Wiring Diagrams

DIAGRAM INDEX

POWER SCHEMATICS			
Unit 30GTN,GTR,GUN,GUR	**Voltage**	**Figure Number**	**Label Diagram No. 30GT-**
040-050	208/230PW,XL;380PW;380/415PW;460PW;575PW	1	511749
	380XL;380/415XL;460XL;575XL	2	511602
060,070	208/230PW,XL;380PW;380/415PW;460PW;575PW	3	511750
	380XL;380/415XL;460XL;575XL	4	511748
080,090,230B,245B	208/230PW,XL;380PW;380/415PW;460PW;575PW	5	510570
	380XL;380/415XL;460XL;575XL	6	510518
100,110,255B-315B	208/230PW,XL;380PW;380/415PW;460PW;575PW	7	510571
	380XL;380/415XL;460XL;575XL	8	510519
130,150,230A-255A	208/230PW,XL;230*PW,XL	9	513262
	380PW;380/415PW;460PW;575PW	10	513264
	380XL;380/415XL;460XL;575XL	11	513266
170,190,270A,290A,330A/B,360A/B,390B	208/230PW,XL;230*PW,XL	12	513263
	380PW;380/415PW;460PW;575PW	13	513265
170-210,270A-315A,330A/B-420A/B	380XL;380/415XL;460XL;575XL	14	513267
	208/230PW,XL;230*PW,XL	15	513854
	380PW;380/415PW;460PW;575PW	16	513855
130-210,230A-315A,330A/B-420A/B	ALL	17	513269

CONTROL SCHEMATICS			
Unit 30GTN,GTR,GUN,GUR	**Voltage**	**Figure Number**	**Label Diagram No. 30GT-**
040-070	24	18	514912
080-110,230B-315B	24	19	514909
130-230,230A-315A,330A/B-420A/B	24	20	515168
040-110,230B-315B	115,230	21	514910
040-070	115,230	22	514914
080-110,230B-315B	115,230	23	514911
130-210,230A-315A,330A/B-420A/B	115,230	24	515279, 515280

LEGEND

PW — Part-Wind Start
XL — Across-the-Line Start

*130-210 and 330A/B-420A/B only.

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

DIAGRAM INDEX (cont)

COMPONENT ARRANGEMENTS

Unit 30GTN,GTR,GUN,GUR	Voltage	Type	Figure Number	Label Diagram No. 30GT-
040-070	All	Control/Power Box	25	515190
080-110,230B-315B	All	Control/Power Box	26	515191
130-210,230A-315A, 330A/B-420A/B	All	Control Box	27	515281
130,150,230A-255A	208/230PW,XL;230*PW,XL	Power Box	28	513262
	380PW;380/415PW;460PW;575PW	Power Box	29	513264
	380XL;380/415XL;460XL;575XL	Power Box	30	513266
170,190,270A,290A,330A/B, 360A/B,390B	208/230PW,XL;230*PW,XL	Power Box	31	513263
	380PW;380/415PW;460PW;575PW	Power Box	32	513265
	380XL;380/415XL;460XL;575XL	Power Box	33	513267
210,315A,390A,420A/B	208/230PW,XL;230*PW,XL	Power Box	34	513854
	380PW;380/415PW;460PW;575PW	Power Box	35	513855
	380XL;380/415XL;460XL;575 XL	Power Box	33	513267

FIELD WIRING

Unit 30GTN,GTR,GUN,GUR	Wiring Type	Voltage	Figure Number	Label Diagram No. 30GT-
040-420	Control and Diagnostic Information	All	36	515164
040,050,060,070	Field Control and Power	208/230, 460, 575, 380, 380/415	37	515315
080,090,100,110,230 B-315B	Field Control and Power	208/230, 460, 575, 380, 380/415	38	515314
150,170,190,210,230A-315A,330A/B-420A/B	Field Control and Power	208/230, 460, 575, 380, 380/415	39	515316

MOTORMASTER® CONTROL WIRING

Unit 30GTN,GTR,GUN,GUR	Voltage	Figure Number	Label Diagram No. 30GT-
040-050	575	40	512280
060,070	575	41	512281
080-110,230B-315B	575	42	512207
130-210,230A-315A,330A/B-420A/B	575	43	513270

*130-210 and 330A/B-420A/B only.

SAFETY CONSIDERATIONS

Installing, starting up, and servicing this equipment can be hazardous due to system pressures, electrical components, and equipment location (roofs, elevated structures, etc.).

Only trained, qualified installers and service mechanics should install, start up, and service this equipment.

Untrained personnel can perform basic maintenance functions such as cleaning coils. All other operations should be performed by trained service personnel.

When working on the equipment, observe precautions in the literature and on tags, stickers, and labels attached to the equipment. Follow all safety codes. Wear safety glasses and work gloves. Use care in handling, rigging, and setting bulky equipment.

ELECTRIC SHOCK HAZARD

Open all remote disconnects before servicing this equipment.

TERMINAL BLOCK DATA

Units have the following power wiring terminal blocks and parallel conductors:

UNIT 30GTN,GTR, GUN,GUR	VOLTAGE	TERMINAL BLOCKS	PARALLEL CONDUCTORS
040 to 070	208/230	1	3 (040,045), 6 (050-070)
	460	1	3
	575	1	3
	380	1	3
	380/415	1	3
080 to 110, 230B to 315B	208/230	1	6
	460	1	3
	575	1	3
	380	1	3
	380/415	1	3
130 to 210, 230A to 315A 330A/B to 420A/B	208/230	3	9
	460	2	6
	575	2	6
	380	2	6
	230*	3	9
	380/415	2	6

*130-210 and 330A/B-420A/B only.

MODULAR UNIT INFORMATION

Unit sizes 230-420 are modular units which are shipped in separate sections as modules A and B. Installation directions specific to these units are noted in base unit installation instructions. See Table 1 for a listing of unit sizes and modular combinations.

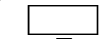
Table 1 — Unit Sizes and Modular Combinations

UNIT MODEL 30GTN,GTR, GUN,GUR	NOMINAL TONS	MODULE A UNIT 30GTN,GTR, GUN,GUR	MODULE B UNIT 30GTN,GTR, GUN,GUR
040	40	—	—
045	45	—	—
050	50	—	—
060	60	—	—
070	70	—	—
080	80	—	—
090	90	—	—
100	100	—	—
110	110	—	—
130	125	—	—
150	145	—	—
170	160	—	—
190	180	—	—
210	200	—	—
230	220	150	080
245	230	150	090
255	240	150	100
270	260	170	100
290	280	190	110
315	300	210	110
330	325	170	170
360	350	190	190/170*
390	380	210	190
420	400	210	210

*60 Hz units/50 Hz units.

LEGEND (Fig. 1-35 and 37-44)

ALM — Alarm
ALMR — Alarm Relay
C — Contactor, Compressor
CB — Circuit Breaker
CCN — Carrier Comfort Network
CGF — Circuit Ground Fault
CH — Crankcase Heater
CHC — Cooler Heater Cable
CHT — Cooler Heater Thermostat
CKT — Circuit
CLHR — Cooler Heater Relay
COM — Communications
COMP — Compressor
CONT PWR — Control Power
CPCS — Compressor Protection Control Module
CR — Control Relay
CWFS — Chilled Water (Fluid) Flow Switch
CWP — Chilled Water (Fluid) Pump
CWPI — Chilled Water (Fluid) Pump Interlock
DU — Dummy Terminal
EMM — Energy Management Module
EQUIP — Equipment
EXV — Electronic Expansion Valve
FC — Fan Contactor
FCB — Fan Circuit Breaker
FIOP — Factory-Installed Option
FM — Fan Motor
FU — Fuse
GFI-CO — Ground Fault Interrupter-Convenience Outlet
GND — Ground
HGBPS — Hot Gas Bypass Solenoid
HPS — High-Pressure Switch
kcmil — Thousand Circular Mils
LCS — Loss-of-Charge Switch
LED — Light-Emitting Diode
LEN — Local Equipment Network
LID — Local Interface Device
LLSV — Liquid Line Solenoid Valve
MBB — Main Base Board
MMSN — Motormaster® Device Sensor
NC — Normally Closed
NEC — National Electrical Code (U.S.A.)
NO — Normally Open
OAT — Outdoor-Ar Temperature Sensor
OPS — Oil Pressure Switch
PL — Plug Assembly
PRI — Primary
PW — Part Wind Start
PWR — Power
RB — Relay Board
RS — Request to Send
SN — Sensor (Toroid)
SPT — Suction Pressure Transducer
SW — Switch
T1,T2, etc. — Thermistor Numbers
TB — Terminal Block
TDR — Time Delay Relay
TEMP — Temperature
TRAN — Transformer
TXV — Thermostatic Expansion Valve
U, UL — Unloader


Terminal Block Connection


Marked Terminal


Unmarked Terminal


Unmarked Splice


Marked Wire


Marked Splice

Factory Wiring

Field Control Wiring

Field Power Wiring

Indicates Common Potential. Does Not Represent Wiring.

Accessory or Option Wiring

NOTES

1. Fan motors thermally protected. Three-phase motors protected against primary single-phasing conditions.
2. Replacement of original wires must be with type 105° C wire or its equivalent.
3. Numbers on the right side of the label diagrams indicate the line location of applicable contacts. An underlines number signifies normally closed contacts, a plain number denotes normally open contacts. Line numbers are shown on the left side of the diagrams.
4. Factory wiring is in accordance with NEC. Field modifications or additions must be in compliance with all applicable codes.
5. Wiring for main field power supply must be rated 75° C minimum. Use copper, copper-clad aluminum or aluminum conductors for all units, except use copper conductors only for ALL 208/230-v 30GTN,GTR,GUN,GUR210 and associated modular units (part wind and across-the-line start).
6. Unit Sizes 040-070: For 208/230-, 460-, and 575-v units, minimum wire amps and maximum fuse size is 20 amps for 115-v control power. For 380-, 380/415- and 346-v units *with* cooler heaters, minimum wire amps and maximum fuse size is 10 amps for 230-v control power; *without* cooler heaters, minimum wire amps and maximum fuse size is 5 amps for 230-v control power. A dual element fuse should be used. Use copper conductors only at TB4 terminals 1 and 2.

   Unit Sizes 080-420: Power for control circuit should be supplied from a separate source through a field-supplied disconnect with 30 amp maximum protection for 115-v control circuits and 15 amp maximum protection for 230-v control circuit. Connect control circuit power to terminals 1 and 2 of TB4. Connect neutral side of supply to terminal 2 of TB4. Control circuit conductors for all units must be copper only.
7. All Units: Terminals 1 and 2 of TB5 are for field connection of CWFS and CWPI. Terminals 13 and 14 are for field connection of remote On-Off control. The contacts must be rated for dry circuit application capable of handling a 5 vdc, 5 mA load.
8. All Units: Terminals 11 and 12 of TB5 are for field remote alarm connections. Terminals 10 and 12 of TB5 are for control of chilled water pump starter. Electrical rating for both relays is 115-v (208/230, 460, 575-v units) or 230-v (380, 380/415-v units). Maximum load is 75 va sealed, 360 va inrush.
9. Maximum wire size unit terminal block will accept is 500 kcmil. All units may use copper conductors. Copper-clad aluminum or aluminum conductors can also be used on all units except 30GTN,GTR,GUN,GUR110 380/415-3-50 part-wind start units.

   For 208/230-3-60 units, larger than 500 kcmil conductors are required. Therefore, power must be supplied by 6 parallel conductors for these units, from the appropriate disconnect(s).
10. Main power must be supplied to the unit thorough a field-supplied fused disconnect, within sight from the unit and easily accessible, in accordance with NEC.
11. These units are suitable for use on electrical systems where the voltage supplied to the unit terminals is not outside the following limits:

NAMEPLATE VOLTAGE	SUPPLIED RANGE	
	Min	Max
208/230-3-60	187	253
230-3-50	207	253
380-3-60	342	418
380/415-3-50	342	440
460-3-60	414	506
575-3-60	518	633

12. On 30GTN,GTR040,045 units with both brine option and TXV, only 1 accessory unloader can be added. It should be added to circuit B. If an accessory unloader is added to circuit A, or a second accessory unloader is added to circuit B, unit will not pump out when shutting down.

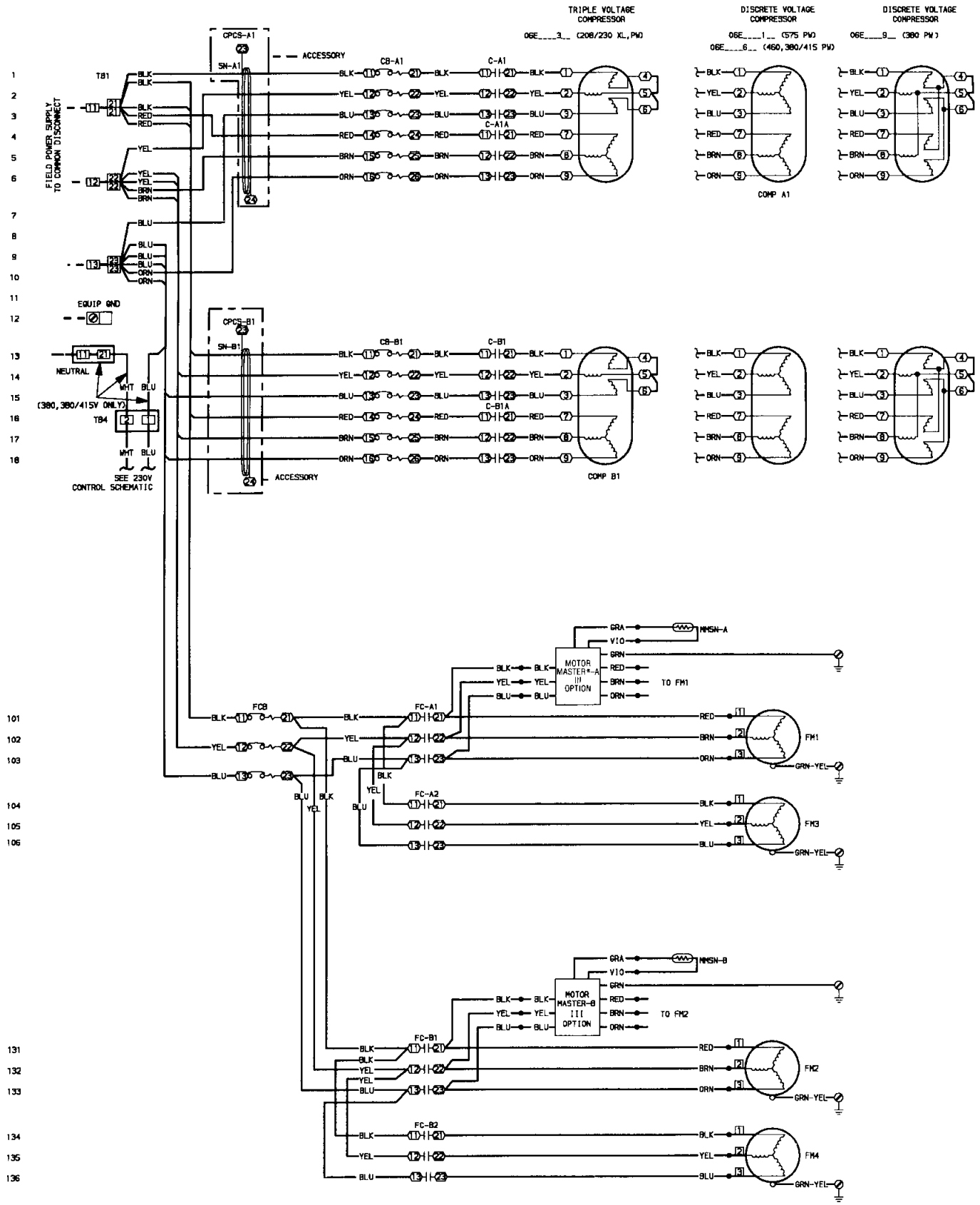


Fig. 1 — Power Schematic; 30GTN,GTR,GUN,GUR040-050; 208/230 V - PW, XL; 380, 380/415, 460, 575 V - PW

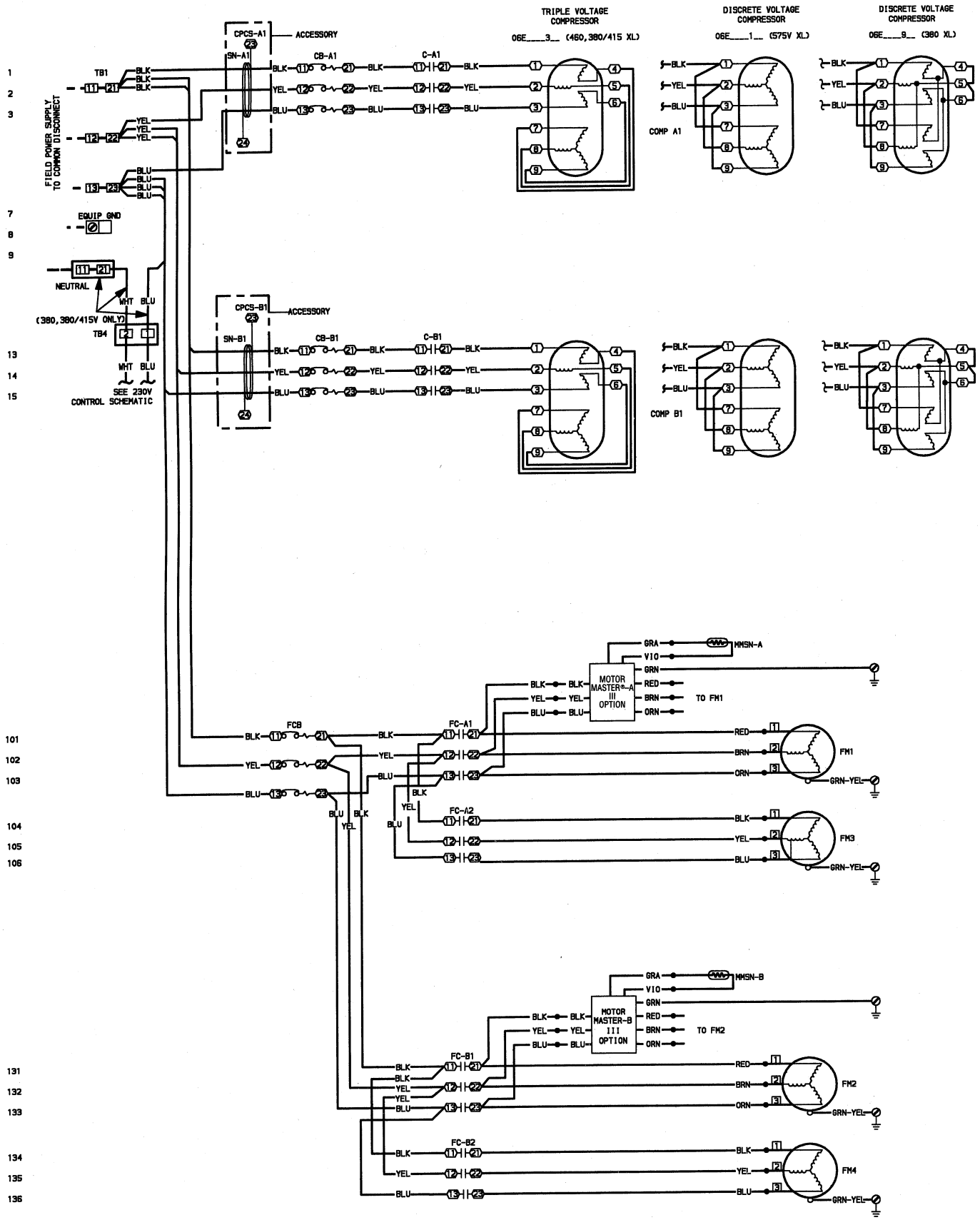


Fig. 2 — Power Schematic; 30GTN,GTR,GUN,GUR040-050; 380, 380/415, 460, 575 V - XL

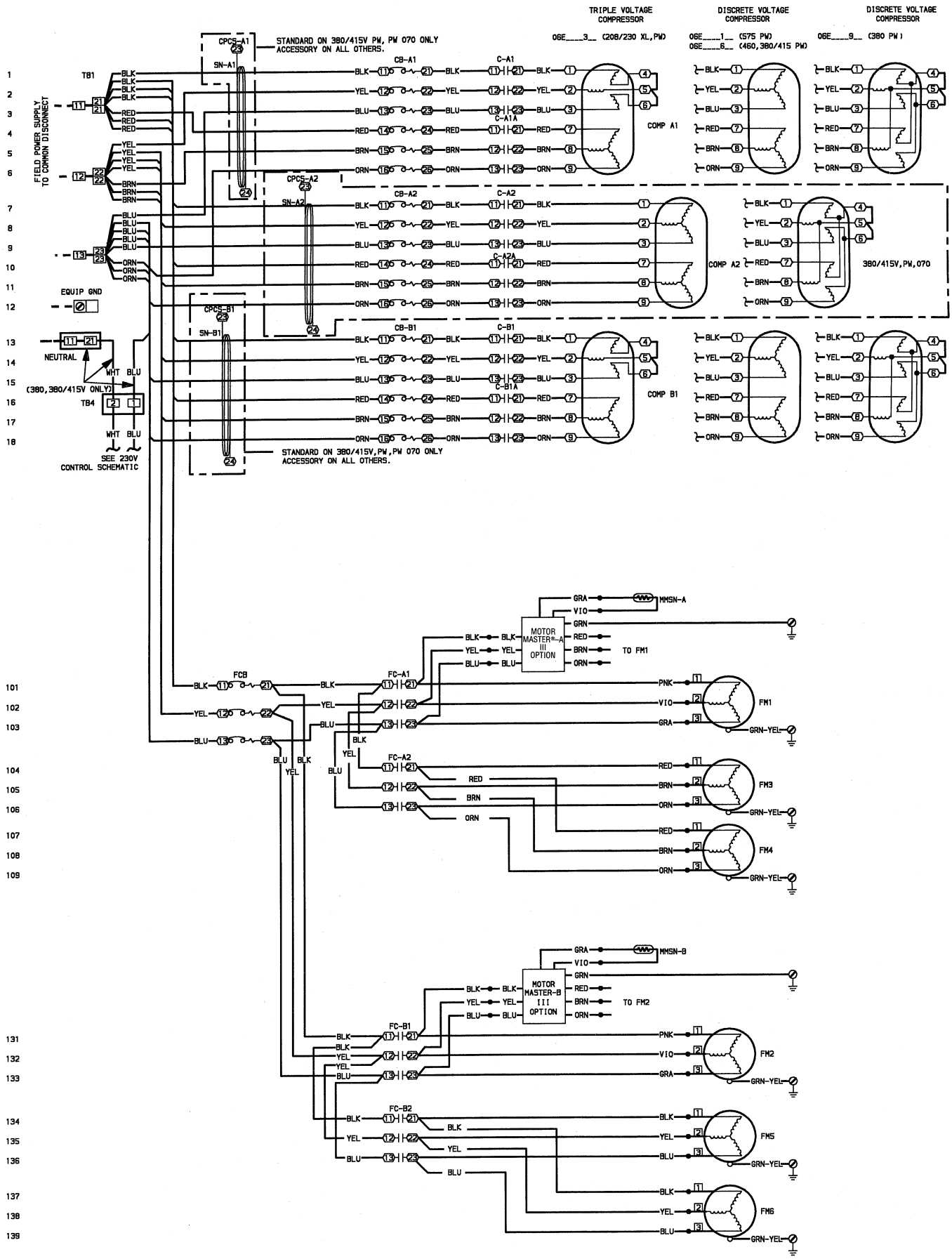


Fig. 3 — Power Schematic; 30GTN,GTR,GUN,GUR060, 070; 208/230 V - PW, XL; 380, 380/415, 460, 575 V - PW

