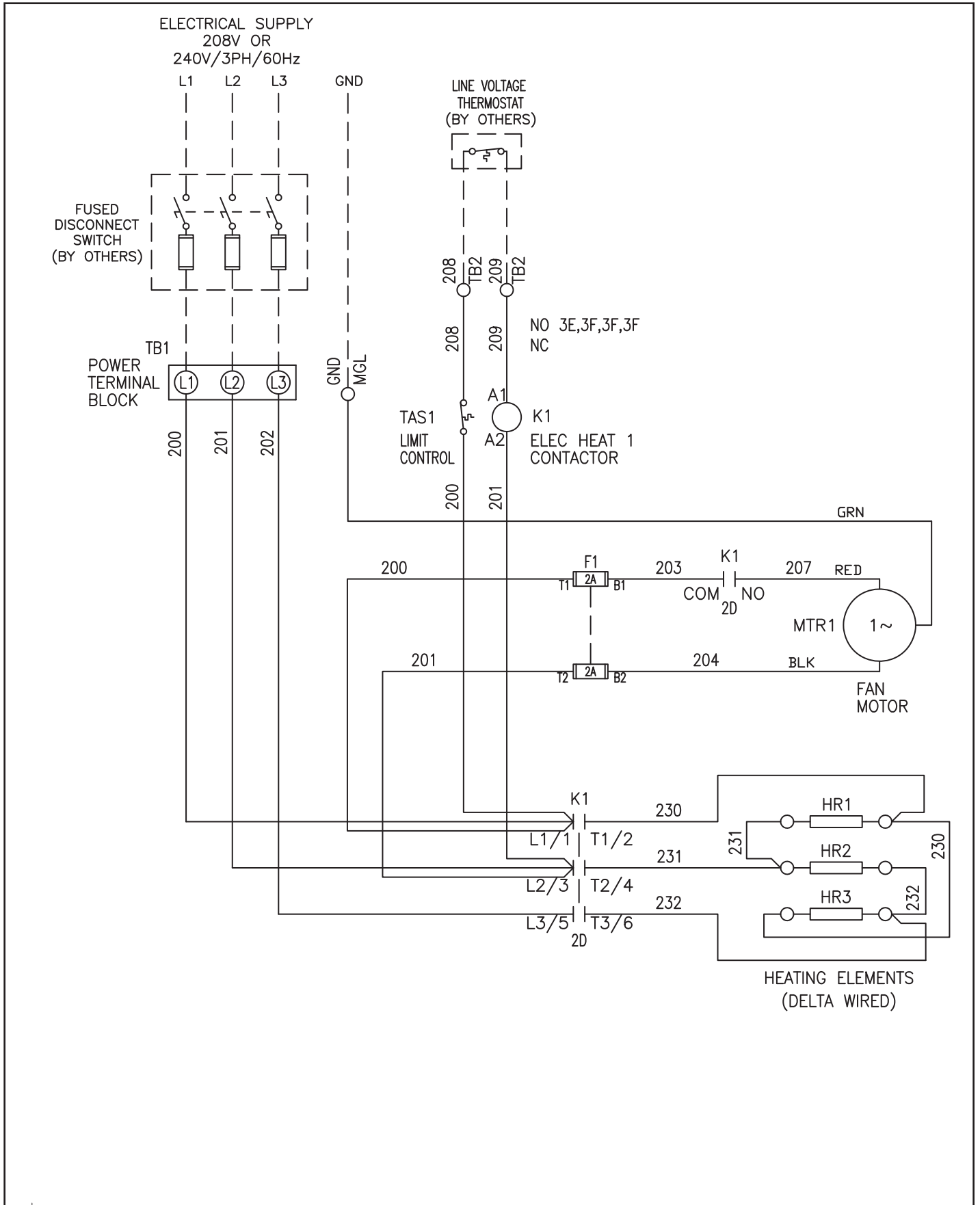
5H1052640002

208V or 240V, single-phase power supply, 10kw Horizontal Model

2-424.8 — WIRING DIAGRAM MODEL HER