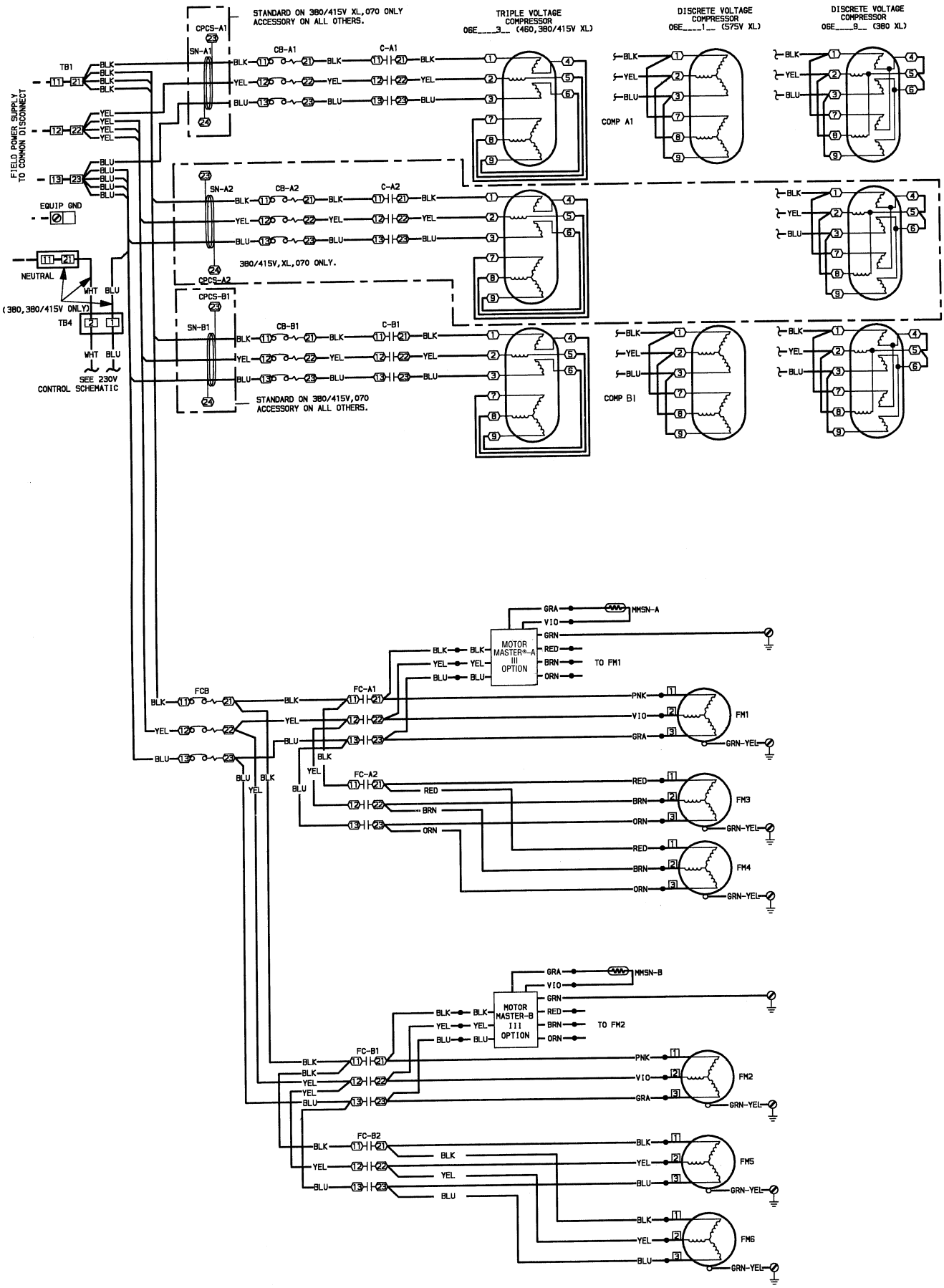


Fig. 4 — Power Schematic; 30GTN,GTR,GUN,GUR060, 070; 380, 380/415, 460, 575 V - XL

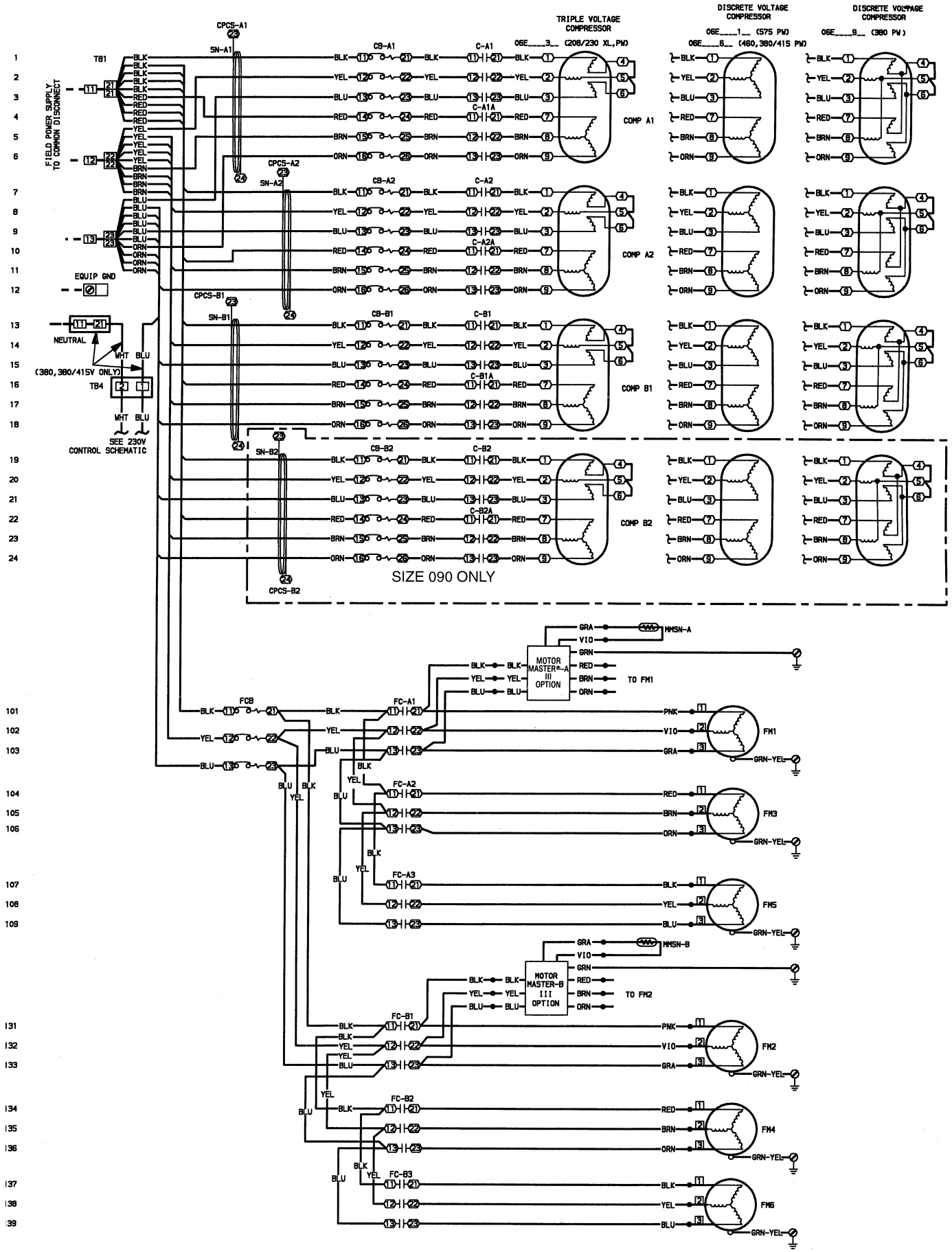


Fig. 5 — Power Schematic; 30GTN,GTR,GUN,GUR080, 090, 230B, 245B; 208/230 V - PW, XL; 380, 380/415, 460, 575 V - PW

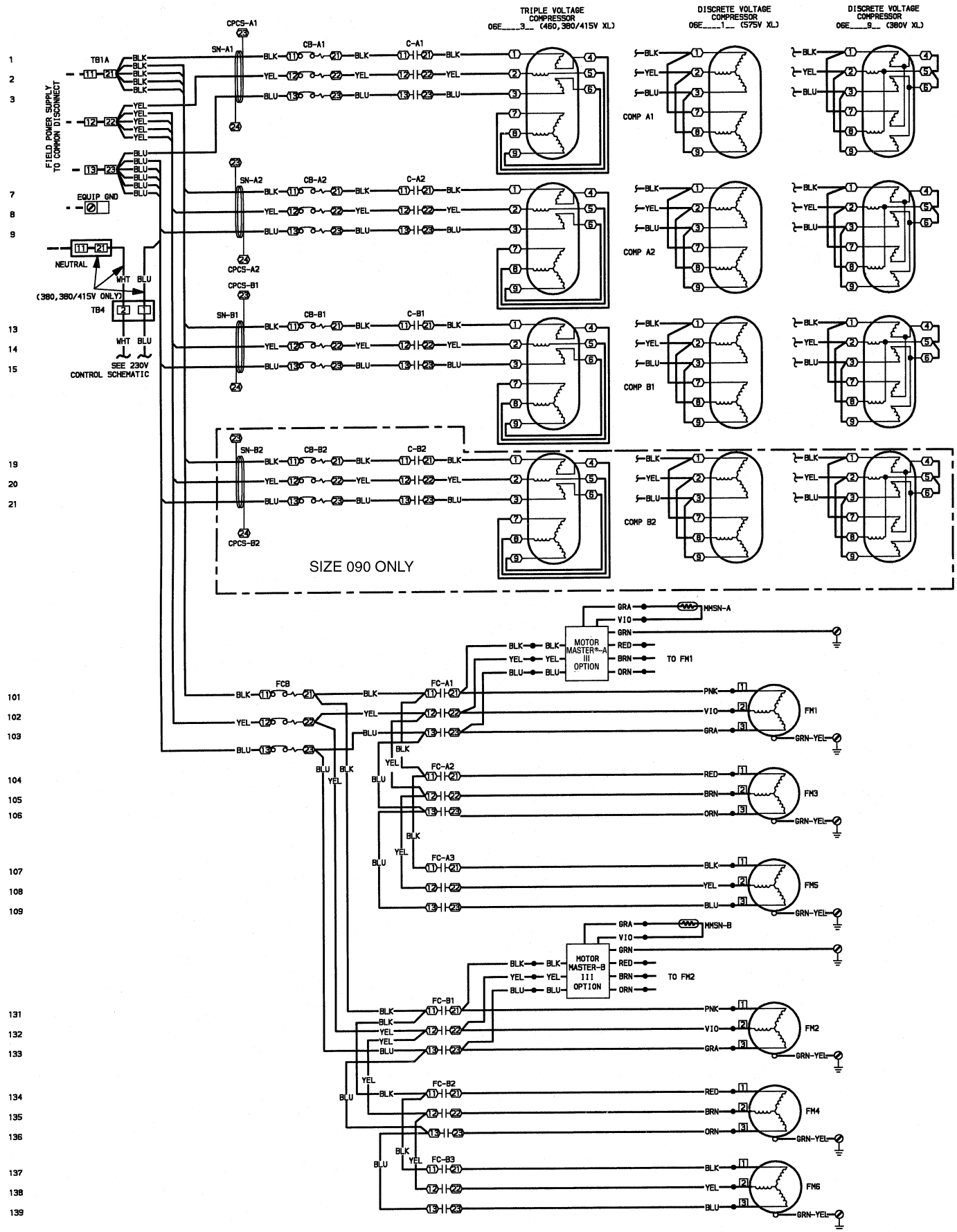


Fig. 6 — Power Schematic; 30GTN,GTR,GUN,GUR080, 090, 230B, 245B; 380, 380/415, 460, 575 V - XL

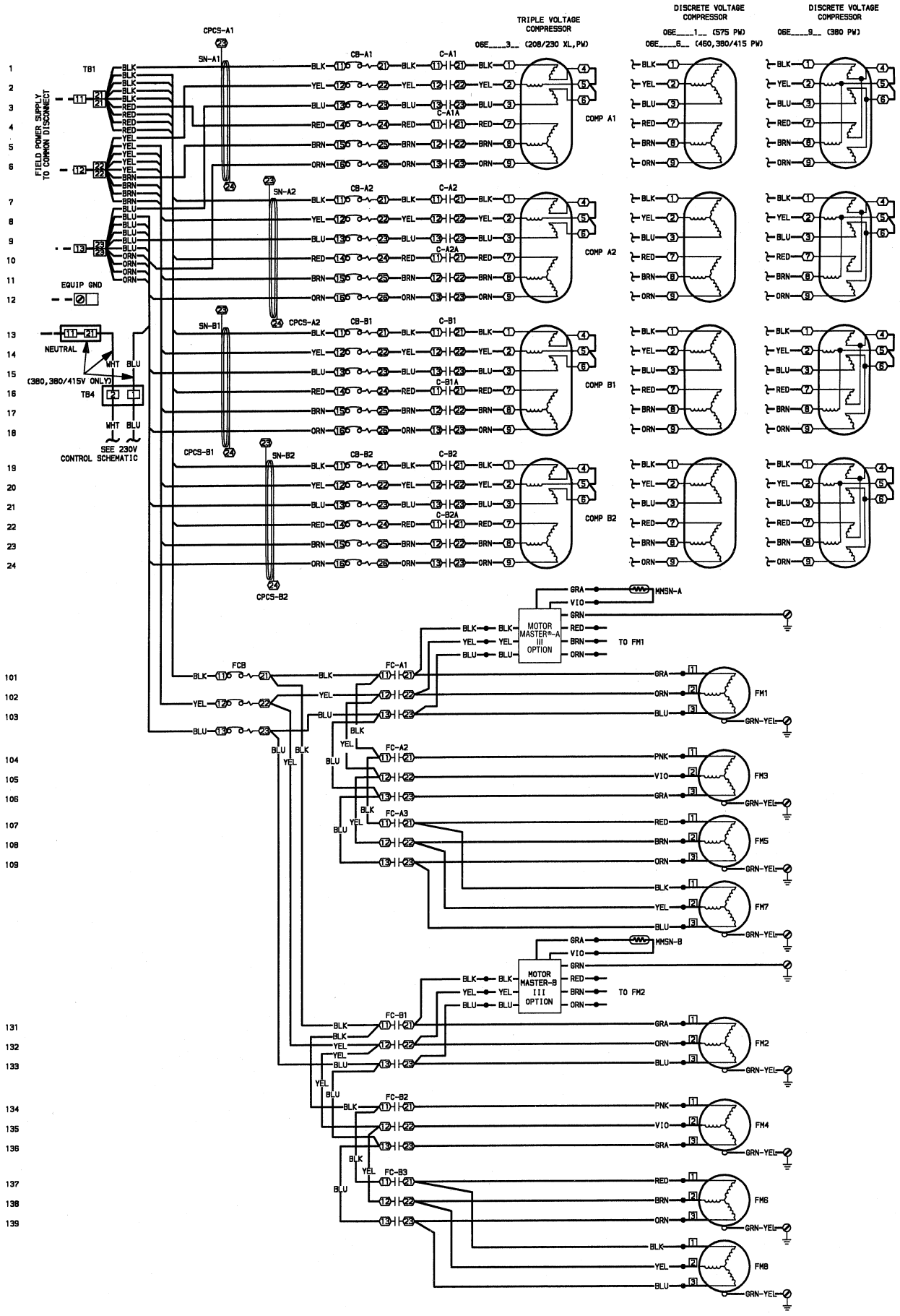


Fig. 7 — Power Schematic; 30GTN,GTR,GUN,GUR100, 110, 255B-315B; 208/230 V - PW, XL; 380, 380/415, 460, 575 V - PW

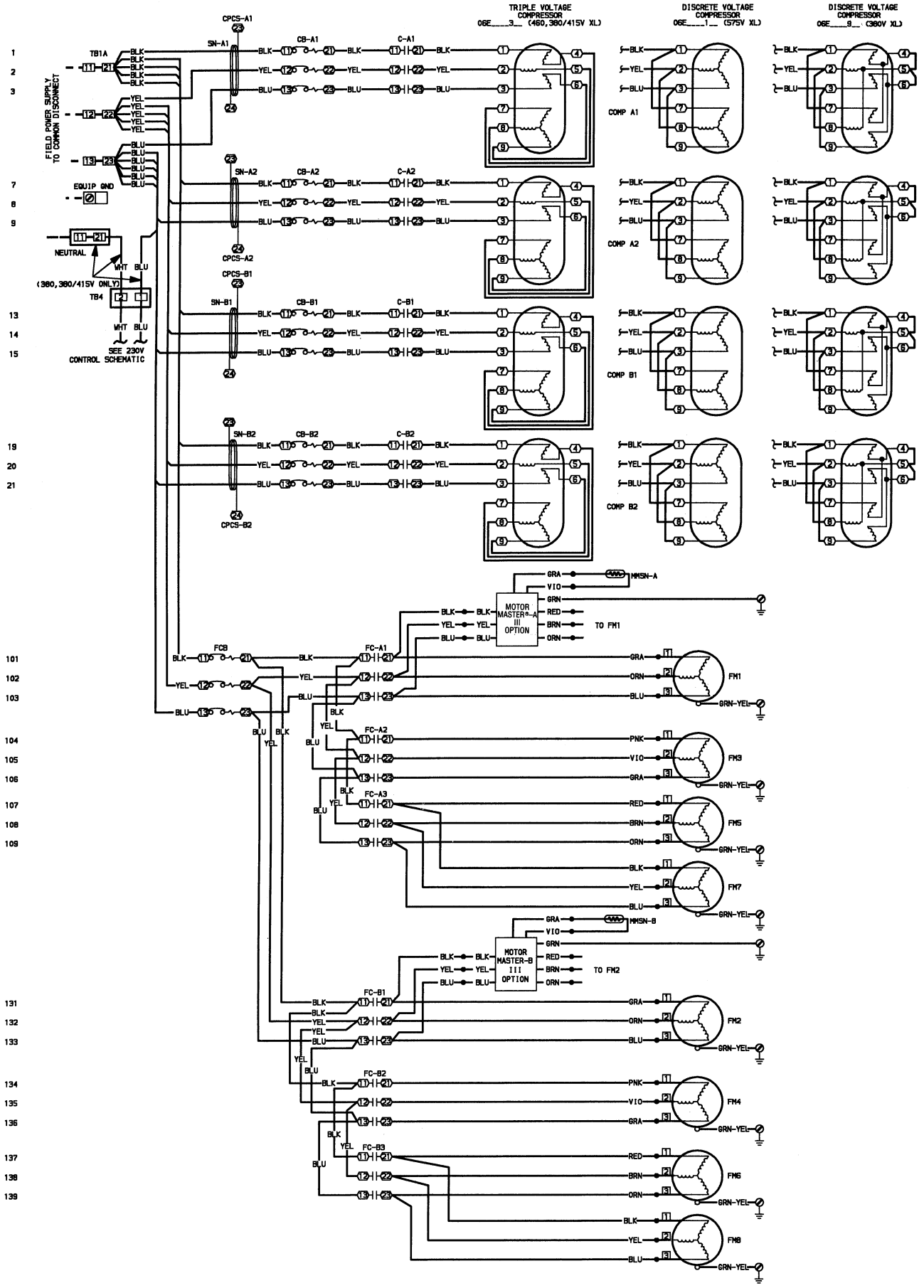


Fig. 8 — Power Schematic; 30GTN,GTR,GUN,GUR100, 110, 255B-315B; 380, 380/415, 460, 575 V - XL

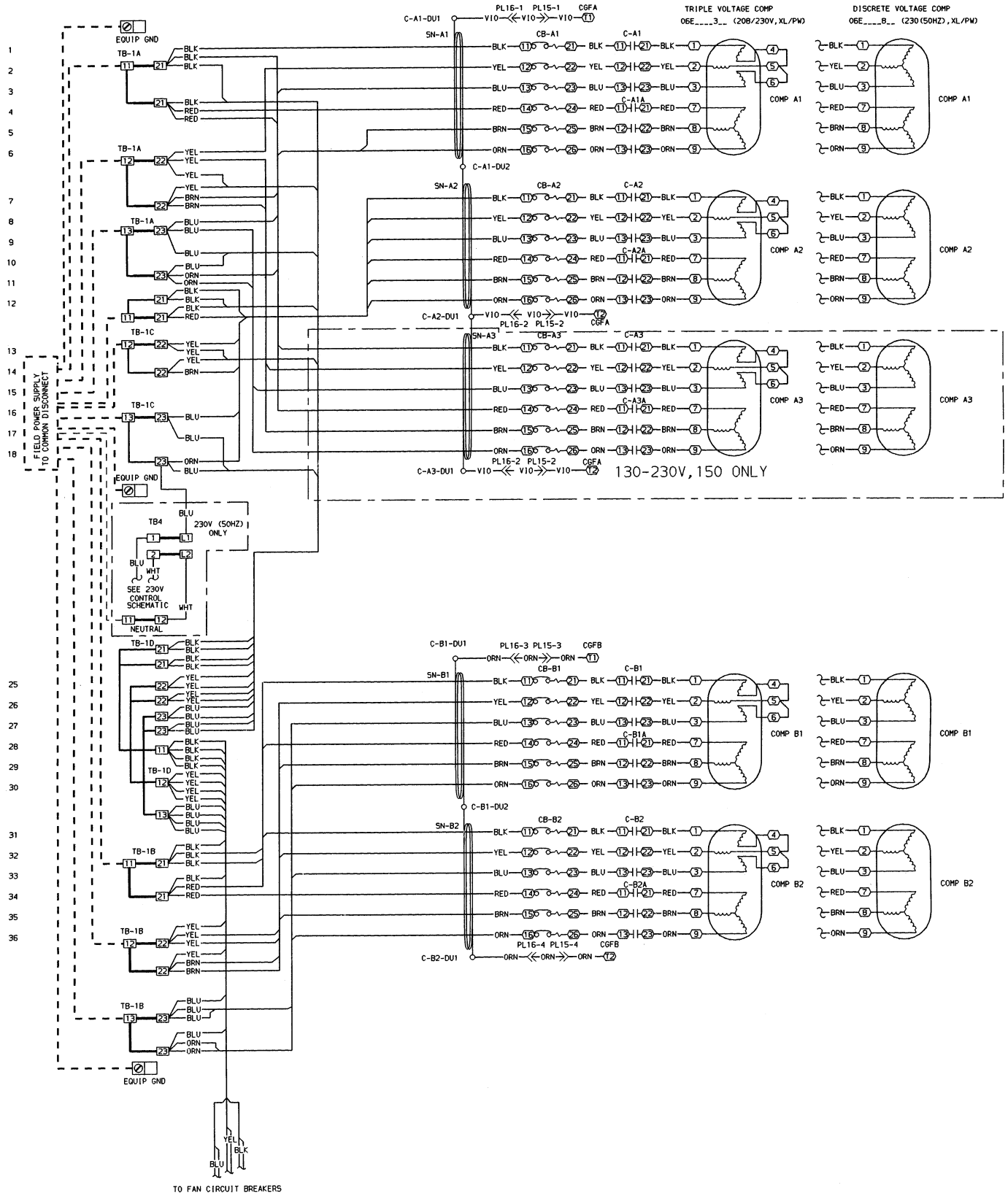


Fig. 9 — Power Schematic; 30GTN,GTR,GUN,GUR130, 150, 230A-255A; 208/230, 230 V - PW, XL

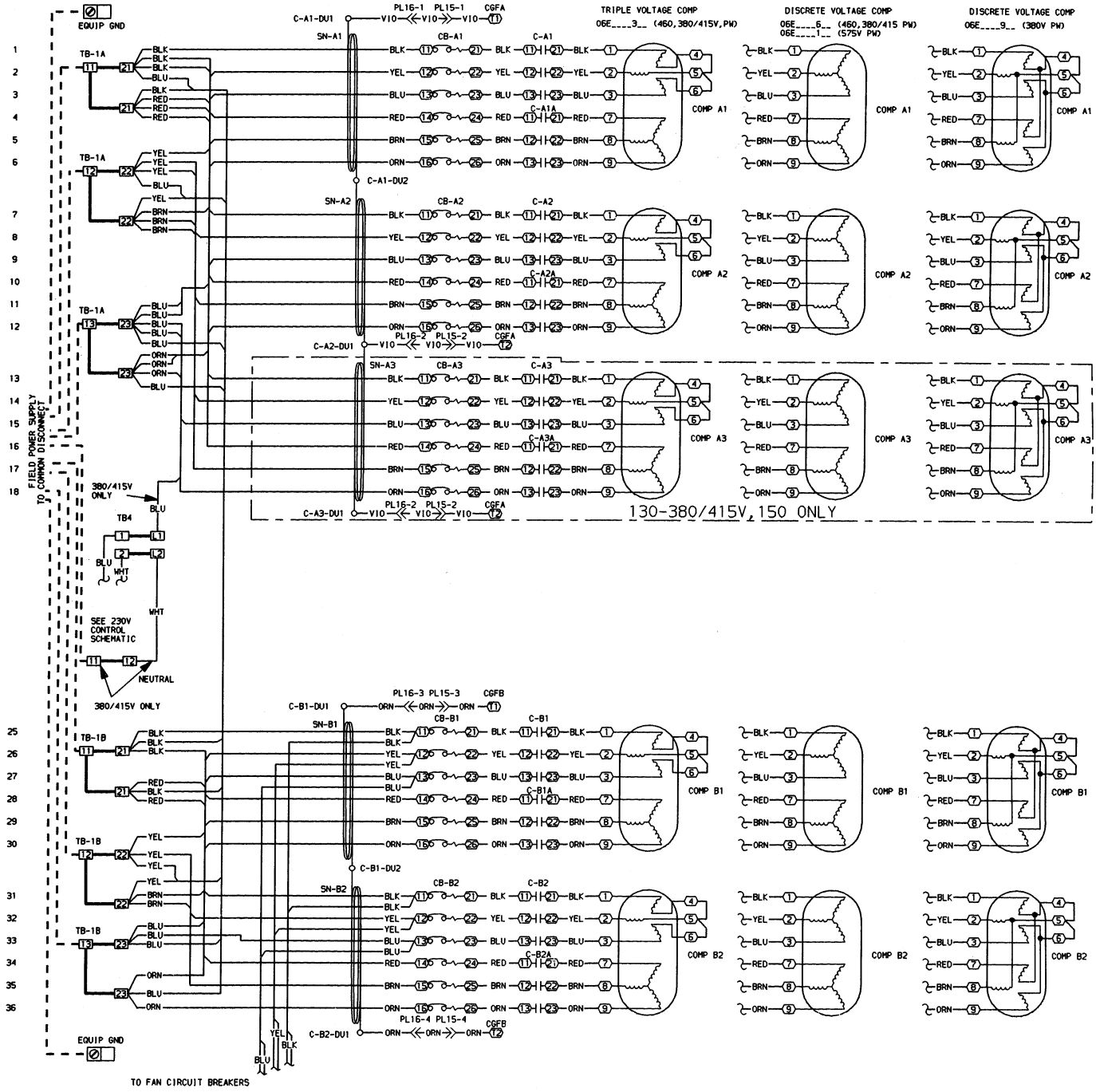


Fig. 10 — Power Schematic; 30GTN,GTR,GUN,GUR130, 150, 230A-255A; 380, 380/415, 460, 575 V - PW

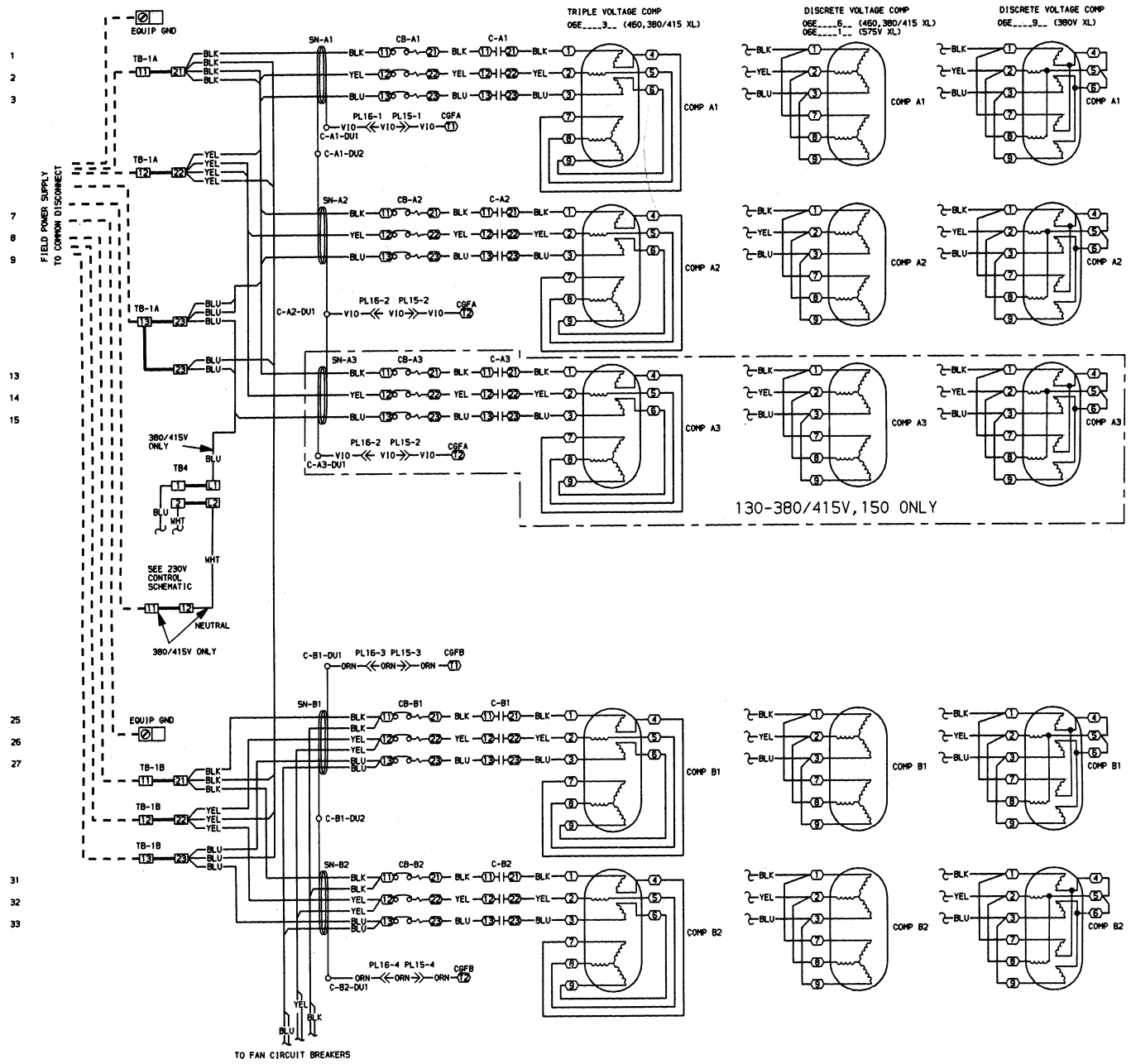


Fig. 11 — Power Schematic; 30GTN,GTR,GUN,GUR130, 150, 230A-255A; 380, 380/415, 460, 575 V - XL

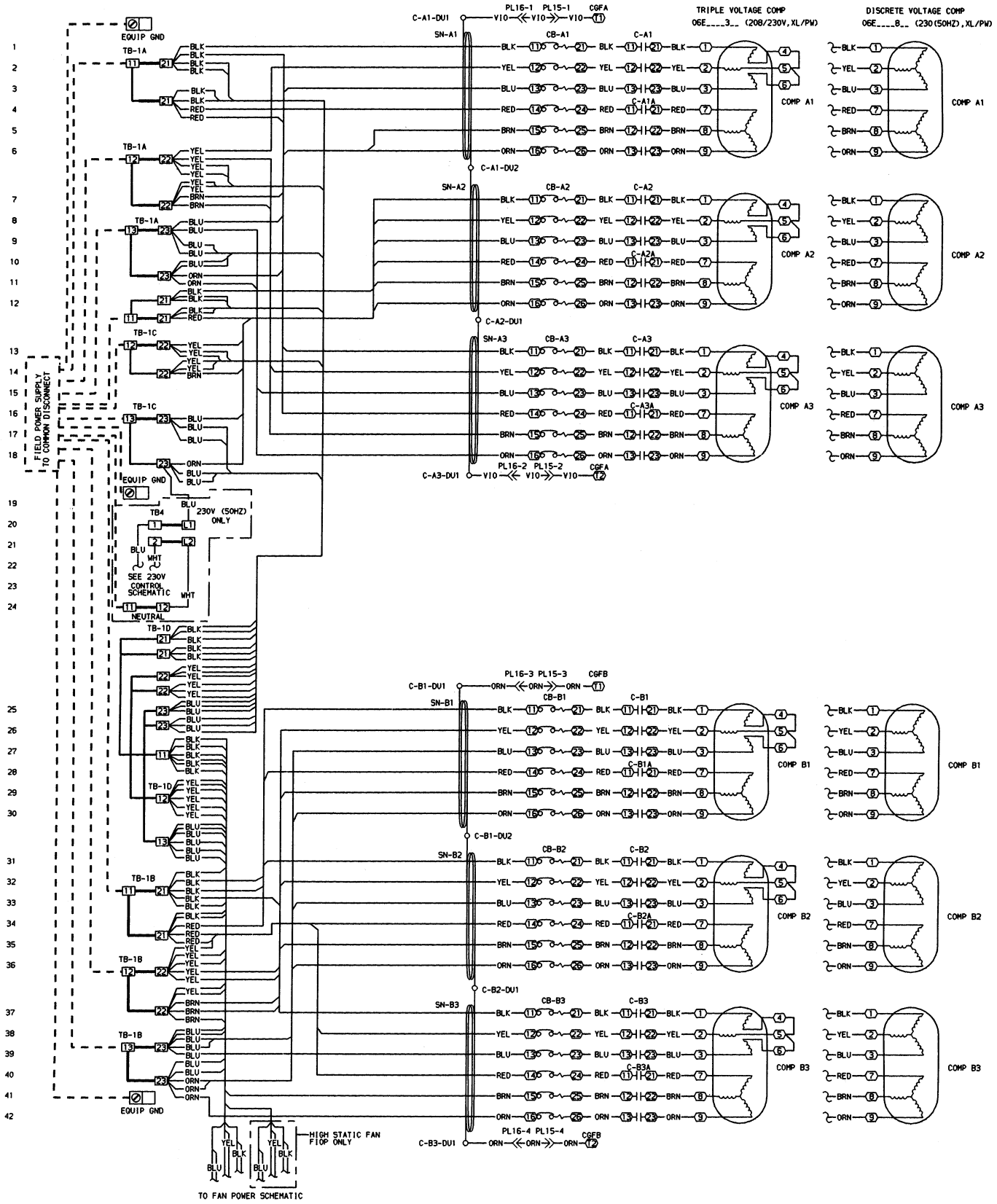


Fig. 12 — Power Schematic; 30GTN,GTR,GUN,GUR170, 190, 270A, 290A, 330A/B, 360A/B, 390B; 208/230, 230 V - PW, XL

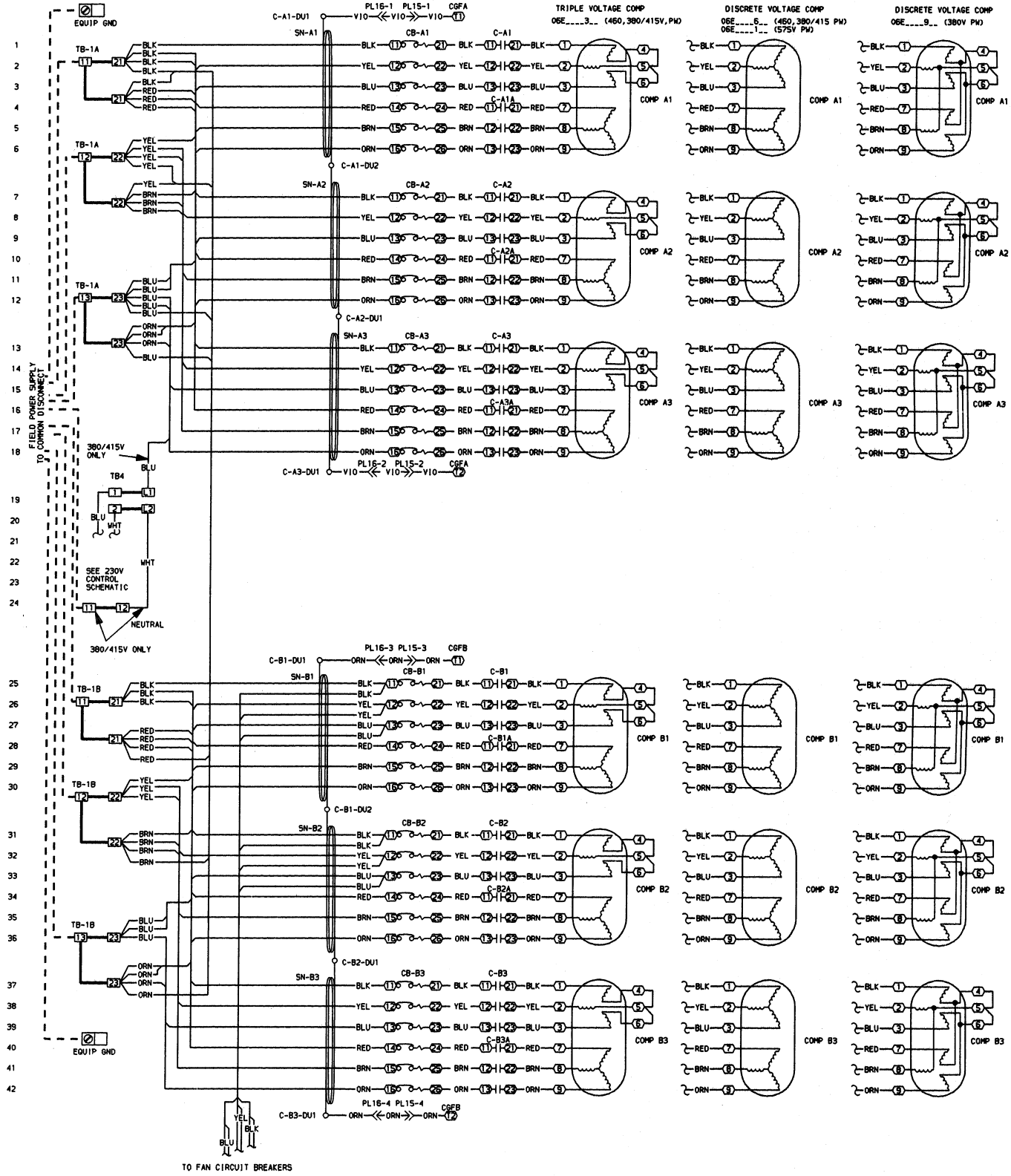


Fig. 13 — Power Schematic; 30GTN,GTR,GUN,GUR170, 190, 270A, 290A, 330A/B, 360A/B, 390B; 380, 380/415, 460, 575 V - PW

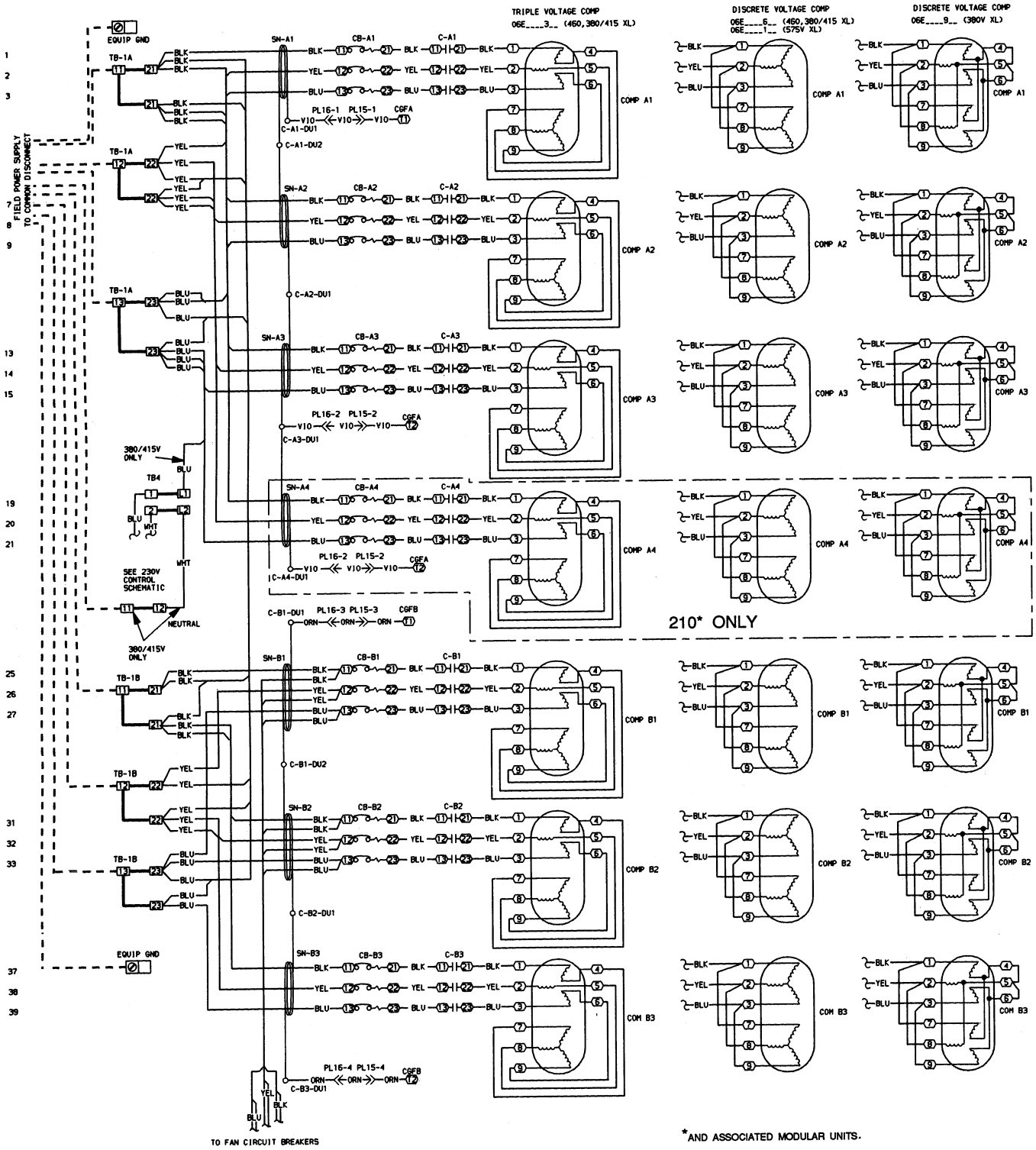


Fig. 14 — Power Schematic; 30GTN,GTR,GUN,GUR170-210, 270A-315A, 330A/B-420A/B; 380, 380/415, 460, 575 V - XL

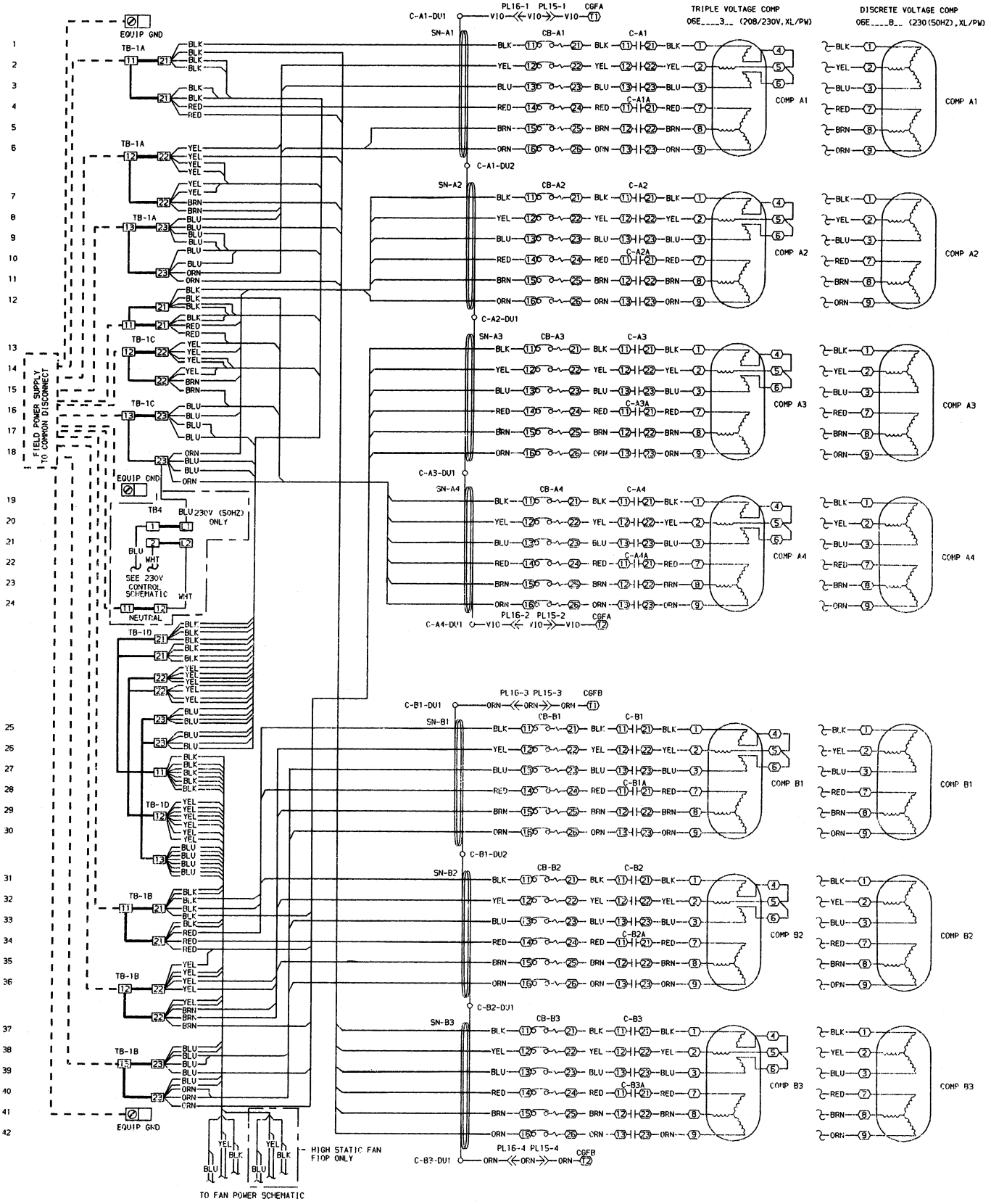


Fig. 15 — Power Schematic; 30GTN,GTR,GUN,GUR210, 315A, 390A, 420A/B; 208/230, 230 V - PW,XL