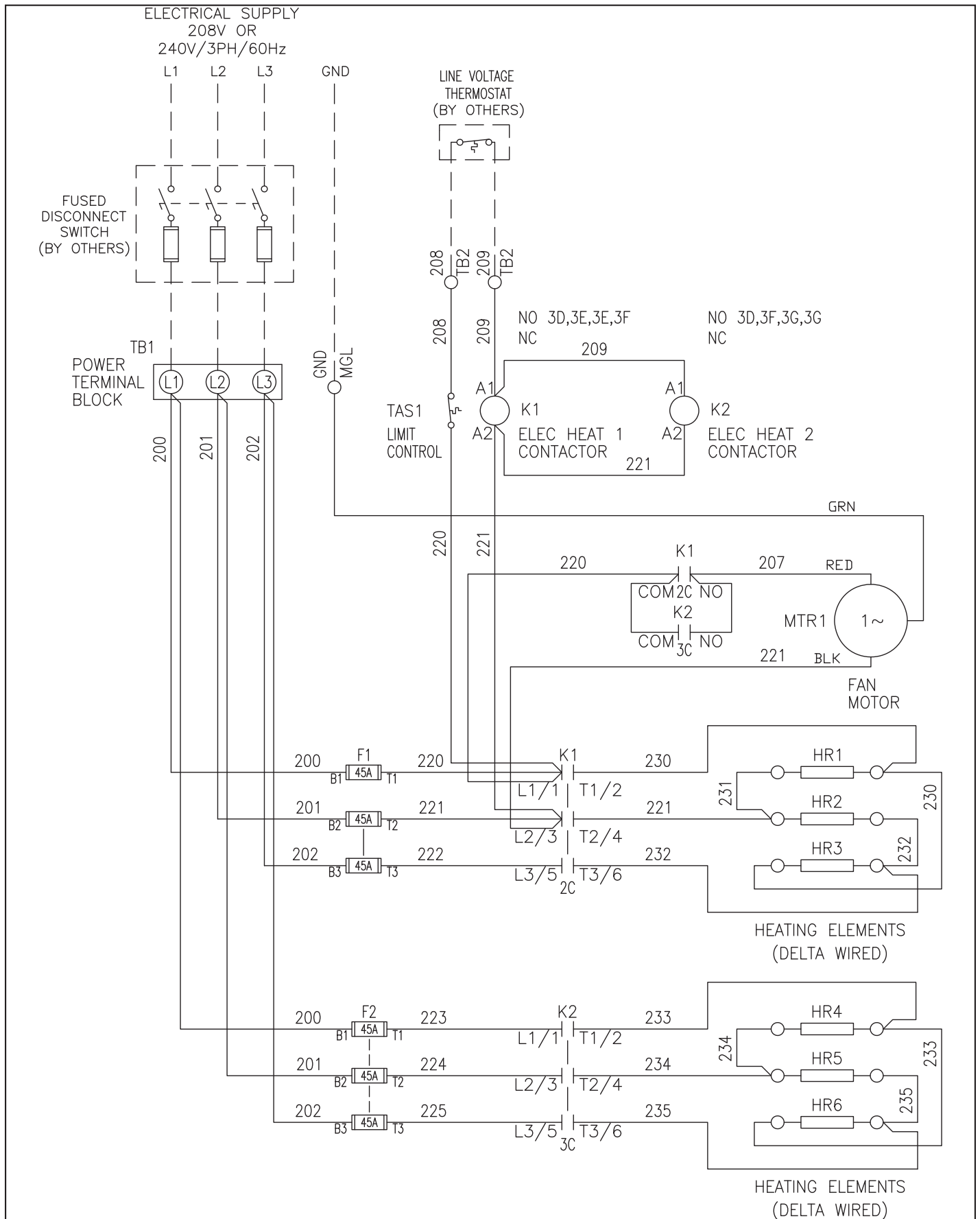
2-424.8 — WIRING DIAGRAM MODEL HER



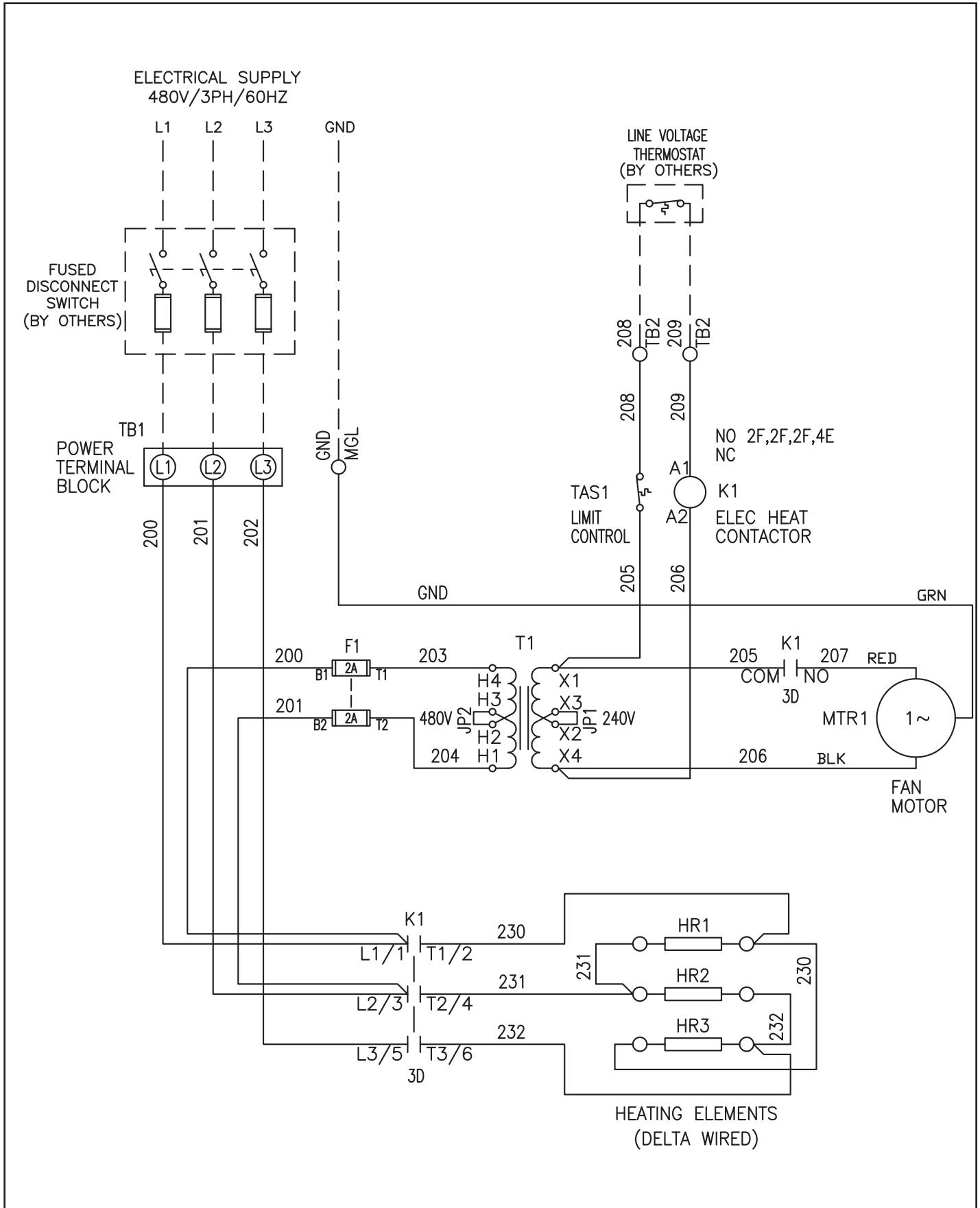
5H1052640004

208V, three-phase power supply, 15kw Horizontal Model

2-424.7 — WIRING DIAGRAM MODEL HER



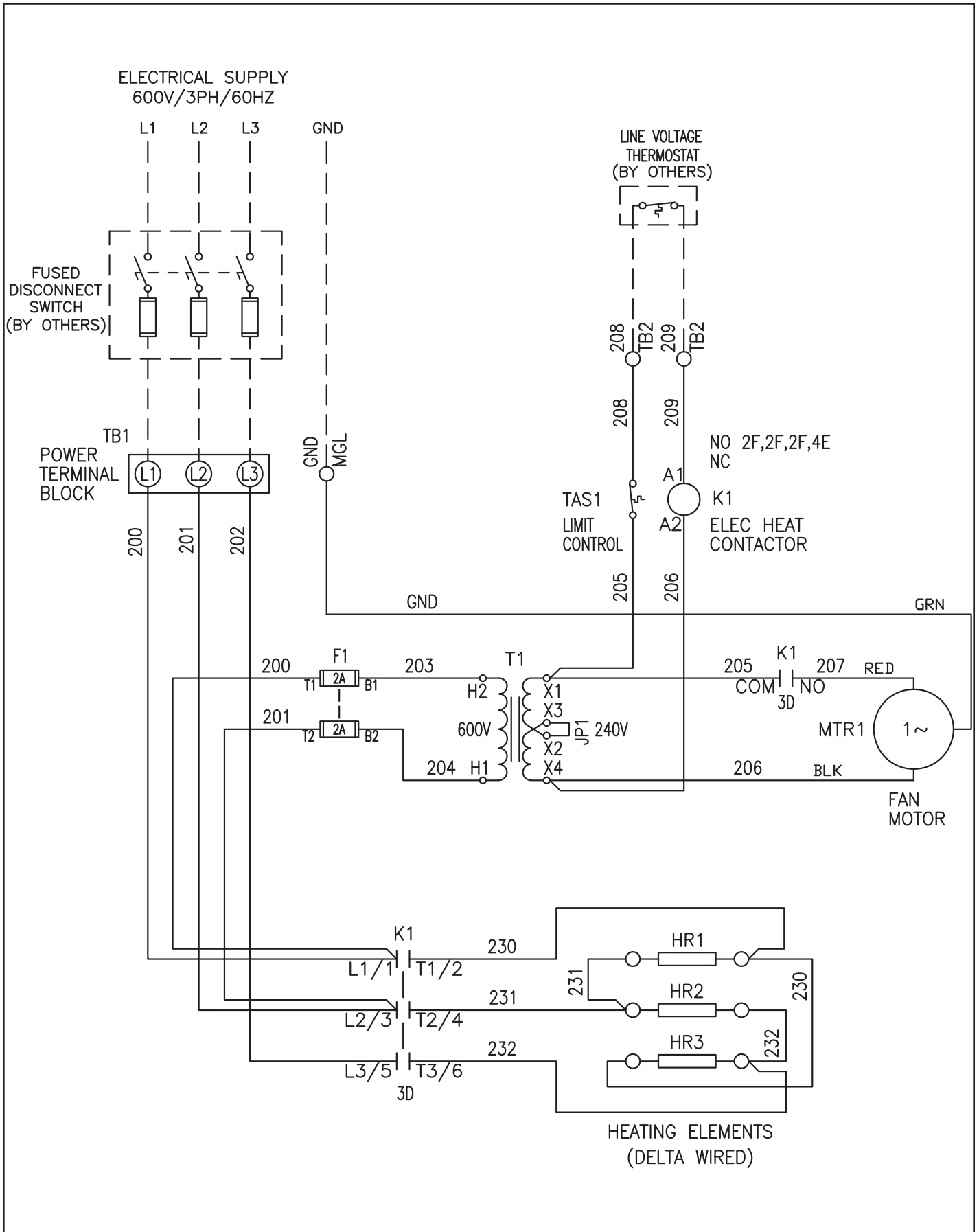
2-424.8 — WIRING DIAGRAM MODEL HER