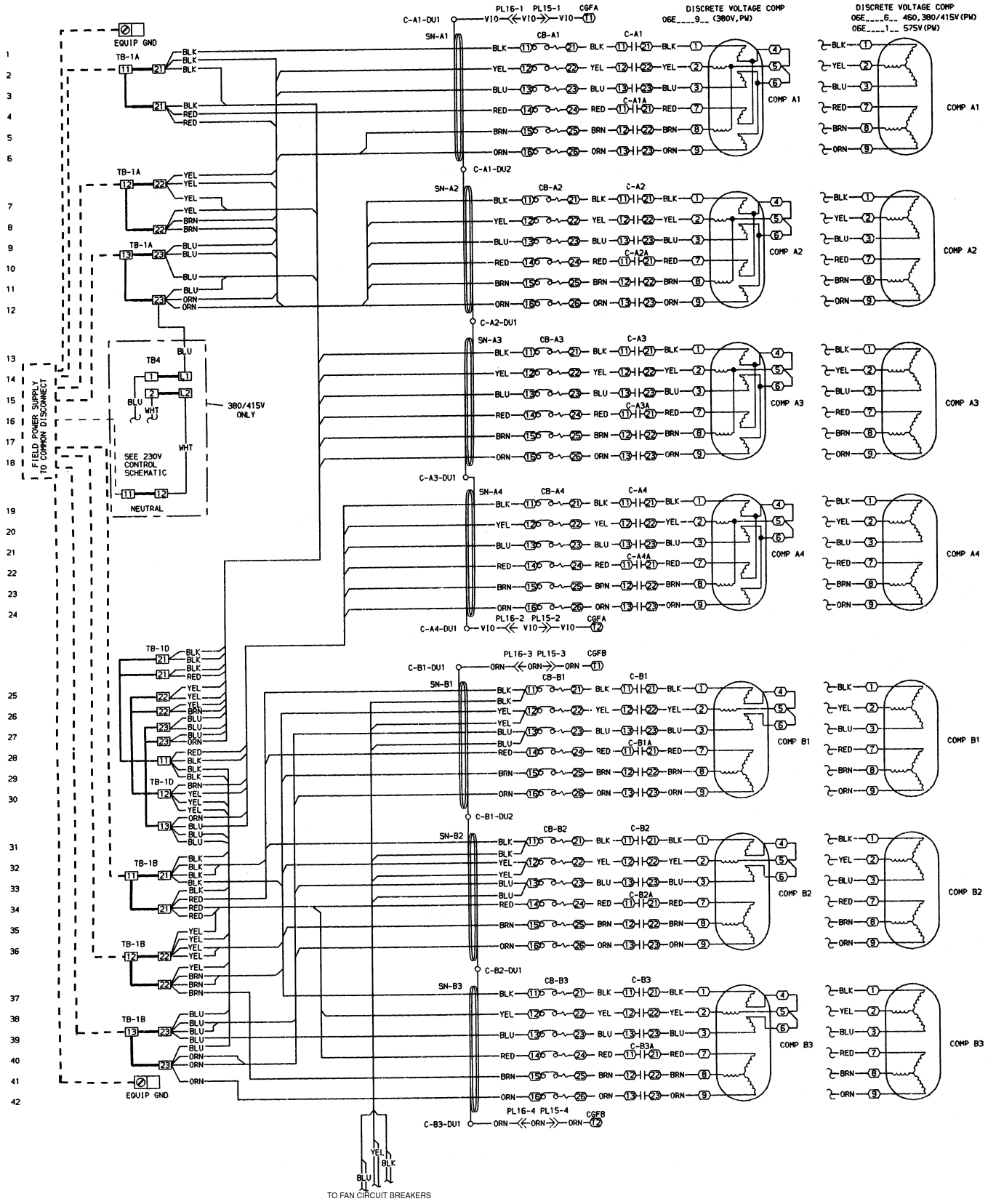


Fig. 16 — Power Schematic; 30GTN,GTR,GUN,GUR210, 315A, 390A, 420A/B; 380, 380/415, 460, 575 V - PW

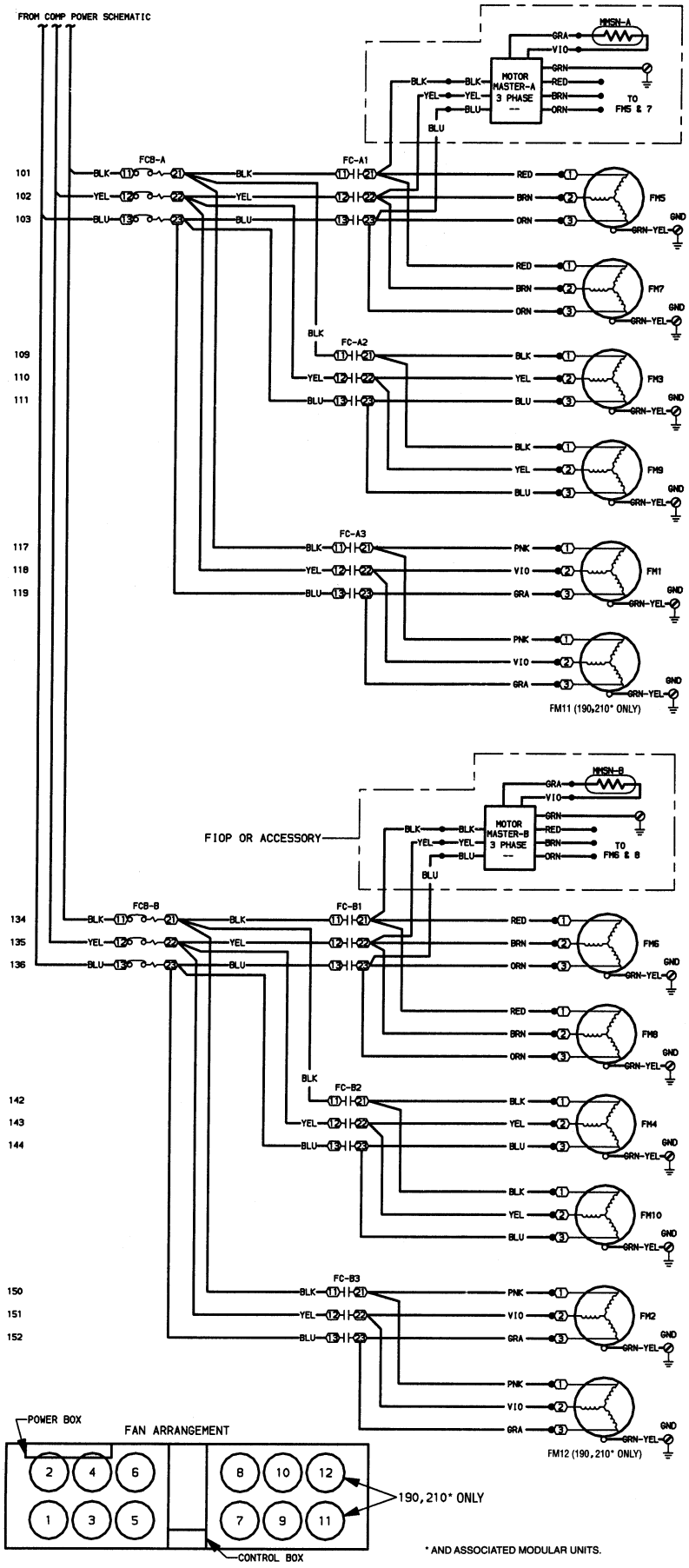


Fig. 17 — Fan Power Schematic; 30GTN,GTR,GUN,GUR130-210, 230A-315A, 330A/B-420A/B

COMFORTLINK
LOW VOLTAGE CONTROL SCHEMATIC

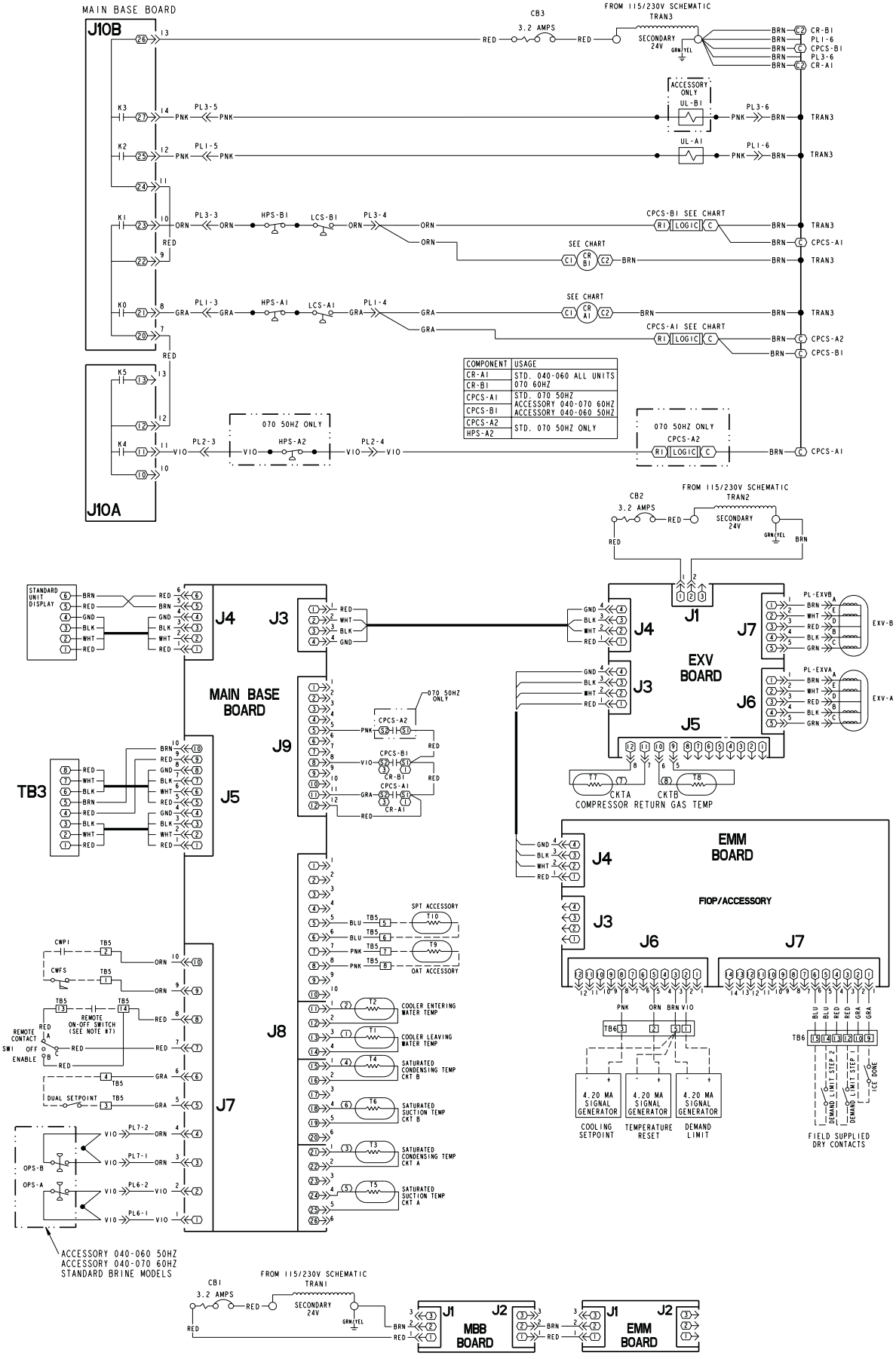


Fig. 18 — Control Label; 30GTN,GTR,GUN,GUR040-070; 24 V

COMFORTLINK
LOW VOLTAGE CONTROL SCHEMATIC

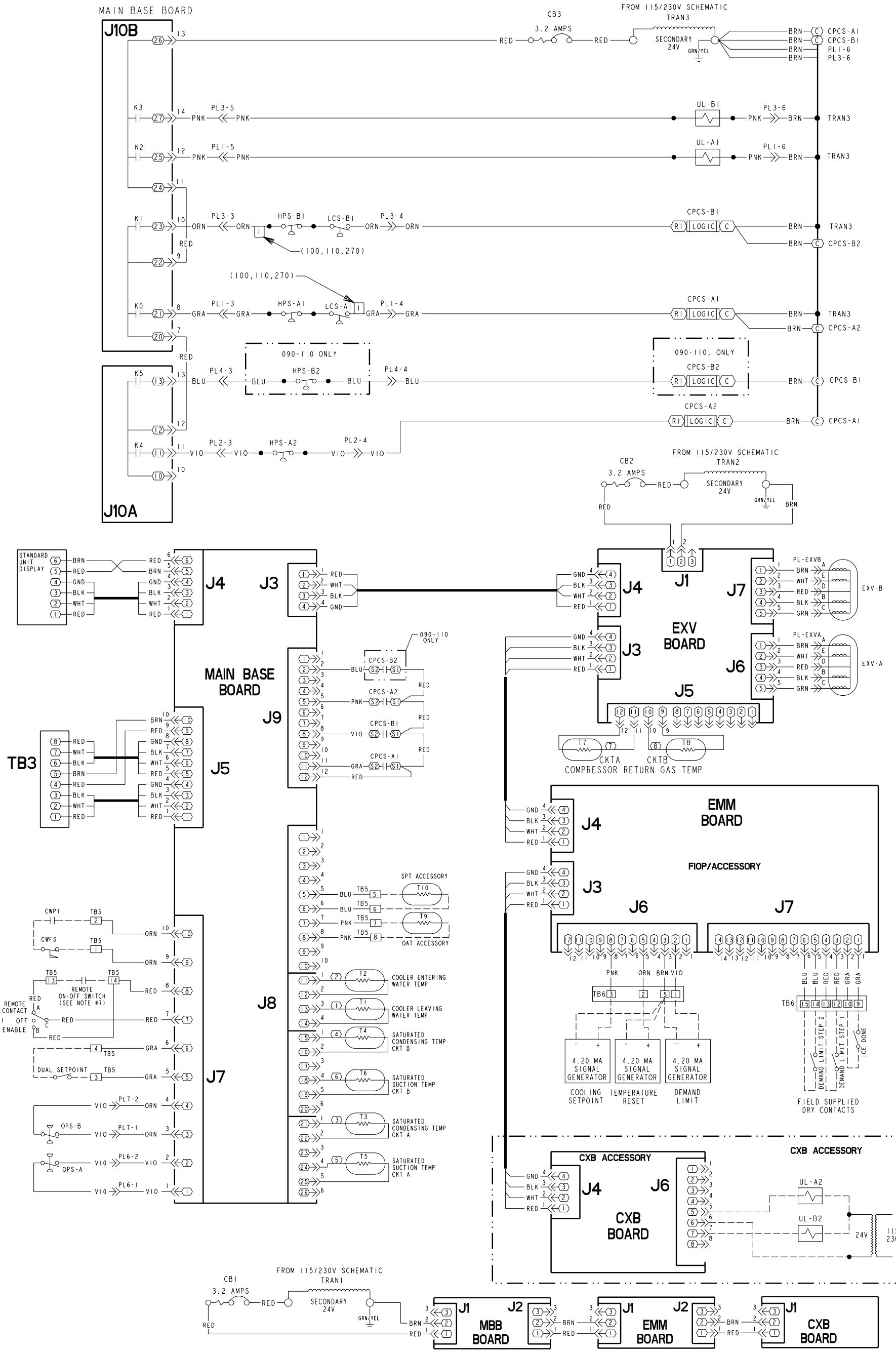


Fig. 19 — Control Label; 30GTN,GTR,GUN,GUR080-110, 230B-315B; 24 V

COMFORTLINK LOW VOLTAGE CONTROL SCHEMATIC

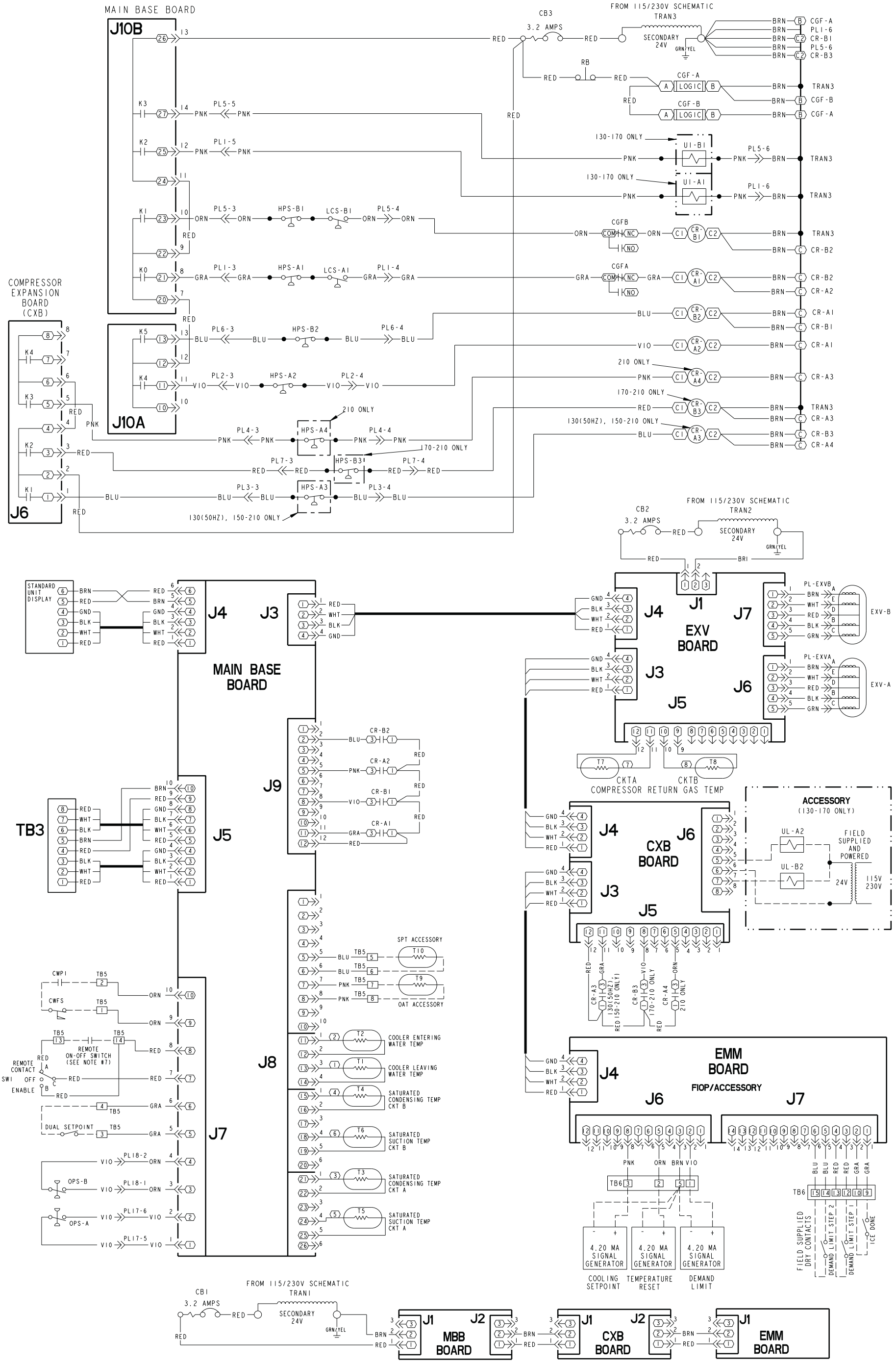


Fig. 20 — Control Label; 30GTN,GTR,GUN,GUR130-210, 230A-315A, 330A/B-420A/B; 24 V