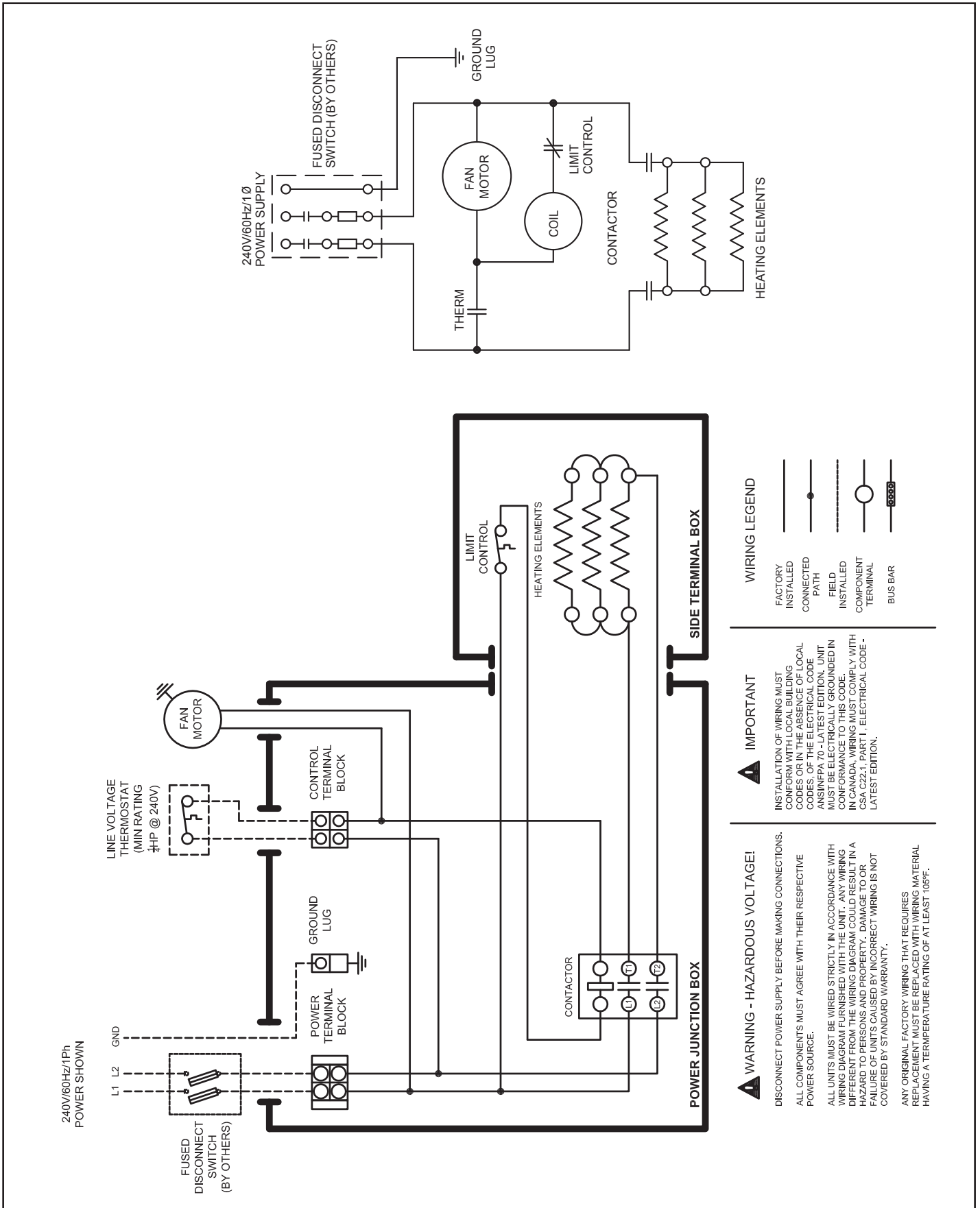
5H1052640006

480V three-phase power supply, 3kw, 5kw, 7.5kw, 10kw, 12.5kw, 15kw, 20kw, 25kw Horizontal Models