COMFORTLINK
(115 OR 230V) CONTROL SCHEMATIC

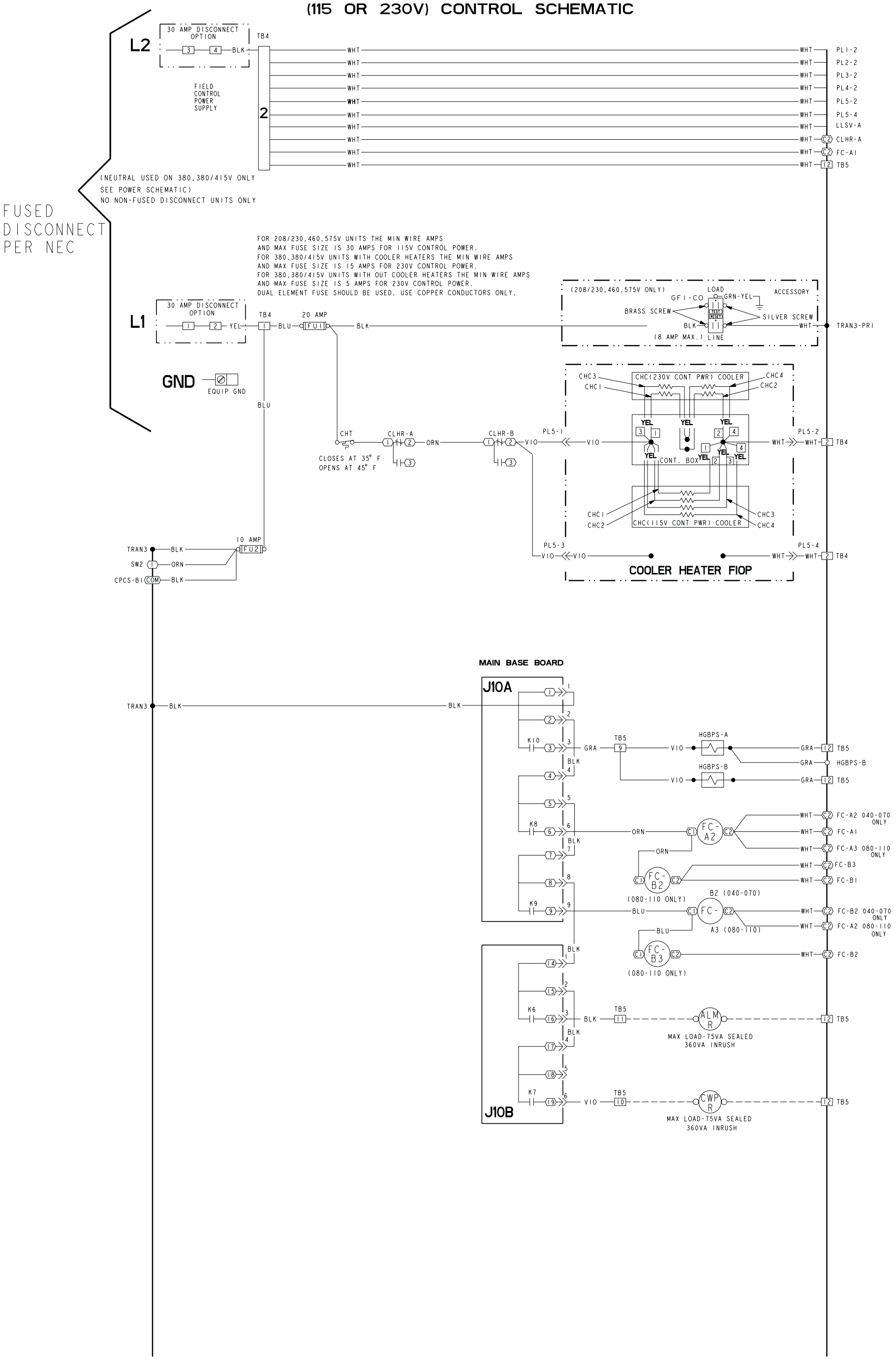


Fig. 21 — Common Control Label; 30GTN,GTR,GUN,GUR040-110, 230B-315B; 115, 230 V

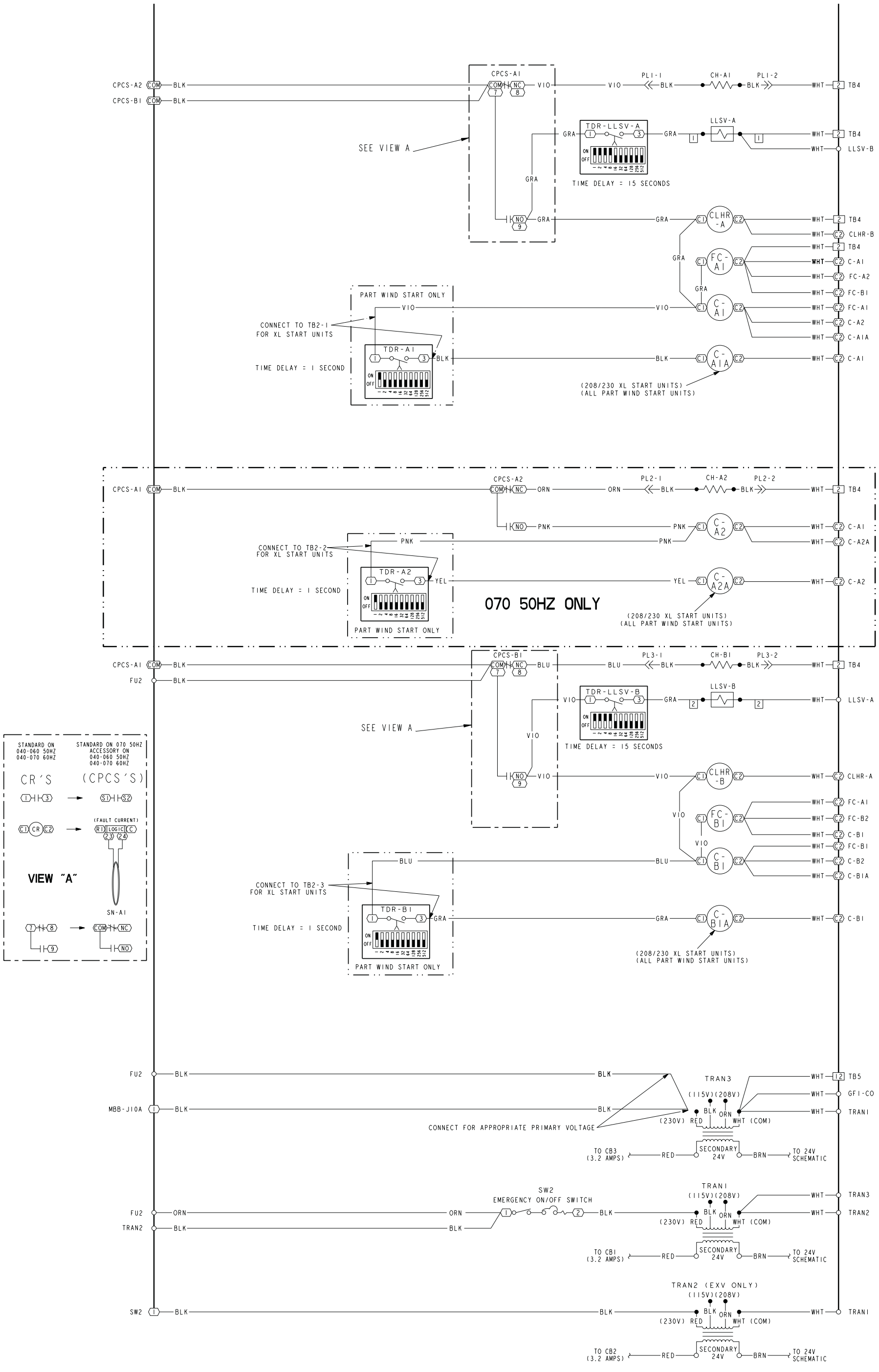


Fig. 22 — Control Label; 30GTN,GTR,GUN,GUR040-070; 115, 230 V

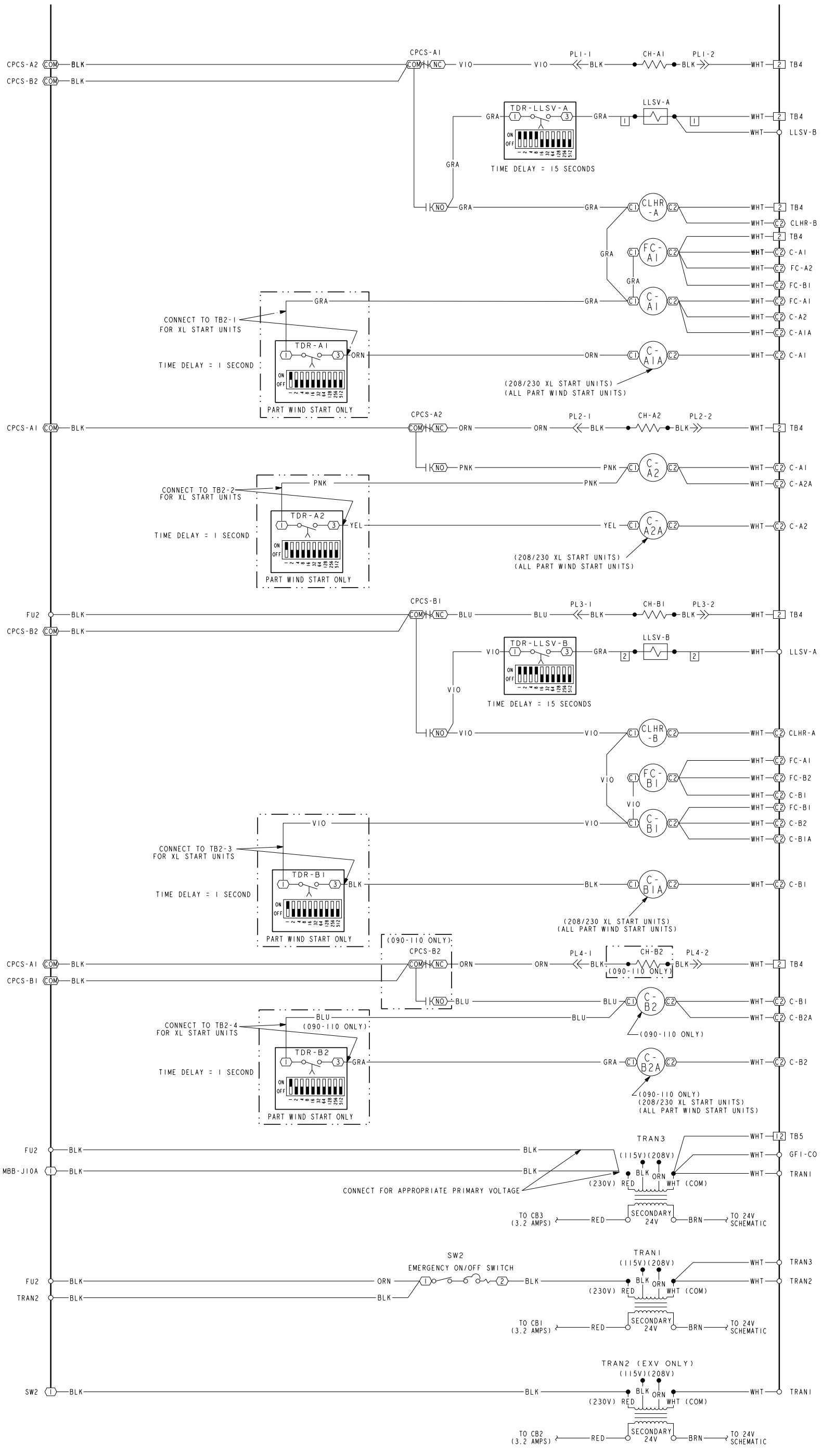


Fig. 23 — Control Label; 30GTN,GTR,GUN,GUR080-110, 230B-315B; 115, 230 V

COMFORTLINK
(115 OR 230V) CONTROL SCHEMATIC

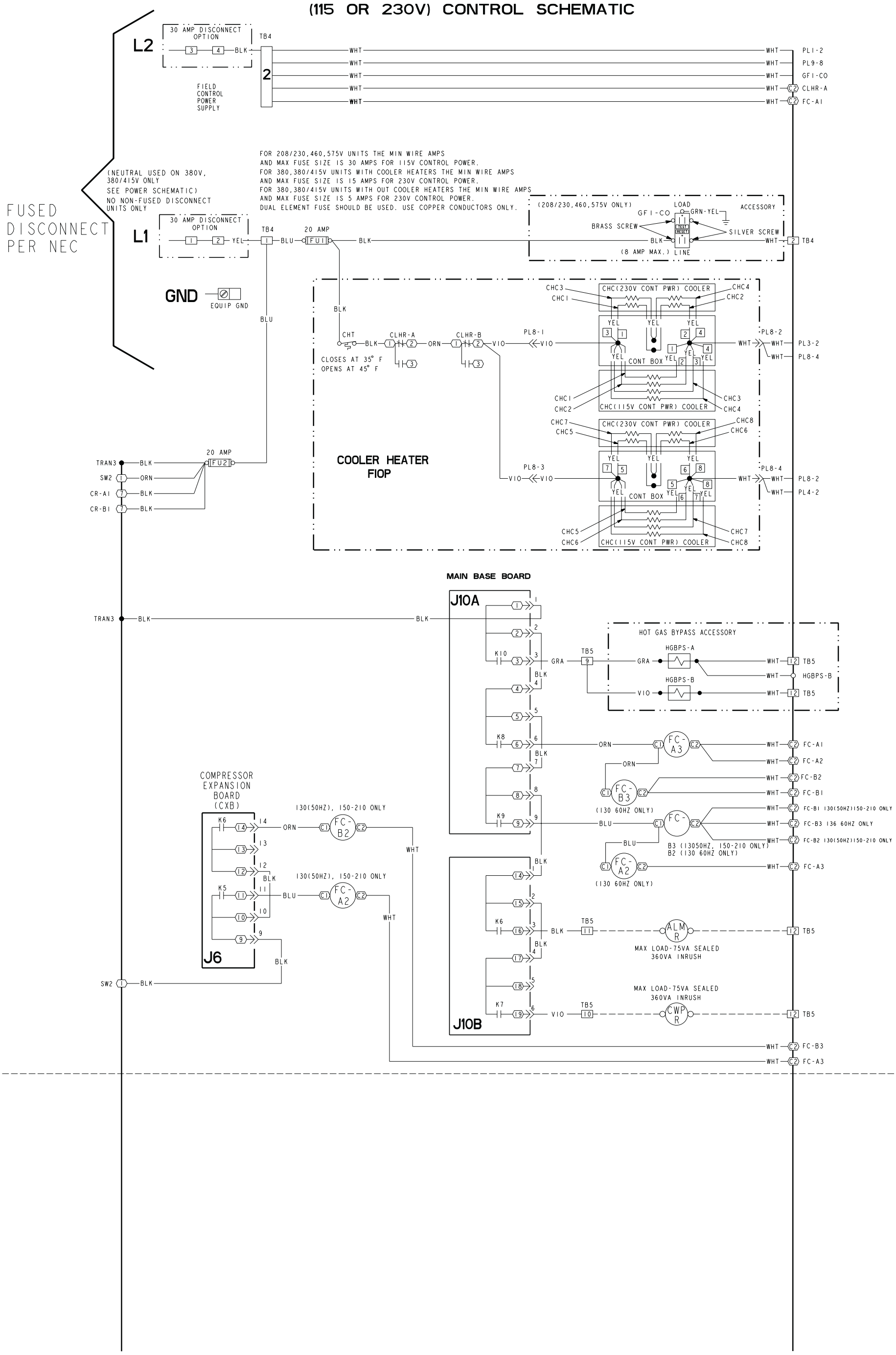


Fig. 24 — Control Label; 30GTN,GTR,GUN,GUR130-210, 230A-315A, 330A/B-420A/B; 115, 230 V

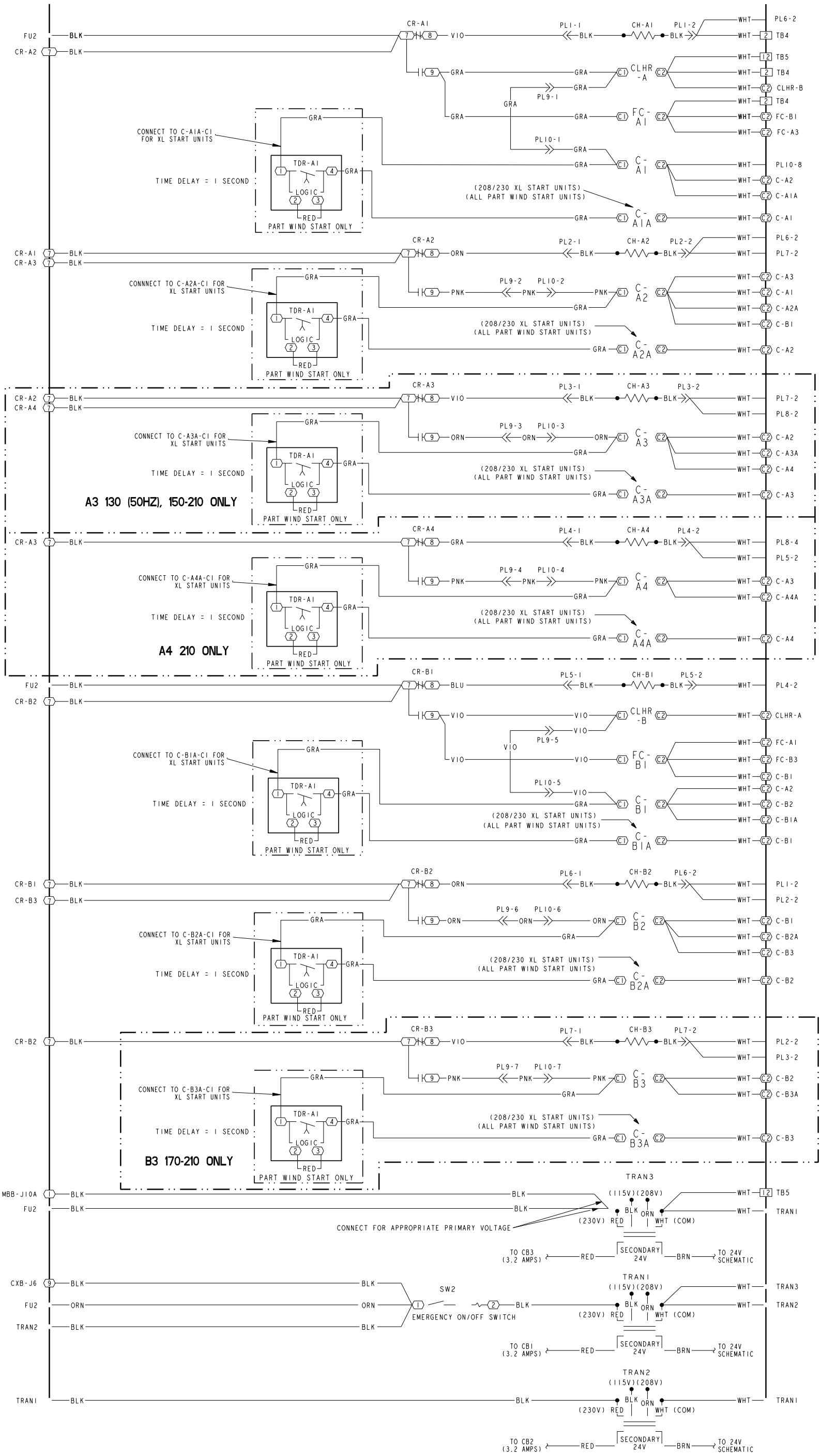


Fig. 24 — Control Label; 30GTN,GTR,GUN,GUR130-210, 230A-315A, 330A/B-420A/B; 115, 230 V (cont)

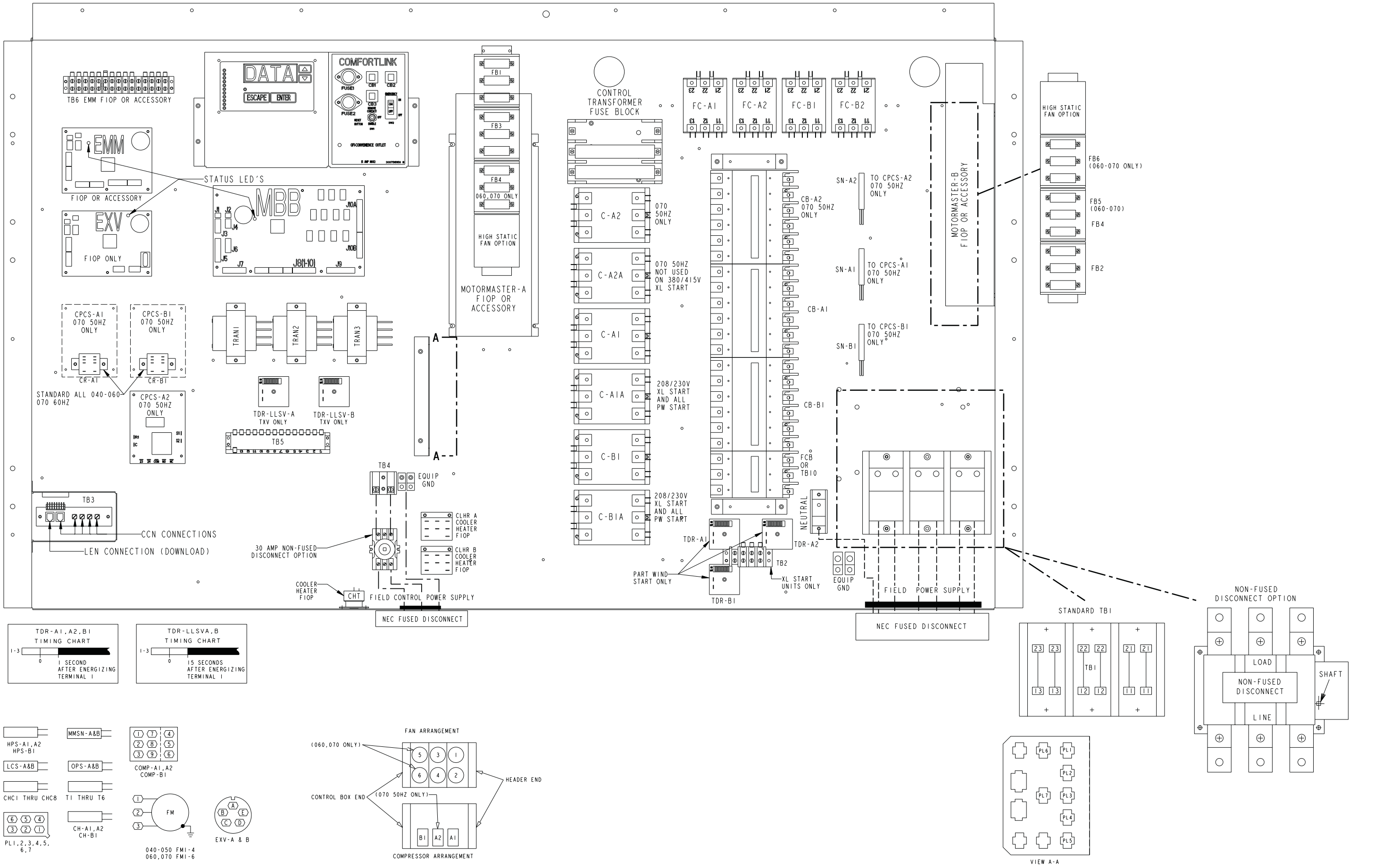


Fig. 25 — Component Arrangement; 30GTN,GTR,GUN,GUR040-070

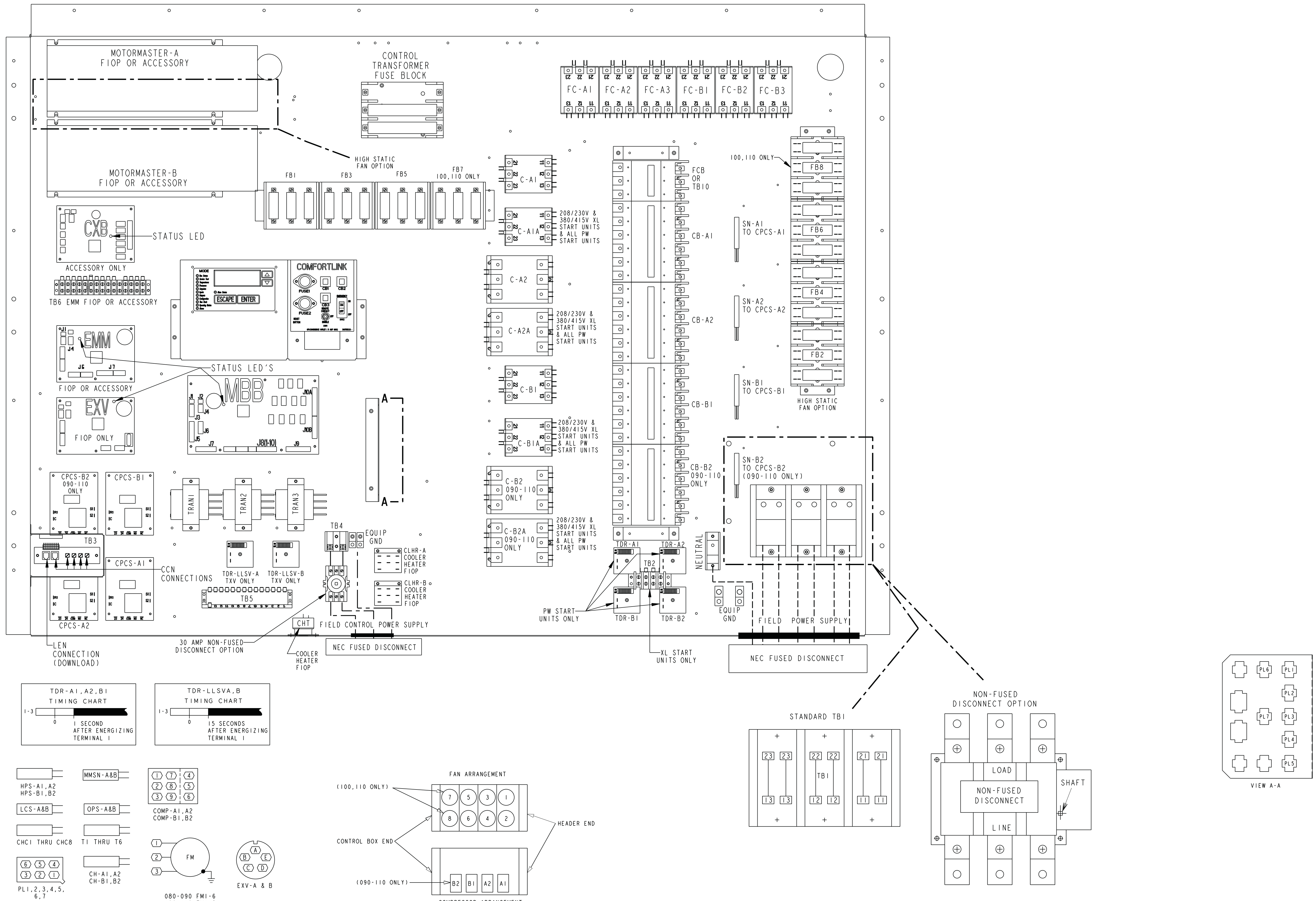


Fig. 26 — Component Arrangement; 30GTN,GTR,GUN,GUR080-110, 230B-315B

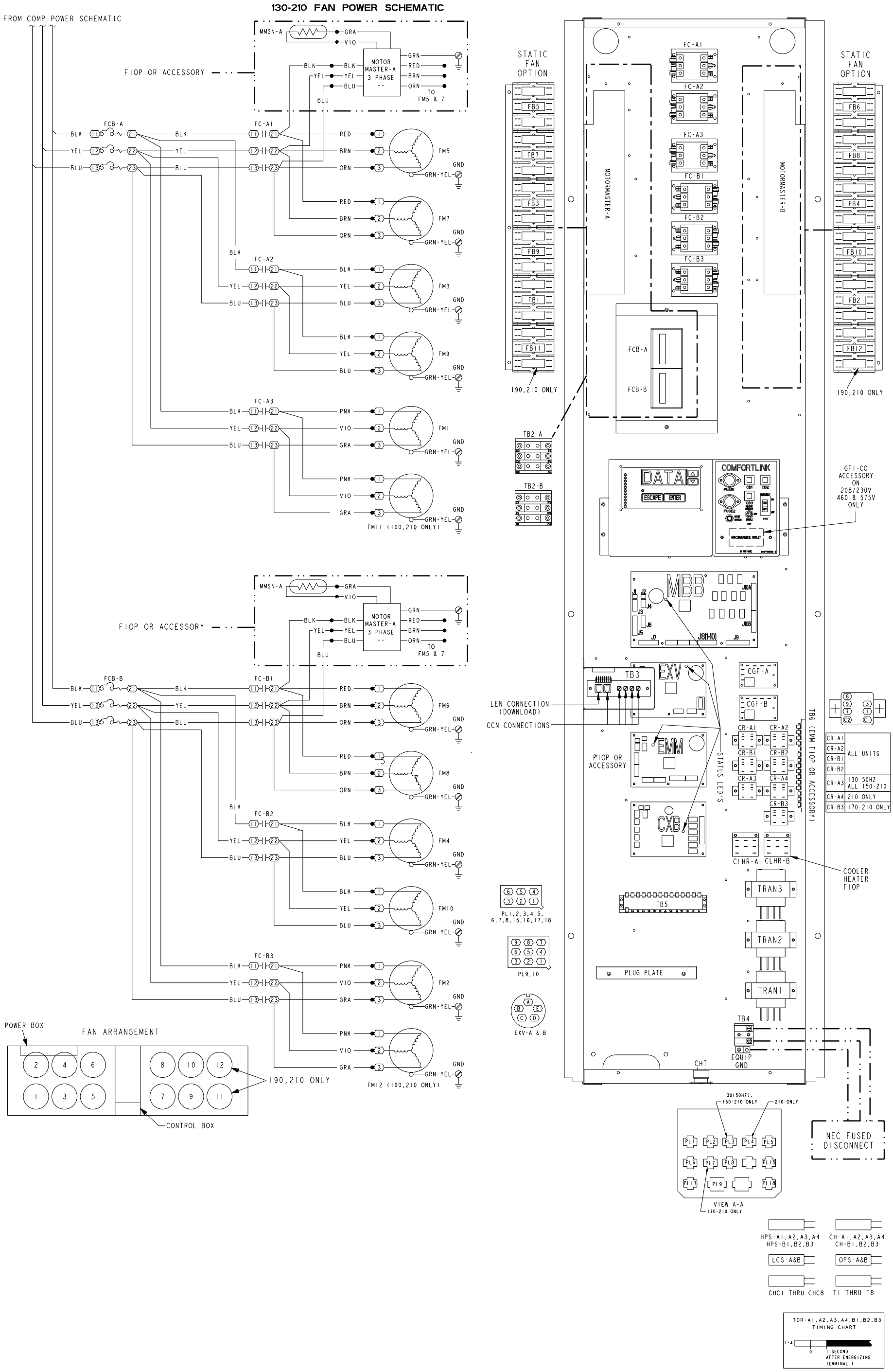


Fig. 27 — Component Arrangement; 30GTN,GTR,GUN,GUR130-210, 230A-315A, 330A/B-420A/B

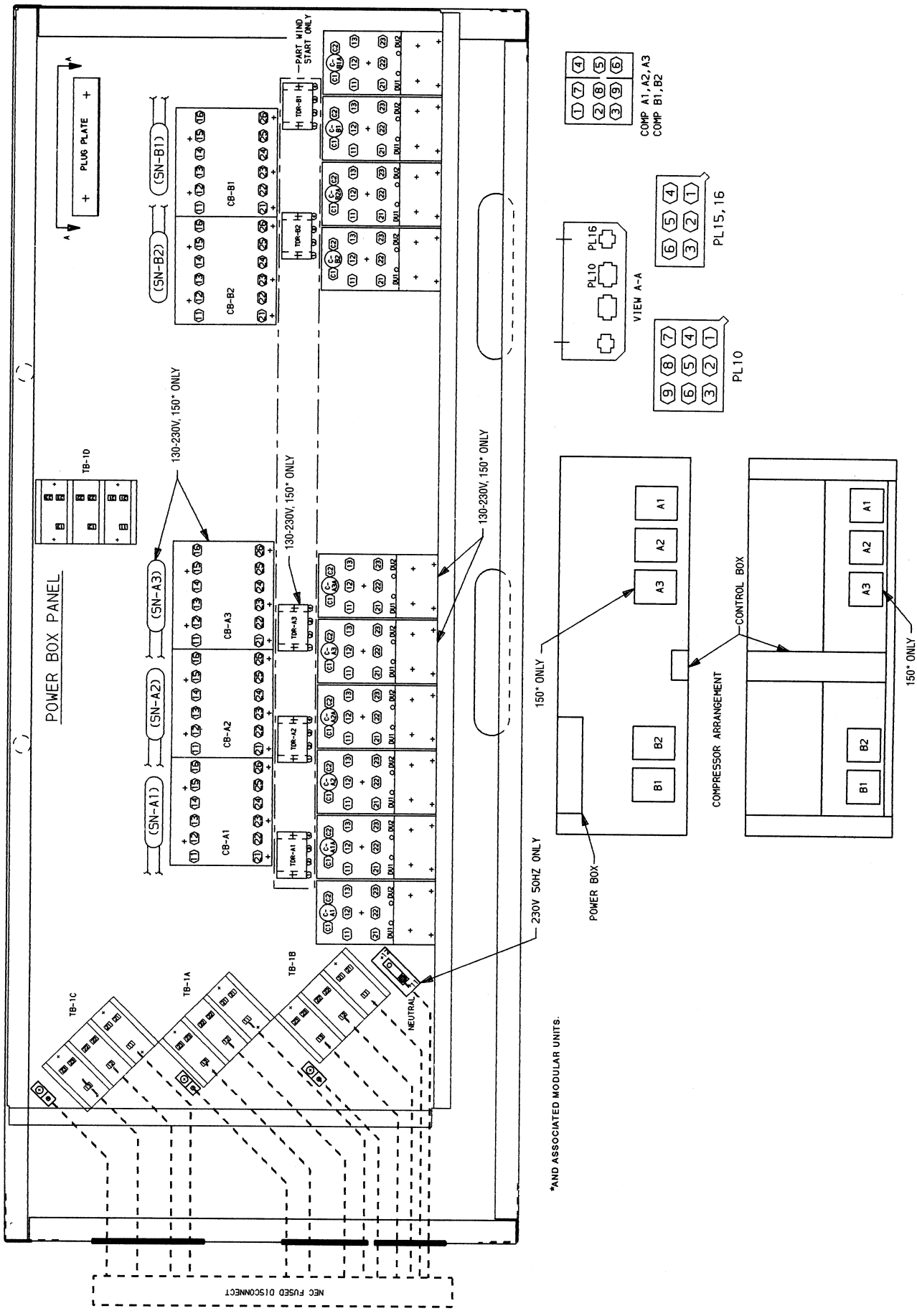


Fig. 28 — Power Box Location and Component Arrangement; 30GTN,GTR,GUN,GUR130, 150, 230A-255A; 208/230, 230 V - PW, XL

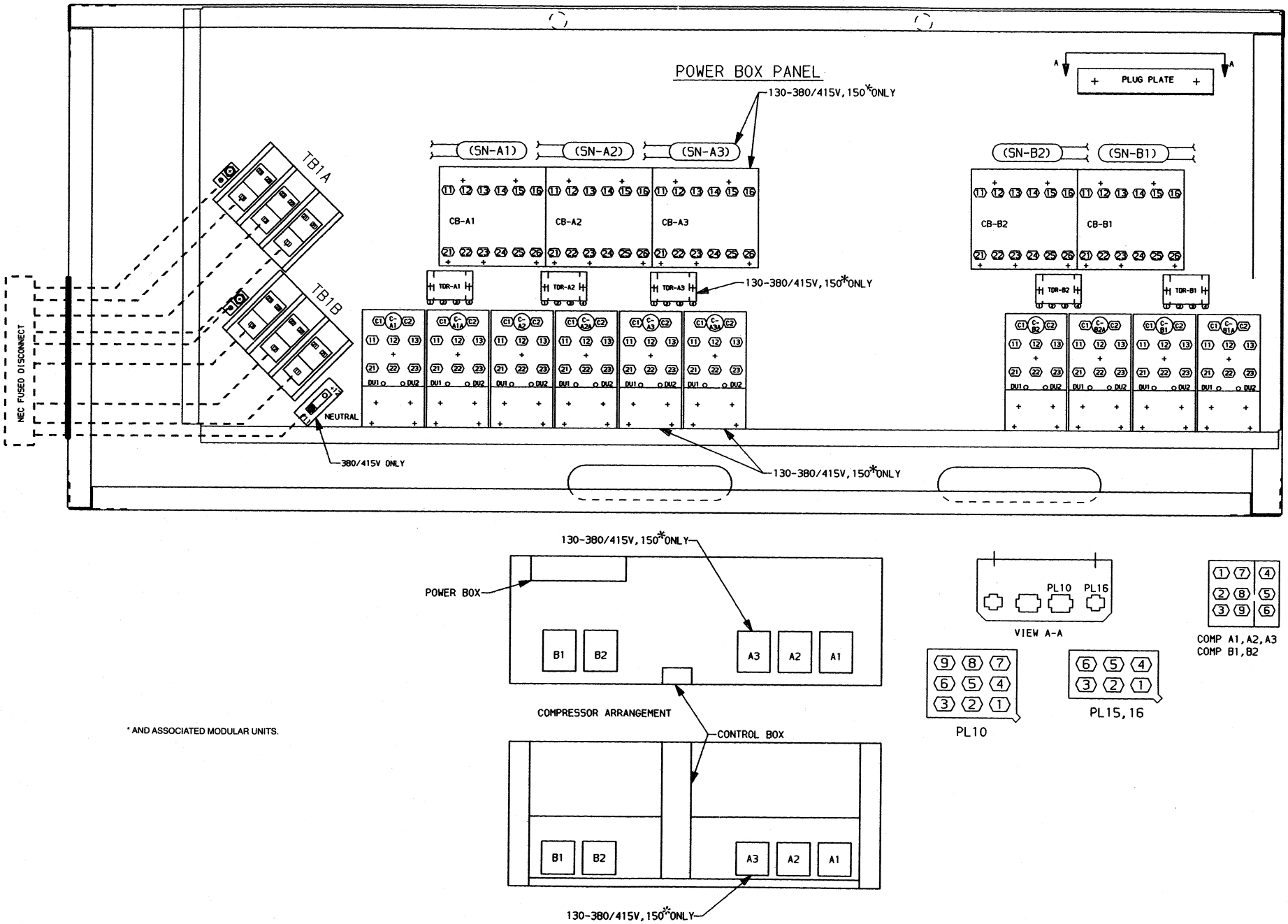


Fig. 29 — Power Box Location and Component Arrangement; 30GTN,GTR,GUN,GUR130, 150, 230A-255A; 380, 380/415, 460, 575 V - PW

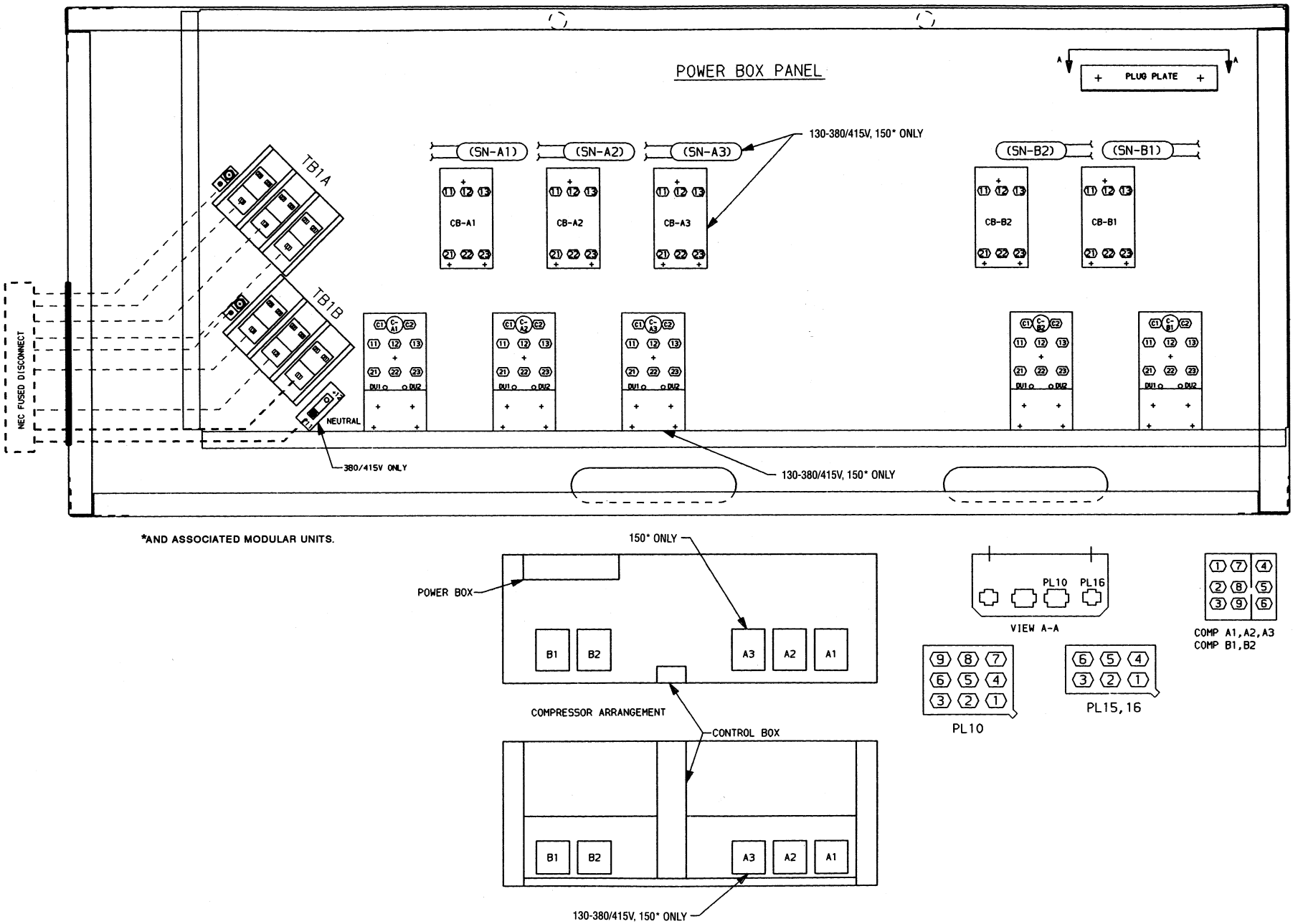


Fig. 30 — Power Box Location and Component Arrangement; 30GTN,GTR,GUN,GUR130, 150, 230A-255A; 380, 380/415, 460, 575 V - XL

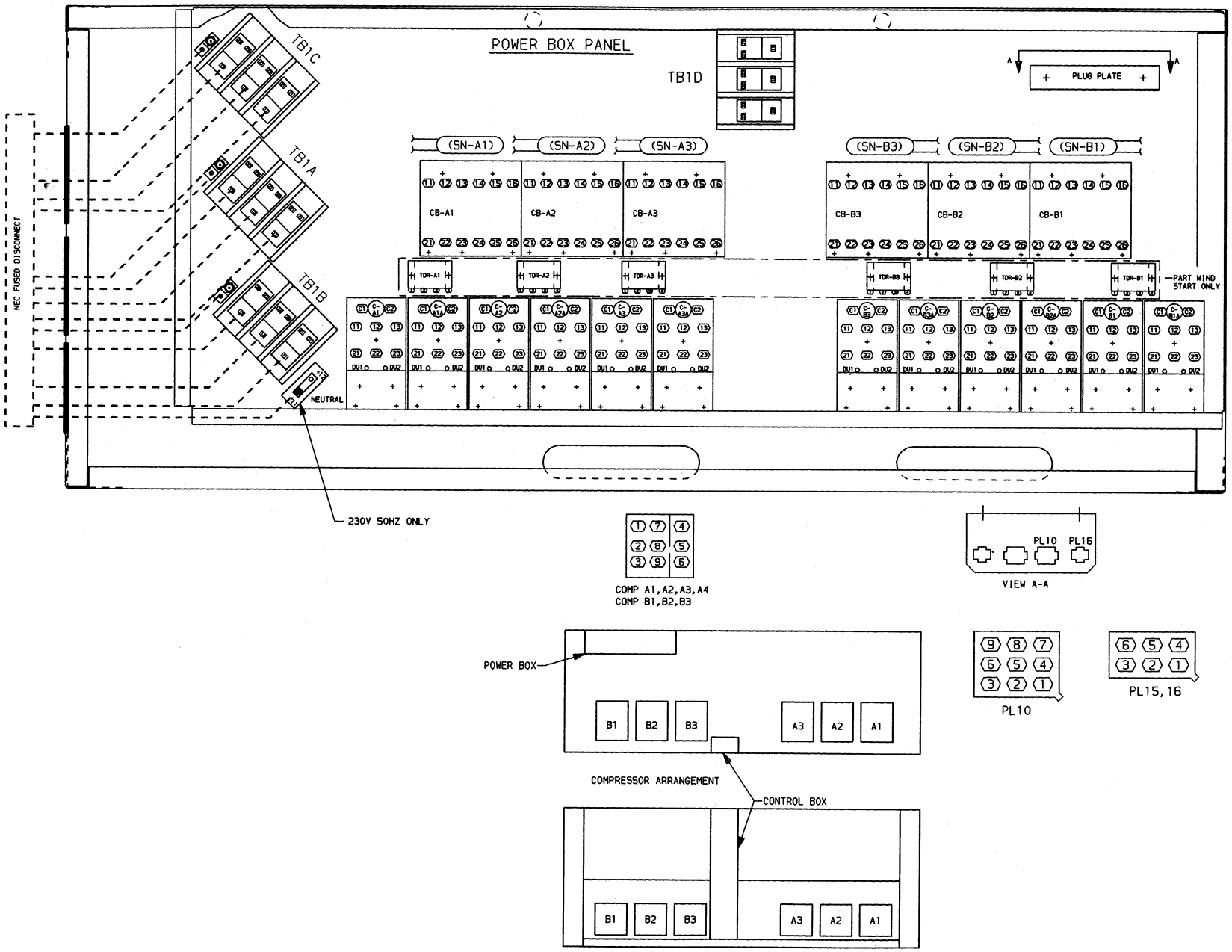


Fig. 31 — Power Box Location and Component Arrangement; 30GTN,GTR,GUN,GUR170, 190, 270A, 290A, 330A/B, 360A/B, 390B; 208/230, 230 V - PW, XL

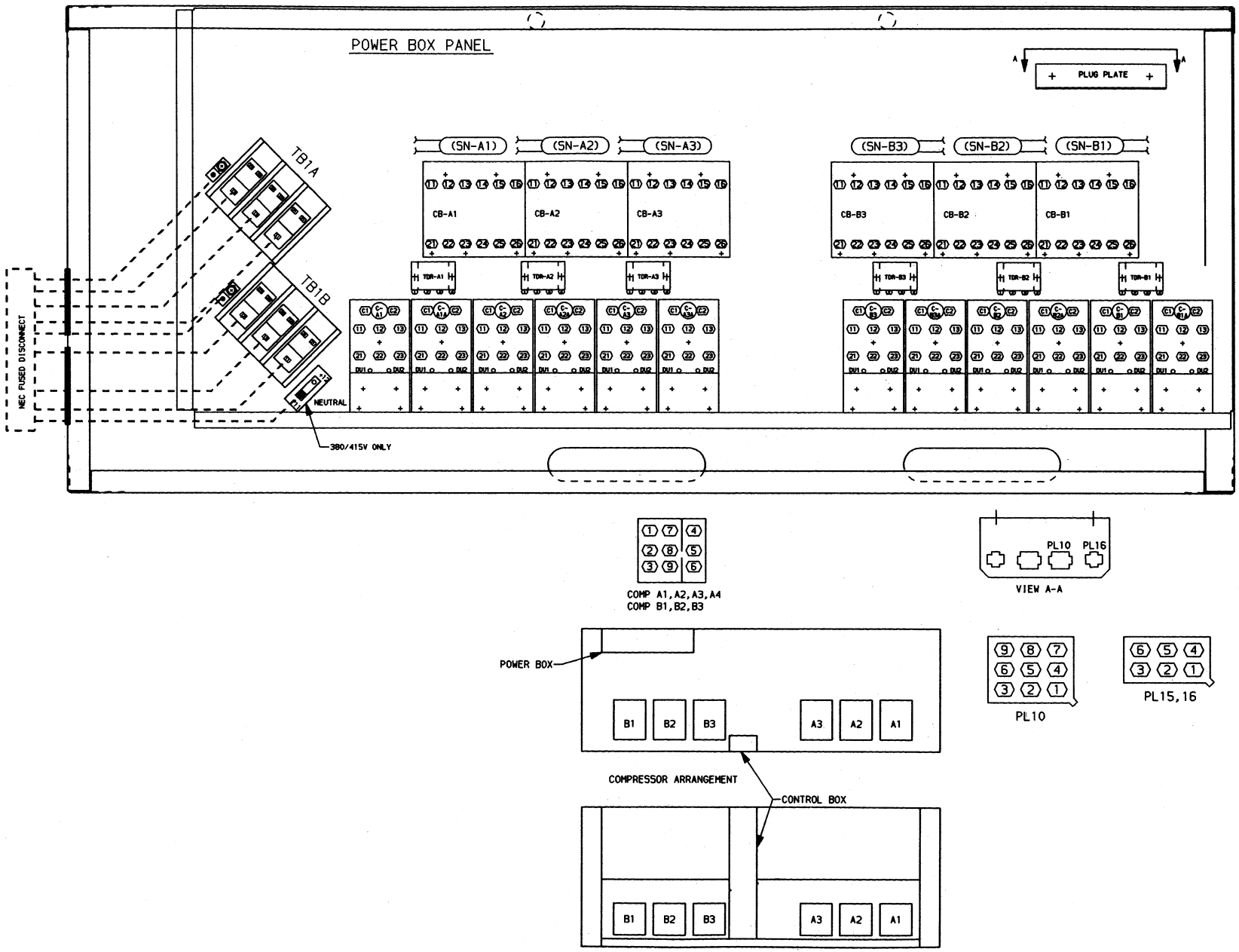


Fig. 32 — Power Box Location and Component Arrangement; 30GTN,GTR,GUN,GUR170, 190, 270A, 290A, 330A/B, 360A/B, 390B; 380, 380/415, 460, 575 V - PW

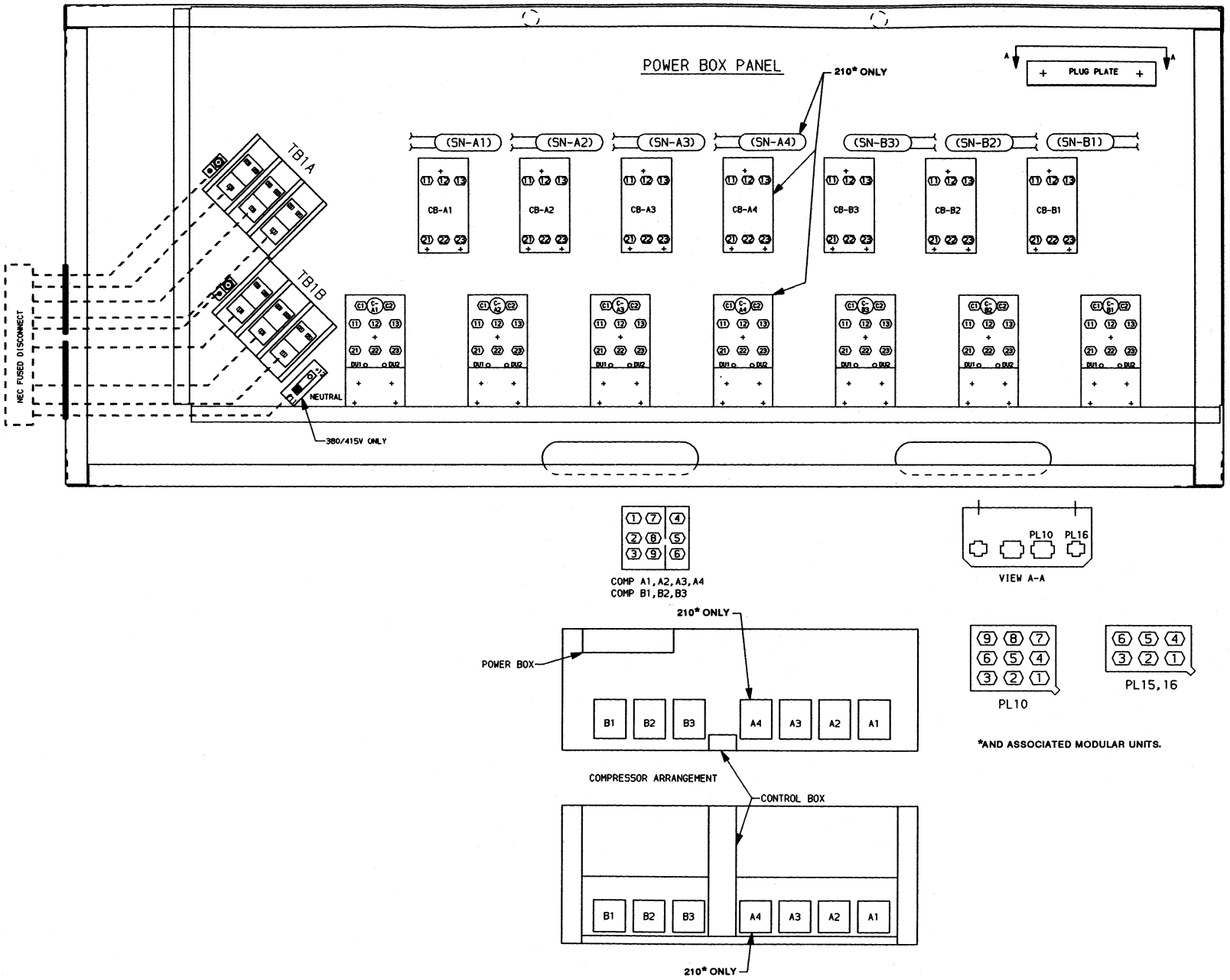


Fig. 33 — Power Box Location and Component Arrangement; 30GTN,GTR,GUN,GUR170-210, 270A-315A, 330A/B-420A/B; 380, 380/415, 460, 575 V - XL