2-424.8 — WIRING DIAGRAM MODEL HER



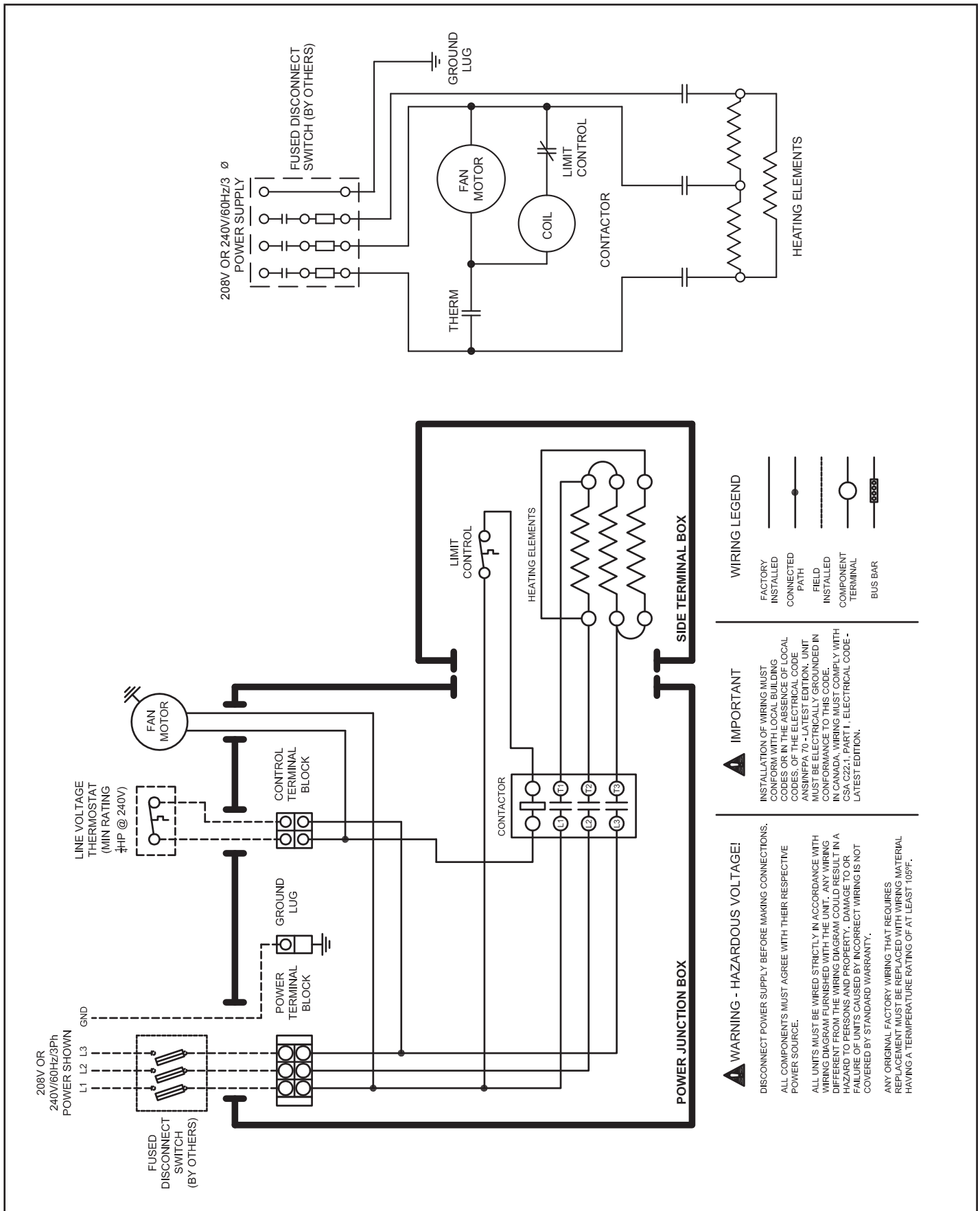
2-424.7 — WIRING DIAGRAM MODEL VE



5H0702530008

240V, single-phase power supply, 5kw, 7.5kw, 10kw Vertical Models

2-424.7 — WIRING DIAGRAM MODEL



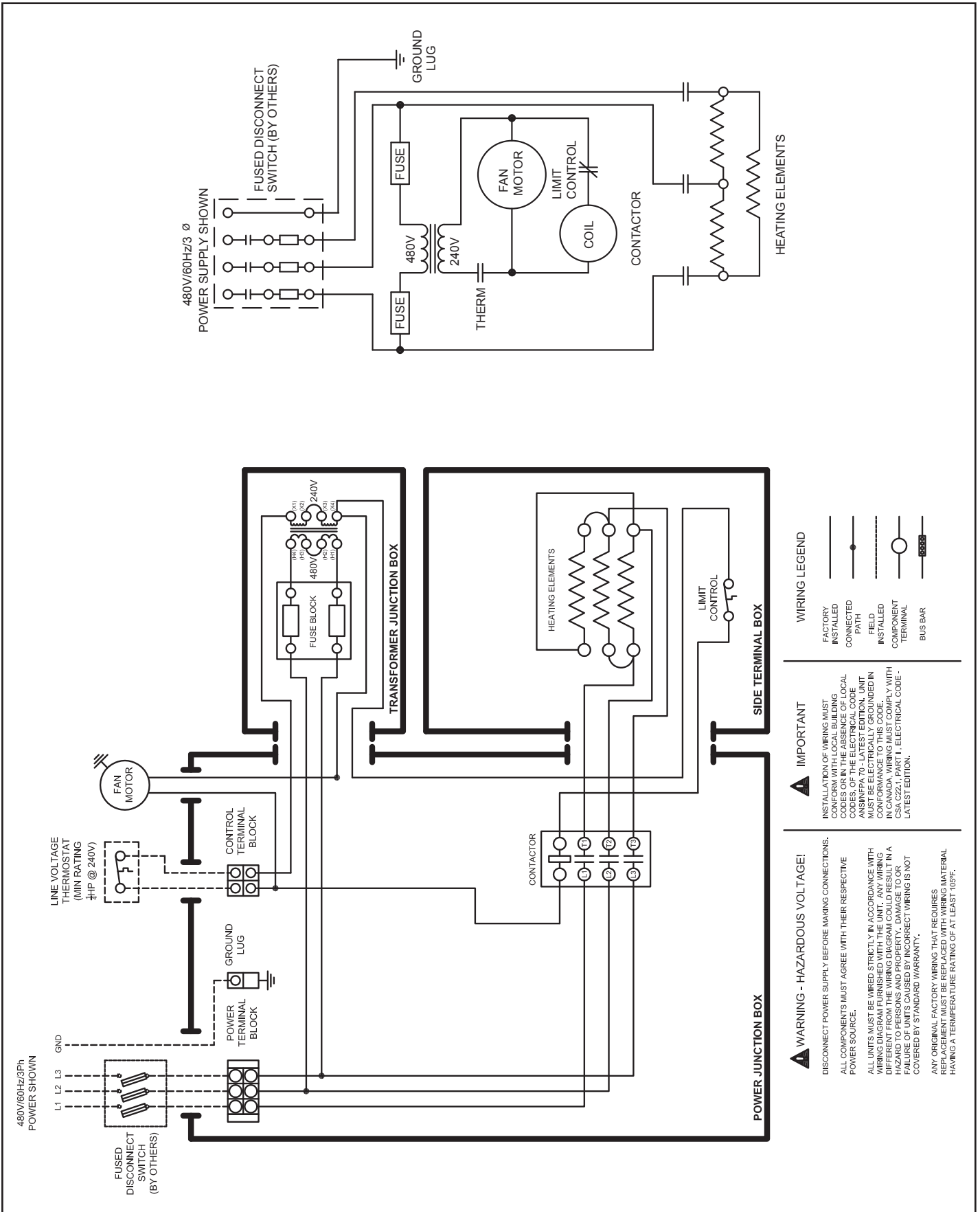
WARNING - HAZARDOUS VOLTAGE!
DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS. ALL COMPONENTS MUST AGREE WITH THEIR RESPECTIVE POWER SOURCE.