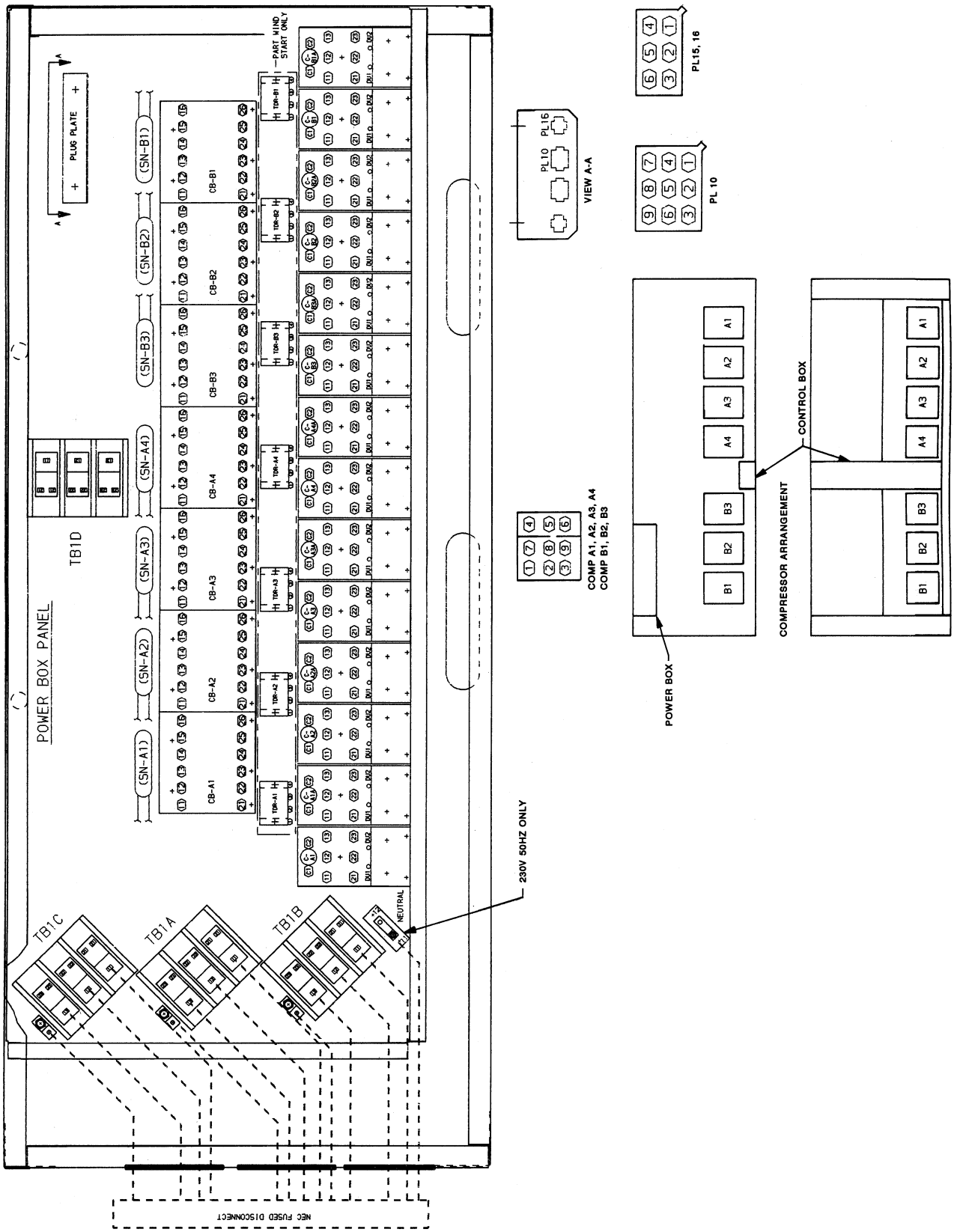


Fig. 34 — Power Box Location and Component Arrangement; 30GTN,GTR,GUN,GUR210, 315A, 390A, 420A/B; 208/230, 230 V - PW, XL

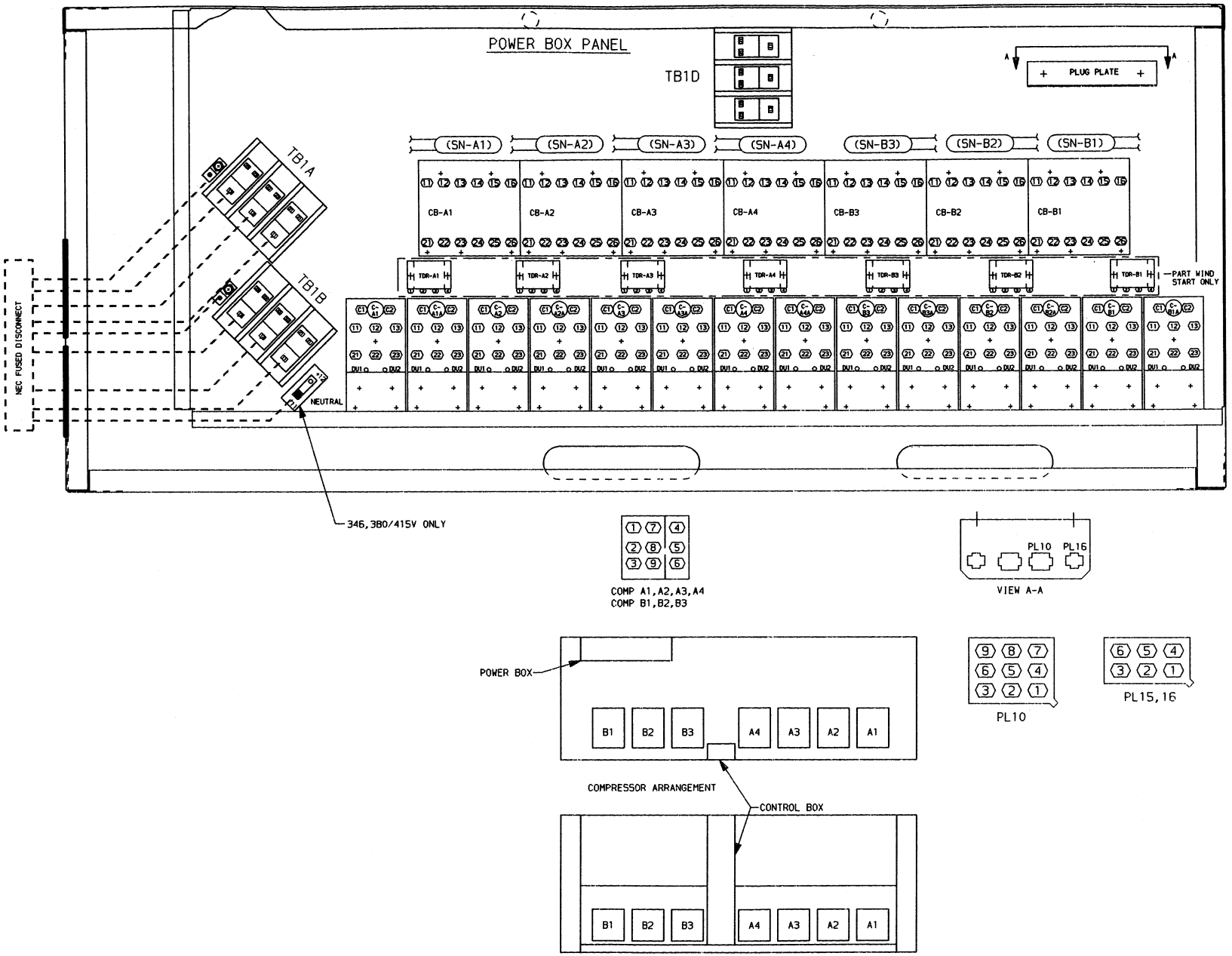


Fig. 35 — Power Box Location and Component Arrangement; 30GTN,GTR,GUN,GUR210, 315A, 390A, 420A/B; 380, 380/415, 460, 575 V - PW

DISPLAY MENU STRUCTURE										
RUN STATUS	**SERVICE TEST**	**TEMPERATURES**	**PRESSURES**	**SETPOINTS**	**INPUTS**	**OUTPUTS**	**CONFIGURATION**	**TIME CLOCK**	**OPERATING MODES**	**ALARMS**
AUTO DISPLAY (VIEW)	MANUAL MODE ON/OFF (TEST)	UNIT TEMPERATURES (UNIT)	CIRCUIT A PRESSURES (PRC. A)	COOLING (COOL)	UNIT DISCRETE (GEN. I)	UNIT DISCRETE (GEN. O)	DISPLAY (DISP)	UNIT TIME (TIME)	MODES (MODE)	CURRENT (CRNT)
MACHINE HOURS/STARTS (RUN)	CIRCUIT A/B OUTPUTS (OUTS)	CIRCUIT A TEMPERATURES (CIR. A)	CIRCUIT B PRESSURES (PRC. B)	HEATING (HEAT)	CIRCUIT A/B (CRCT)	CIRCUIT A (CIR. A)	MACHINE (UNIT)	UNIT DATE (DATE)		RESET ALARMS (RCRN)
COMPRESSOR RUN HOURS (HOUR)	COMPRESSOR TESTS (COMP)	CIRCUIT B TEMPERATURES (CIR. B)		HEAD PRESSURE (HEAD)	UNIT ANALOG (4-20)	CIRCUIT B (CIR. B)	OPTIONS 1 (OPT1)	SCHEDULE (SCHD)		ALARM HISTORY (HIST)
COMPRESSOR STARTS (STRT)							OPTIONS 2 (OPT2)			RESET HISTORY (RHIS)
							TEMPERATURE RESET (RSET)			
							SETPOINT SELECT (SLCT)			

CONTROLS START-UP AND DIAGNOSTIC INFORMATION

To start the unit, move the EMERGENCY ON/OFF SWITCH to the ON position. Move the ENABLE/OFF/REMOTE CONTACT SWITCH to the ENABLE position. This will allow the unit to start. The control will stage the chiller as required. Operating modes are listed in Table A. Common alarm and alert information is shown in Table B. See the Start-Up, Control and Troubleshooting Instructions for more information on chiller operation. Set Mnth, Date, Year, and Time (under 'VIEW' sub-menu) to clear 'T153' (real time clock) alerts.

DISPLAY USAGE NOTES:

1. Select desired mode by using arrow keys to move up or down through mode items.
2. Press ENTER key to enter first item level (text in parantheses indicates actual display).
3. Use arrow keys to scroll through the items within each level. (Refer to Controls book for full menu and level structure.)
4. Use ESCAPE key to return to previous level.
5. Press ENTER and ESCAPE keys simultaneously for clear language description of display item.

Fig. 36 — Controls and Diagnostic Information; 30GTN,GTR,GUN,GUR040-420

Table A — Operating Modes

01	FSM CONTROLLING CHILLER
02	WSM CONTROLLING CHILLER
03	DUAL CHLILER CONTROL ACTIVE
04	LOW SOURCE PROTECTION
05	RAMP LOAD LIMITED
06	TIMED OVERRIDE
07	LOW COOLER SUCTION TEMP CIR. A
08	LOW COOLER SUCTION TEMP CIR. B
09	SLOW CHANGE OVERRIDE
10	OFF TO ON DELAY IN EFFECT
11	LOW SUTION SUPERHEAT CIR. A
12	LOW SUCTION SUPERHEAT CIR. B
13	DUAL SETPOINT CONFIGURED
14	TEMP RESET IN EFFECT
15	DEMAND LMIT IN EFFECT
16	COOLER FREEZE PROTECTION
17	LOW TEMPERATURE COOLING
18	HIGH TEMPERATURE COOLING
19	MAKING ICE
20	STORING ICE

CLEARING ALARMS

To reset current alarms, use ARROW/ESCAPE keys to illuminate alarm mode RED LED. Press ENTER key and DOWN arrow to display “RCRN.” Press ENTER key twice to display flashing “OFF” (may need to enter password). Press UP arrow key to display “ON” and ENTER key to clear alarms.

LEGEND

CCN — Carrier Comfort Network
CIR — Circuit
COND — Condenser
CSP — Cooling Set Point
EXV — Electronic Expansion Valve
FSM — Flotronic™ System Manager
OAT — Outdoor-Air Temperature
SAT — Saturated
SPT — Space Temperature
TEMP — Temperature
WSM — Water System Manager

Table B — Alarm/Alert Information

DISPLAY	DESCRIPTION OF FAILURE	ACTION TAKEN BY CONTROL	RESET METHOD	PROBABLE CAUSE
T051	Compressor A1 Failure	CIRCUIT A SHUT OFF	Manual	High Pressure Switch trip, or compressor ground current >2.5 Amps
T052	Compressor A2 Failure	COMPRESSOR SHUT OFF	Manual	
T053	Compressor A3 Failure	COMPRESSOR SHUT OFF	Manual	
T054	Compressor A4 Failure	COMPRESSOR SHUT OFF	Manual	
T055	Compressor B1 Failure	CIRCUIT B SHUT OFF	Manual	
T056	Compressor B2 Failure	COMPRESSOR SHUT OFF	Manual	
T057	Compressor B3 Failure	COMPRESSOR SHUT OFF	Manual	
T058	Compressor B4 Failure	COMPRESSOR SHUT OFF	Manual	
A060	Leaving Water Thermistor Failure	UNIT SHUT OFF	Auto	Thermistor failure, or wiring error, or thermistor not connected to processor board.
A061	Entering Water Thermistor Failure	Use Default Value	Auto	
T064	Sat. Cond. Thermistor Cir. A	UNIT SHUT OFF	Auto	
T065	Sat. Cond. Thermistor Failure Cir. B	UNIT SHUT OFF	Auto	
T066	Cooler Thermistor Failure Cir. A	UNIT SHUT OFF	Auto	
T067	Cooler Thermistor Failure Cir. B	UNIT SHUT OFF	Auto	
T068	Compressor Thermistor Failure Cir. A	UNIT SHUT OFF	Auto	
T069	Compressor Thermistor Failure Cir. B	UNIT SHUT OFF	Auto	
T073	OAT Thermistor Failure	STOP RESET	Auto	
T074	SPT Thermistor Failure	STOP RESET	Auto	
T174	4-20 mA Cooling Setpoint Failure	CONTROL TO CSP1	Auto	Input signal <2 mA or >22 mA when configured.
T176	4-20 mA Reset Input Failure	STOP RESET	Auto	
T177	4-20 mA Demand Limit Input Failure	STOP DEMAND LIMIT	Auto	
T170	Loss of Communication with CXB Board	SHUT DOWN A3, B3, A4 COMPRESSORS	Auto	Faulty board, wiring error, loose connection, faulty transformer or wrong address.
A172	Loss of Communication with EXV Board	UNIT SHUT DOWN	Auto	
T173	Loss of Communication with EMM Board	STOP RESET/DEMAND LIMIT	Auto	
T118	Low Oil Pressure Circuit A	CIRCUIT A SHUT OFF	Manual	Oil pump failure or low oil level or switch failure.
T119	Low Oil Pressure Circuit B	CIRCUIT B SHUT OFF	Manual	
A207	Freeze Protection	UNIT SHUT OFF	Auto	Low cooler flow.
A208	Low Cooler Flow	UNIT SHUT OFF	Manual	No cooler flow or reversed cooler flow.
T112	High Suction Superheat Circuit A	CIRCUIT A SHUT OFF	Manual	Low charge or EXV failure, or plugged filter drier.
T113	High Suction Superheat Circuit B	CIRCUIT B SHUT OFF	Manual	
T114	Low Suction Superheat Circuit A	CIRCUIT A SHUT OFF	Manual	EXV failure
T115	Low Suction Superheat Circuit B	CIRCUIT B SHUT OFF	Manual	
A151	Illegal Unit Configuration	Unit will not start	Manual	Configuration effor.
A150	Emergency Stop	UNIT SHUT DOWN	Auto	CCN stop command received.
A200	Cooler Pump Interlock Contacts Failed to Close	UNIT SHUTDOWN/ COOLER PUMP OFF	Manual	Pump failure, contact failure wiring error, or welded contacts.
A201	Cooler Pump Interlock Opened during Operation		Manual	
A202	Cooler Pump Interlock Contacts Closed While Off		Manual	
T110	Loss of Charge Circuit A	CIRCUIT A SHUT OFF	Manual	Low refrigerant charge, or loss of charge pressure switch failure.
T111	Loss of Charge Circuit B	CIRCUIT B SHUT OFF	Manual	

Fig. 36 — Controls and Diagnostic Information; 30GTN,GTR,GUN,GUR040-420 (cont)

NOTES:
1. Freeze protection trips at 34° F (1.1° C) for water and 8° F (4.4° C) below set point for brine units. Resets at 6° F (3.3° C) above set point.
2. All auto reset failures that cause the unit to stop will restart the unit when the error has been corrected.
3. All manual reset errors must be reset by pressing the enter key at the reset alarms (RSAL) sub-mode.
4. Valid resistance range for thermistors is 362,939 ohms to 216.65 ohms.

THERMISTORS		
Code Name	**Description**	**Location**
T1	Leaving Cooler Water	Leaving Water Nozzle
T2	Entering Cooler Water	Entering Water Baffle Space
T3	Saturated Condensing Temp Cir. A	Header End of Coil (See Figure B)
T4	Saturated Condensing Temp Cir. B	Header End of Coil (See Figure B)
T5	Saturated Suction Temp Cir. A	Cooler Head Near Liquid Nozzle
T6	Saturated Suction Temp Cir. B	Cooler Head Near Liquid Nozzle
T7	Superheated Gas Entering Piston Cir. A	Lead Compressor Cir. A (See Figure A)
T8	Superheated Gas Entering Piston Cir. B	Lead Compressor Cir. B (See Figure A)
T9	Outdoor Air (Accessory Only)	
T10	Space Temp (Accessory Only	

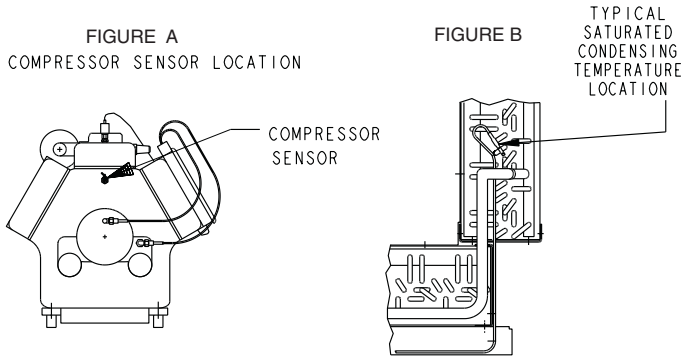


Fig. 36 — Controls and Diagnostic Information; 30GTN,GTR,GUN,GUR040-420 (cont)

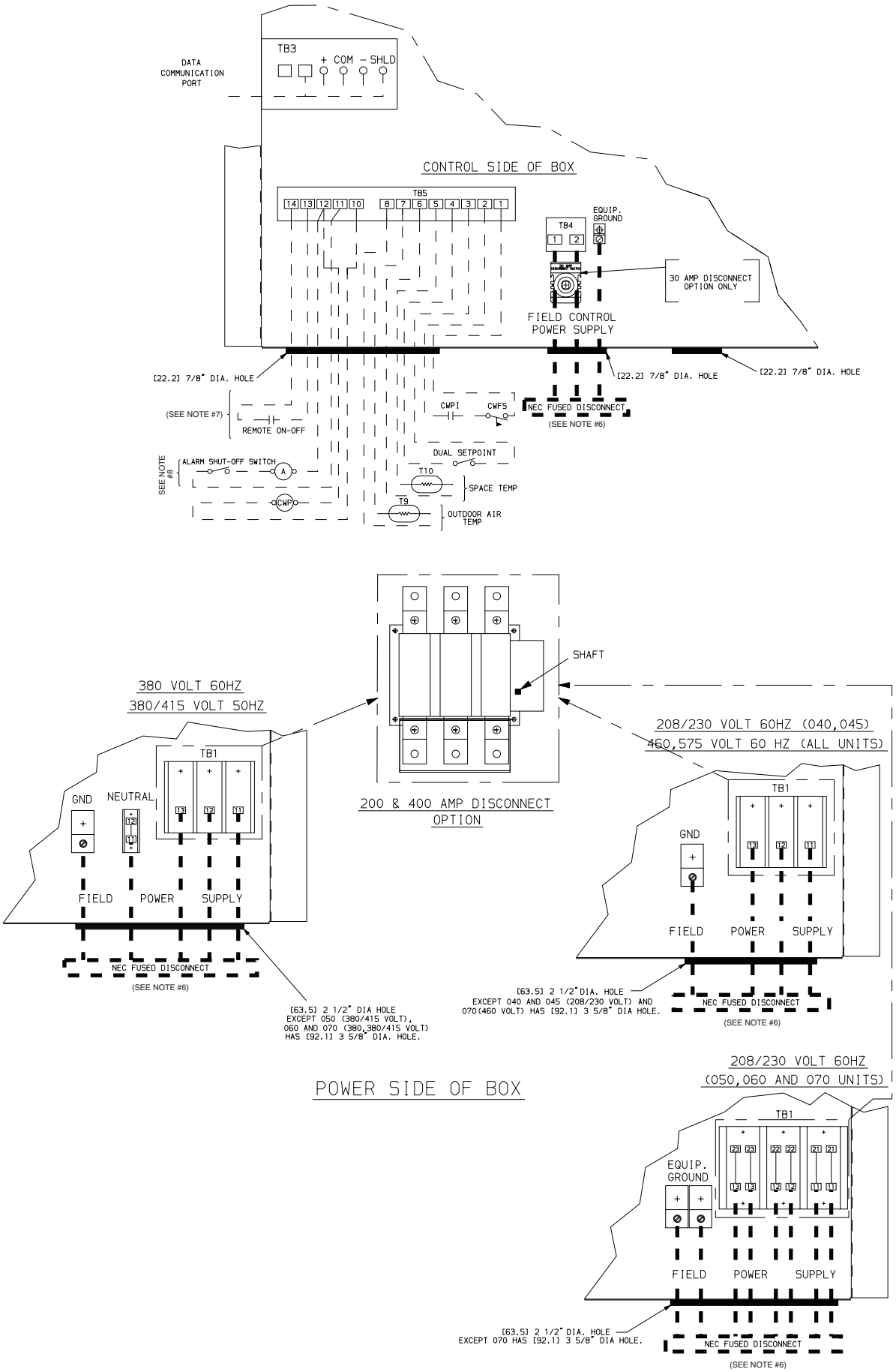


Fig. 37 — Field Control and Power Wiring, 30GTN,GTR,GUN,GUR040,050,060,070; 208/230, 460, 575, 380, 380/415 V