IMPORTANT
INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) AS APPLICABLE TO THE JURISDICTION IN WHICH THE UNIT IS INSTALLED. WIRING MUST COMPLY WITH CSA C22.1, PART I, ELECTRICAL CODE - LATEST EDITION.

WARNING LEGEND

- FACTORY INSTALLED
- CONNECTED
- PATH
- FIELD INSTALLED
- COMPONENT TERMINAL
- BUS BAR

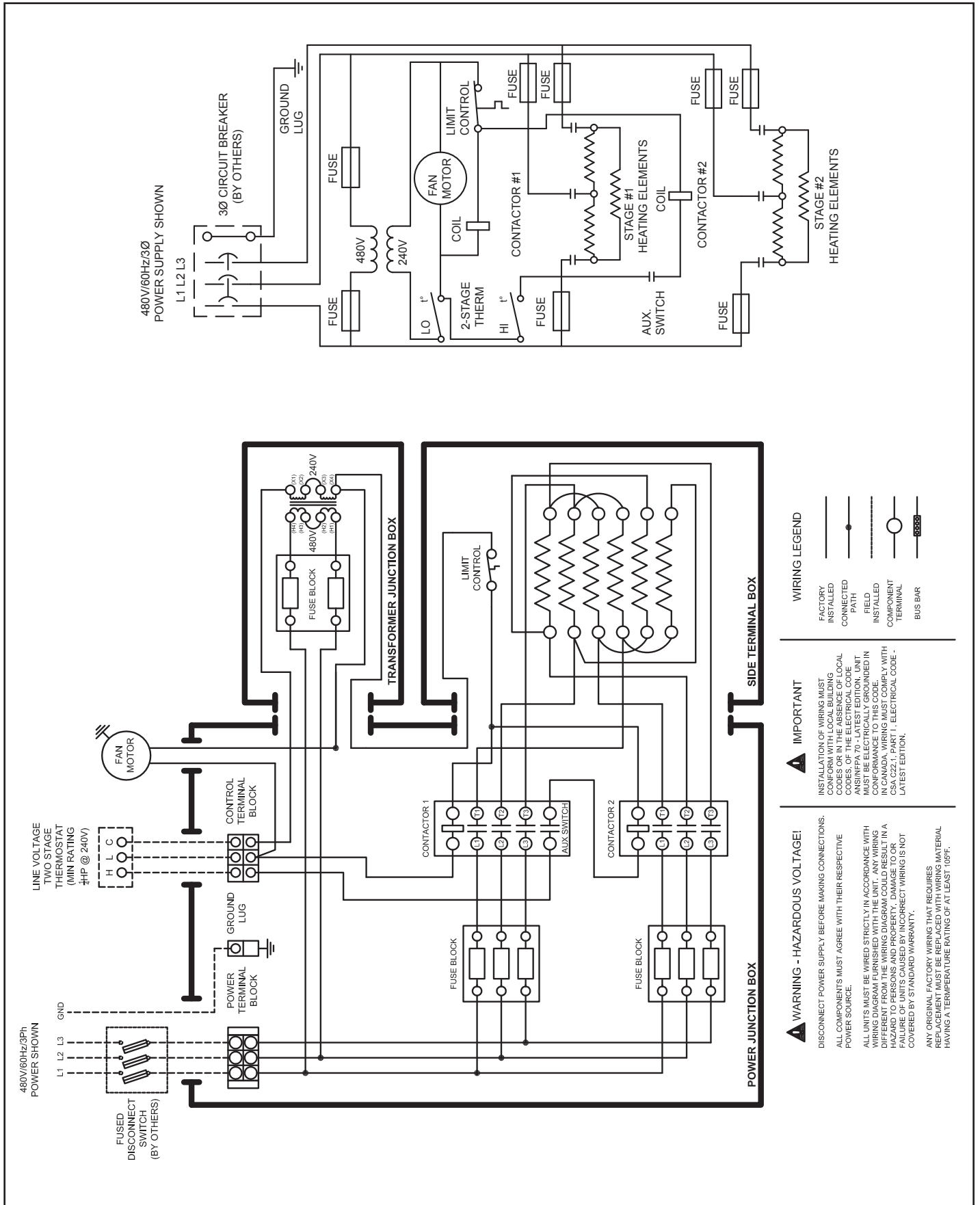
2-424.7 — WIRING DIAGRAM MODEL VE



5H0702530010

480V or 600V, three-phase power supply, 5kw, 7.5kw, 10kw Vertical Models

2-424.7 — WIRING DIAGRAMS MODELS VE, PTE



480V/60Hz/3Ø
POWER SUPPLY SHOWN

L1 L2 L3
3Ø CIRCUIT BREAKER
(BY OTHERS)

GROUND LUG

FUSE

FUSE

FUSE

FUSE

FUSE

FUSE

FUSE

FUSE

FUSE

FUSE

FUSE

FUSE

FUSE

FUSE

FUSE

LINE VOLTAGE
TWO STAGE
THERMOSTAT
(MIN RATING
1/2HP @ 240V)