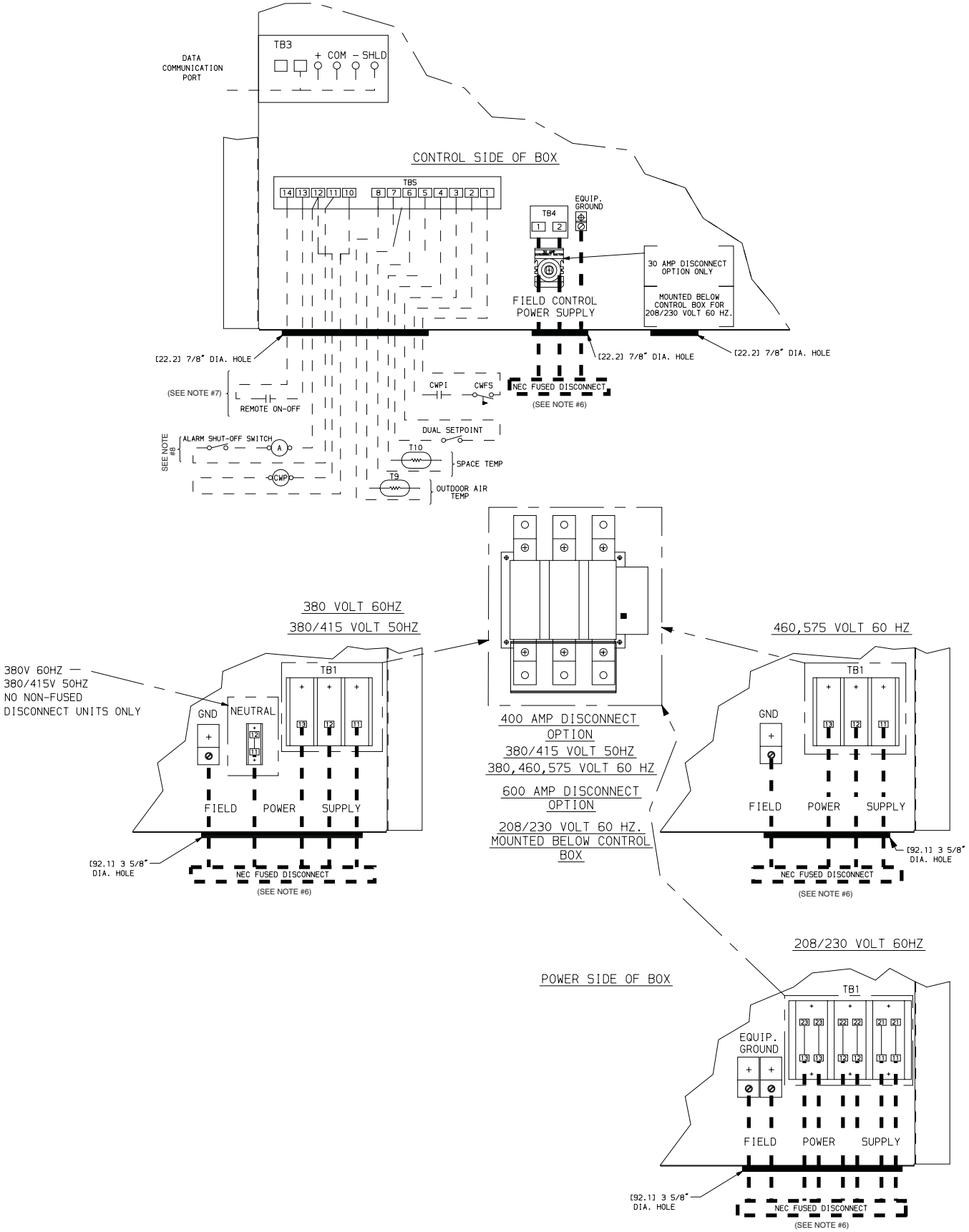


Fig. 38 — Field Control and Power Wiring, 30GTN,GTR,GUN,GUR080, 090, 100, 110, 230B-315B; 208/230, 460, 575, 380, 380/415 V

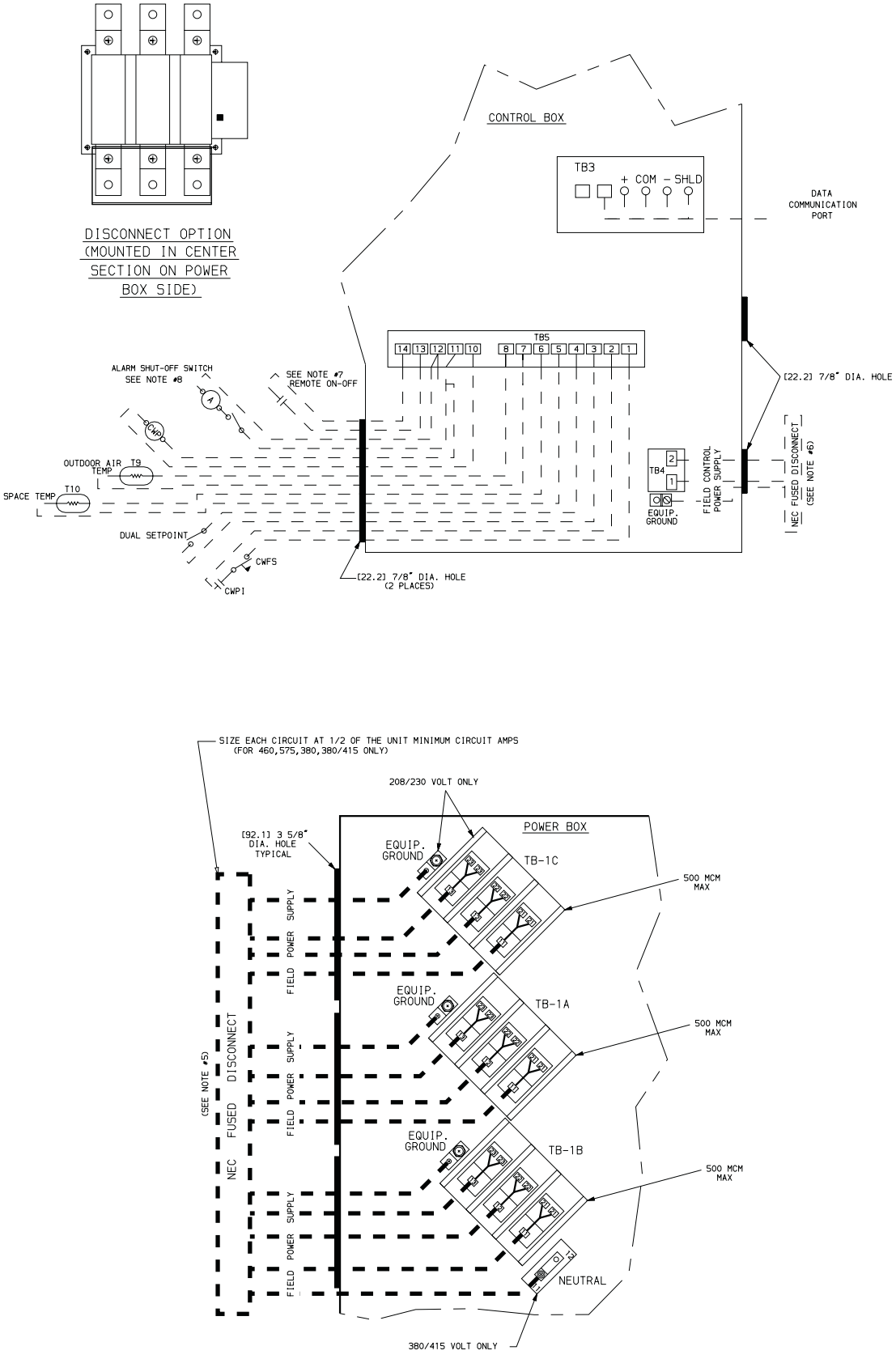


Fig. 39 — Field Control and Power Wiring, 30GTN,GTR,GUN,GUR150, 170, 190, 210, 230A-315A, 330A/B-420A/B; 208/230, 460, 575, 380, 380/415 V

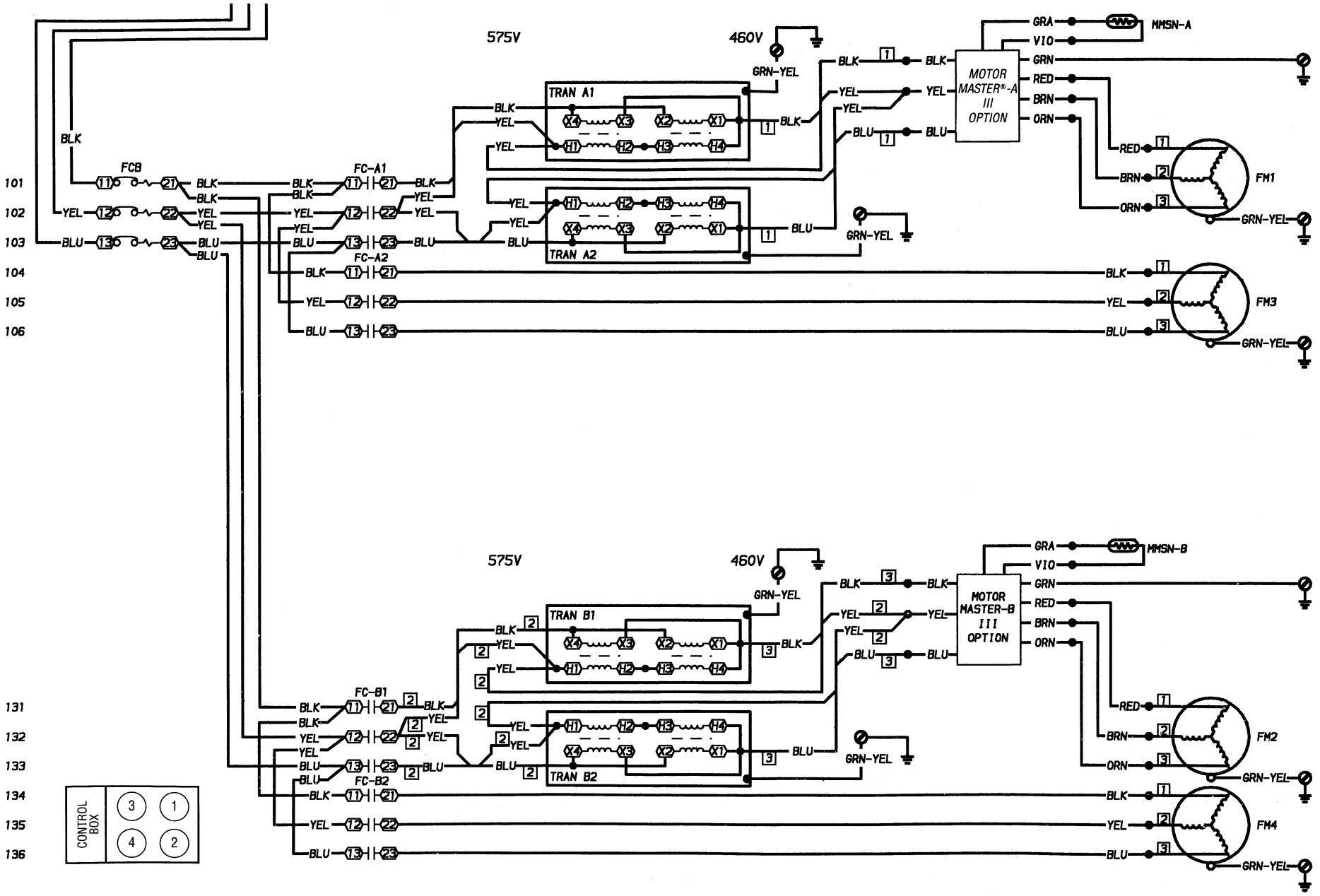


Fig. 40 — 30GTN,GTR,GUN,GUR040-050; 575 V Motormaster® Control Units

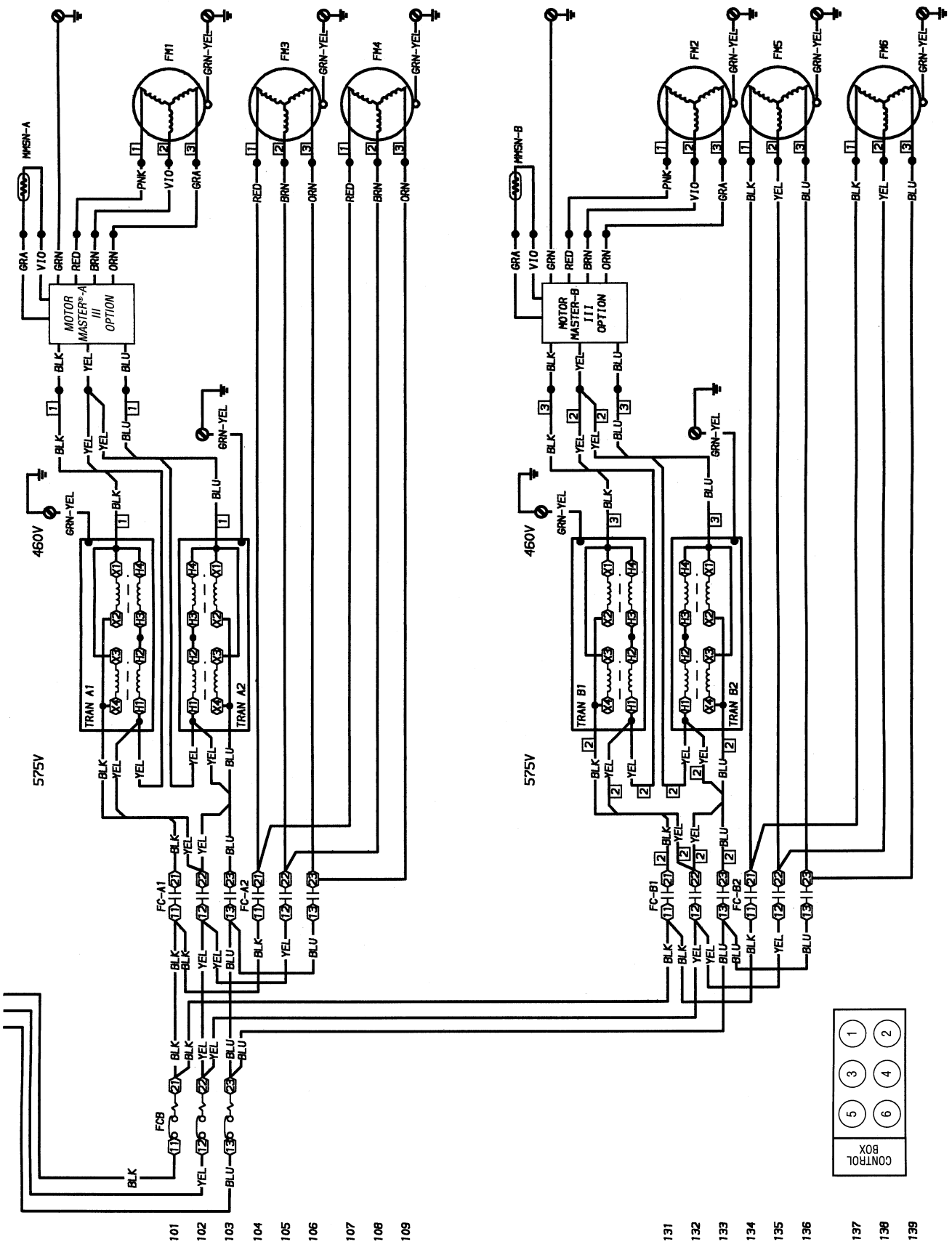
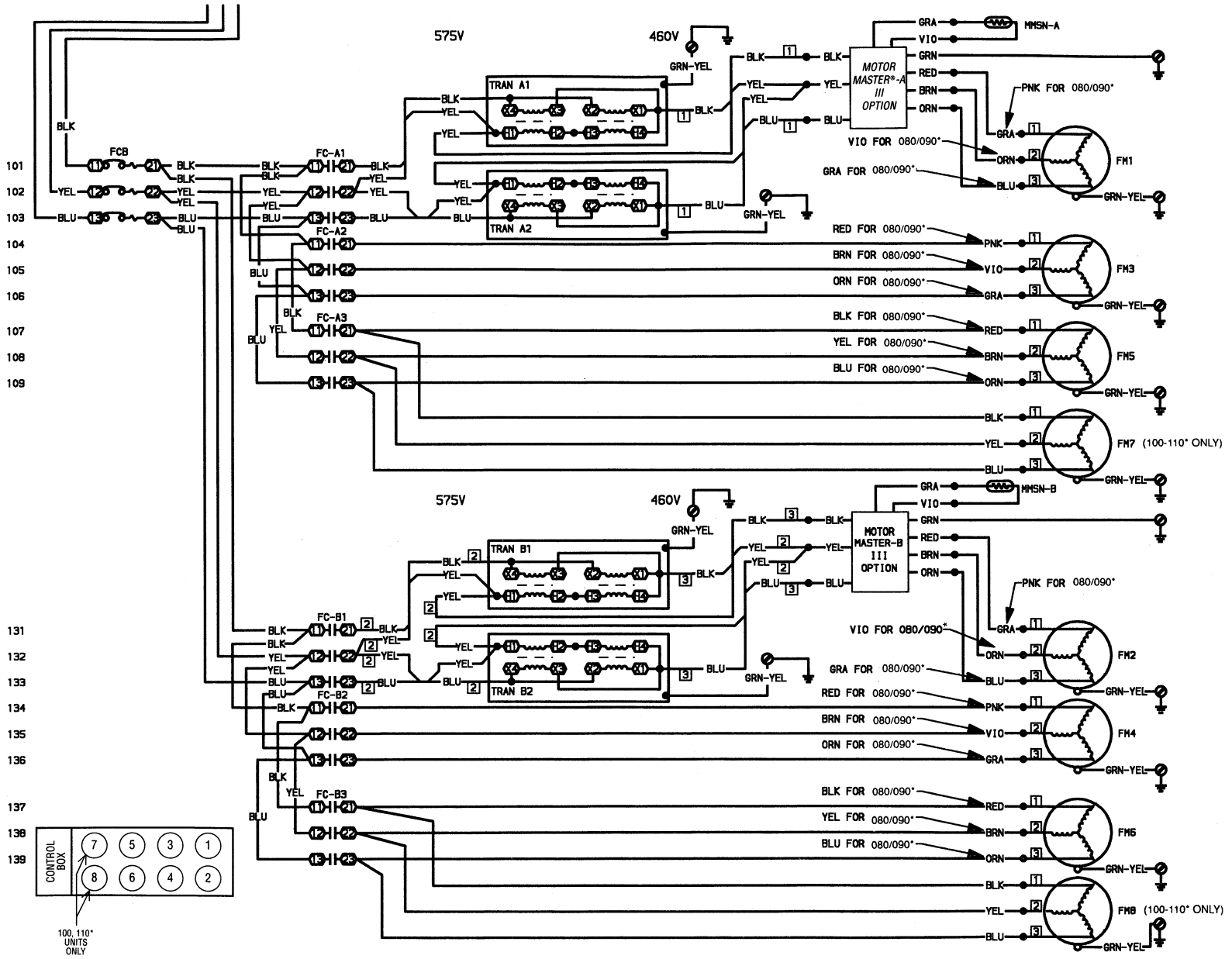
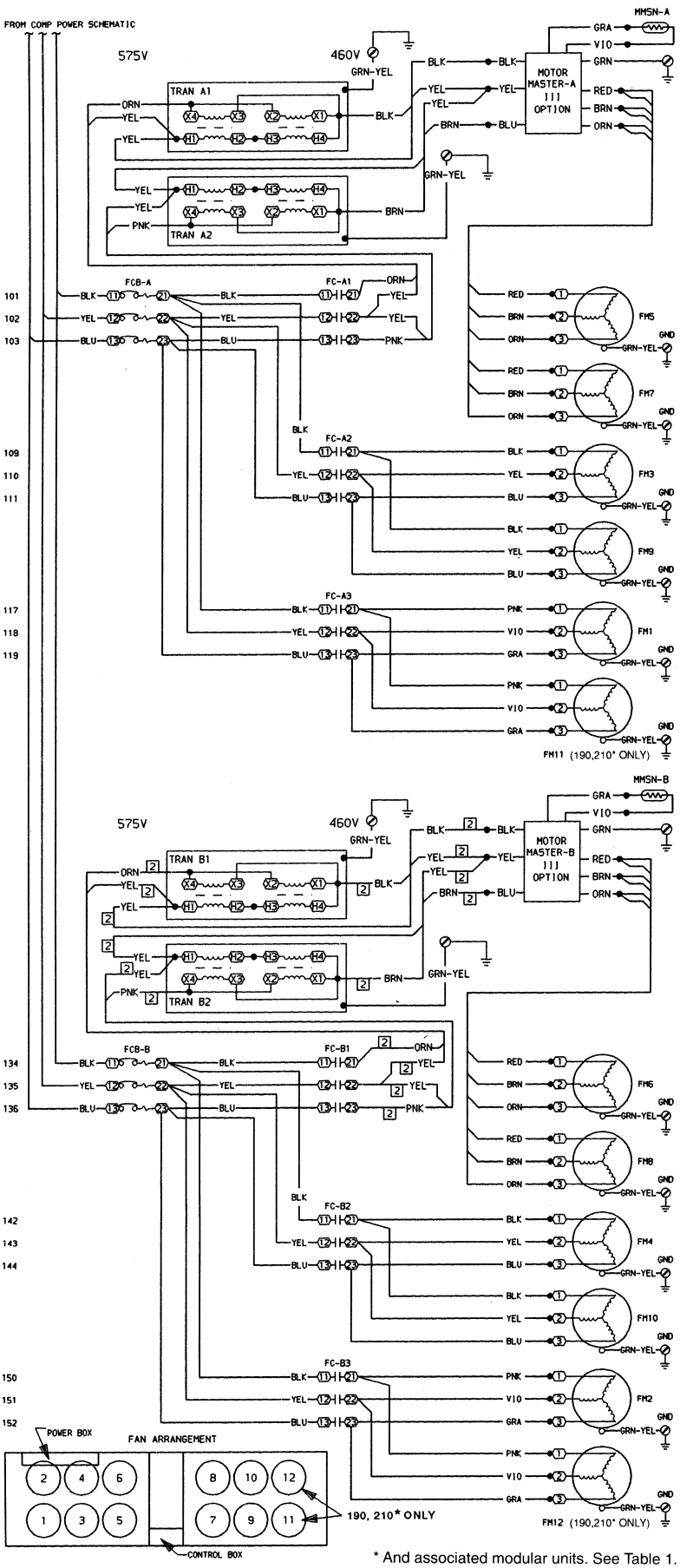


Fig. 41 — 30GTN,GTR,GUN,GUR060,070; 575 V Motormaster® Control Units



* And associated modular units. See Table 1.

Fig. 42 — 30GTN,GTR,GUN,GUR080-110, 230B-315B; 575 V Motormaster® Control Units



* And associated modular units. See Table 1.

Fig. 43 — 30GTN,GTR,GUN,GUR130-210, 230A-315A, 330A/B-420A/B; 575 V Motormaster® Control Units

Copyright 1999 Carrier Corporation

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

Book	2	PC 903	Catalog No. 533-091	Printed in U.S.A.	Form 30G-5W	Pg 52	1100	10-99	Replaces: New
Tab	5c								