H L C

CONTROL
TERMINAL
BLOCK

GROUND
LUG

POWER
TERMINAL
BLOCK

FAN
MOTOR

TRANSFORMER JUNCTION BOX

FUSE BLOCK

480V

240V

LIMIT
CONTROL

CONTACTOR #1

AUX SWITCH

CONTACTOR #2

FUSE BLOCK

FUSE BLOCK

POWER JUNCTION BOX

SIDE TERMINAL BOX

WIRING LEGEND



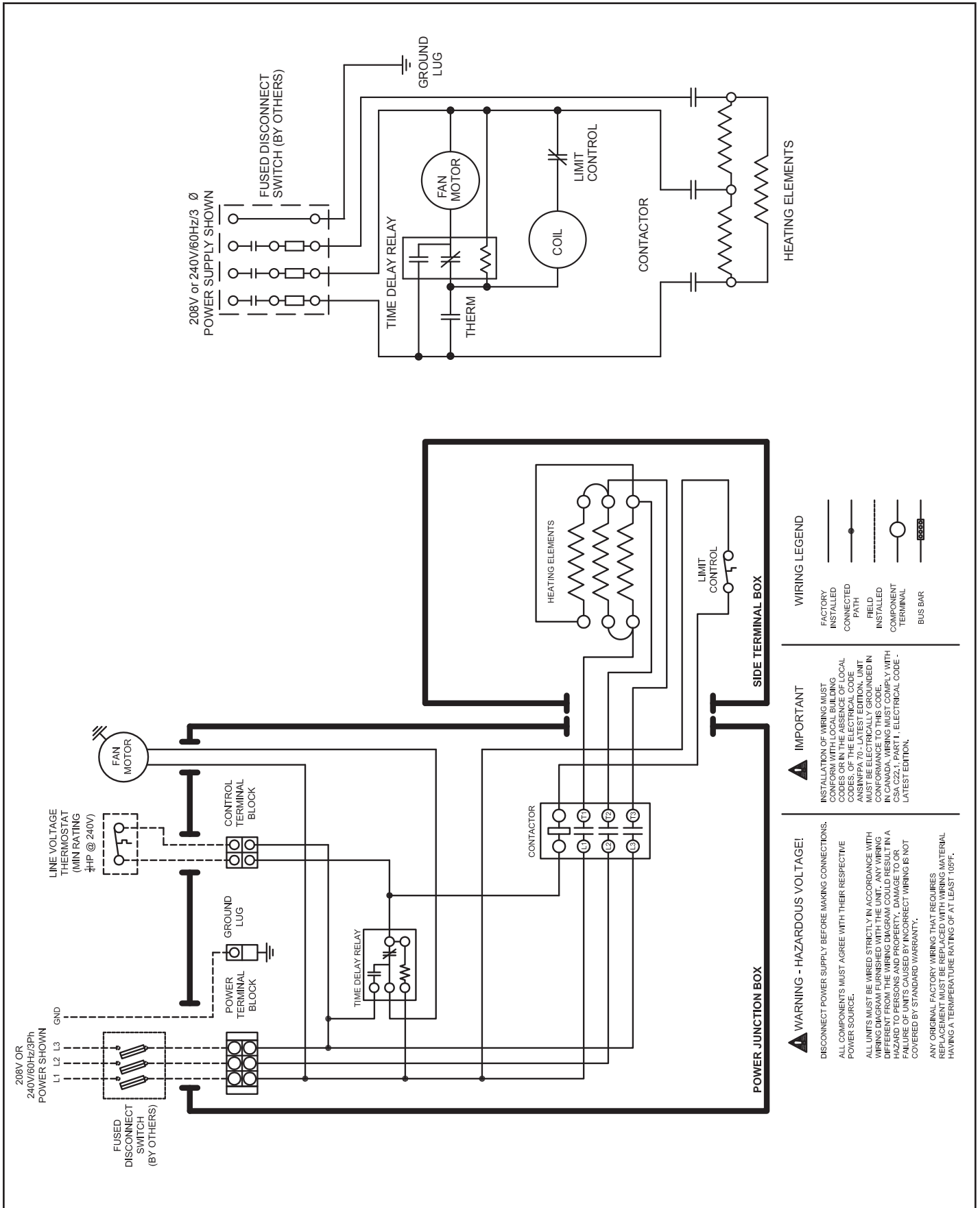
IMPORTANT

INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENCE OF LOCAL CODES, OF THE ELECTRICAL CODE OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) MUST BE ELECTRICALLY GROUNDED IN CONFORMANCE TO THIS CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE - LATEST EDITION.

WARNING - HAZARDOUS VOLTAGE!

DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS. ALL COMPONENTS MUST AGREE WITH THEIR RESPECTIVE POWER SOURCE. ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. DAMAGE TO OR FAILURE OF UNITS CAUSED BY INCORRECT WIRING IS NOT COVERED BY STANDARD WARRANTY. ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°F.

2-424.7 — WIRING DIAGRAM MODEL VE



5H0702530012

208V or 240-volt, three-phase power supply, 15kw, 20kw Vertical Models

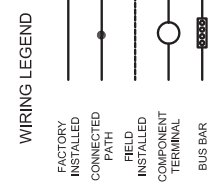
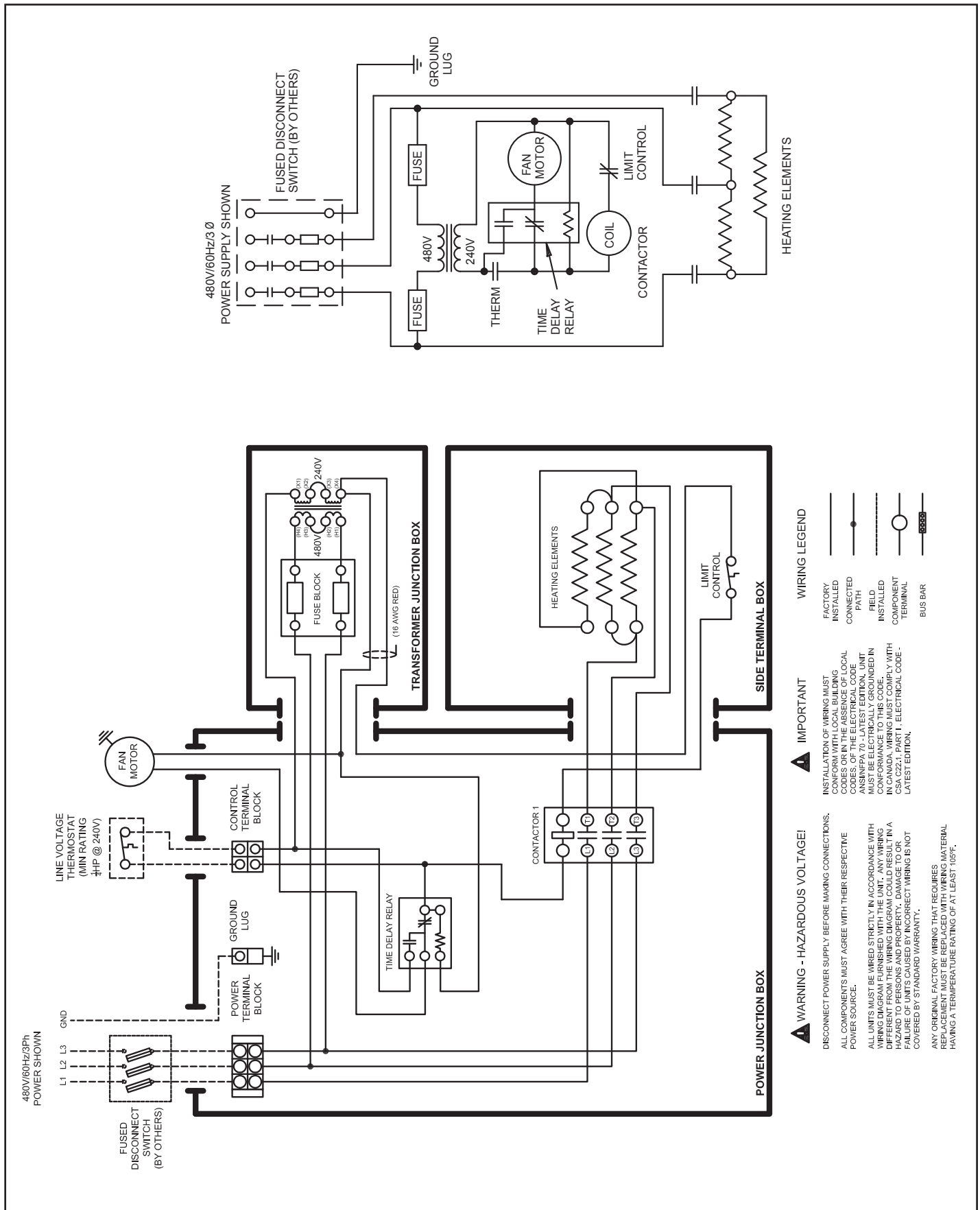
WARNING - HAZARDOUS VOLTAGE!
DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS. ALL COMPONENTS MUST AGREE WITH THEIR RESPECTIVE POWER SOURCE. ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH THE WIRING DIAGRAM. THE WIRING DIAGRAM SHALL BE A PRESENTATION OF THE WIRING AS SHOWN IN THE WIRING DIAGRAM. DAMAGE TO OR FAILURE OF UNITS CAUSED BY INCORRECT WIRING IS NOT COVERED BY STANDARD WARRANTY. ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°F.

IMPORTANT
INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENCE OF LOCAL CODES OF THE ELECTRICAL CODE ANSINFP 70 - LATEST EDITION. UNIT MUST BE ELECTRICALLY GROUNDED IN ACCORDANCE WITH THE CODE. CONDUIT WIRING SHALL CONFORM WITH CSA C22.1, PART I, ELECTRICAL CODE - LATEST EDITION.

WIRING LEGEND

- FACTORY INSTALLED CONNECTED PATH
- FIELD INSTALLED CONNECTED PATH
- COMPONENT TERMINAL
- BUS BAR

2-424.7 — WIRING DIAGRAM MODEL VE



IMPORTANT

INSTALLATION OF WIRING MUST CONFORM WITH LOCAL BUILDING CODES OR IN THE ABSENCE OF LOCAL CODES, OF THE ELECTRICAL CODE AND THE FACTORY WIRING UNIT MUST BE INSTALLED IN ACCORDANCE WITH THE CODE. IN CANADA, WIRING MUST COMPLY WITH CSA C22.1, PART 1, ELECTRICAL CODE - LATEST EDITION.

WARNING - HAZARDOUS VOLTAGE!

DISCONNECT POWER SUPPLY BEFORE MAKING CONNECTIONS. ALL COMPONENTS MUST AGREE WITH THEIR RESPECTIVE POWER SOURCE. ALL UNITS MUST BE WIRED STRICTLY IN ACCORDANCE WITH WIRING DIAGRAM FURNISHED WITH THE UNIT. ANY WIRING DIFFERENT FROM THE WIRING DIAGRAM COULD RESULT IN A HAZARD TO PERSONS AND PROPERTY. DAMAGE TO OR FAILURE OF UNITS CAUSED BY INCORRECT WIRING IS NOT COVERED BY STANDARD WARRANTY. ANY ORIGINAL FACTORY WIRING THAT REQUIRES REPLACEMENT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°F.

5H0702530013

480V or 600-volt, three-phase power supply, 15kw, 20kw, 25kw Vertical Models

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For SERVICE contact your local qualified installation and service contractor or appropriate utility company.

As Modine Manufacturing Company has a continuous product improvement program, it reserves the right to change design and specifications without notice.

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