Wiring Diagrams

DIAGRAM INDEX

POWER SCHEMATICS

Unit 30HXA,C	Voltage	Figure Number	Label Diagram No. 30HX
076-186	ALL	1	500141
206-271	ALL	2	500389

CONTROL SCHEMATICS

Unit 30HXA,C	Voltage	Figure Number	Label Diagram No. 30HX
076-186	24	3	500143
	115,230	4	500142
206-271	24	5	500392
	115,230	6	500395

COMPONENT ARRANGEMENTS

Unit 30HXA,C	Voltage	Figure Number	Label Diagram No. 30HX
076-186	ALL	7	500140
206-271	ALL	8	500396

NOTE: For operating sequence, refer to Controls, Start-Up, Operation, Service, and Troubleshooting literature.

LEGEND

ALM	—	Alarm
C	—	Contactor Compressor
CB	—	Circuit Breaker
CCN	—	Carrier Comfort Network
CFC	—	Condenser Fan Contactor
CD WP	—	Condenser Water Pump
COMM	—	Communications
COMP	—	Compressor
COND	—	Condenser
CPM	—	Compressor Protection Module
CR	—	Control Relay
CT	—	Current Transformer
CWFS	—	Chilled Water Flow Switch
CWP	—	Chilled Water Pump
CWPI	—	Chilled Water Pump Interlock
DGT	—	Discharge Gas Thermistor
DPT	—	Discharge Pressure Transducer
DSIO EXV	—	EXV Driver
ECWT	—	Entering Chilled Water Temp.
EPT	—	Economizer Pressure Transducer
EQUIP	—	Equipment
EXV	—	Electronic Expansion Valve
FB	—	Fuse Block
FC	—	Fan Contactor
FIOP	—	Factory-Installed Option
FU	—	Fuse
GND	—	Ground
HPS	—	High-Pressure Switch
HSIO	—	Keyboard and Display Module
HTR	—	Heater
I/O	—	Input/Output
LCWT	—	Leaving Chilled Water Temp.
LDR	—	Loader
LID	—	Local Interface Device
LL	—	Liquid Level
LS	—	Level Switch
MLCR	—	Minimum Load Control Relay
MLC	—	Minimum Load Control
NEC	—	National Electrical Code (U.S.A.)
OHR	—	Oil Heater Relay
OL	—	Overload
OLS	—	Oil Level Switch
OP	—	Oil Pump
OPC	—	Oil Pump Contactor
OPT	—	Oil Pressure Transducer
PL	—	Plug Assembly
PRI	—	Primary
PS	—	Power Supply
PSIO	—	Processor Module
PWR	—	Power
RBPL	—	Relay Board Plug Assembly
S	—	Shorting
SEC	—	Secondary
SN	—	Sensor (Toroid)
SPT	—	Suction Pressure Transducer
SW	—	Switch
T	—	Thermistor
TB	—	Terminal Block
TEMP	—	Temperature
TRAN	—	Transformer
XL	—	Across-The-Line Start
1M	—	Wye
2M	—	Delta
4IN/OUT	—	Analog I/O Module


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

Accessories or Options

NOTES

1. 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 label diagrams indicate the line location of applicable contacts. An underlined 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 National Electrical Code (NEC) (U.S.A.). 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 conductors for all units. Maximum incoming wire size for each terminal block is 500 kcmil.
6. Power for control circuit should be supplied from a separate source (except 380/415-v units) 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. Control circuit power is factory wired for 380/415-v units.
7. Terminals 13 and 14 of TB2 are for field external interlock connection for remote ON-OFF and terminals 11 and 12 of TB2 for CWP interlock and CWFS. The contacts must be rated for dry-circuit application capable of handling a 24 vac to 50 mA load. Remove jumper between 13 and 14 of TB2 if remote ON-OFF is installed.
8. Separate field-supplied 115-v or 230-v power circuits:
   Terminals 4 and 5 of TB2 are for control of chilled water pump starter.
   Terminals 2 and 3 of TB2 are for alarm.
   The maximum allowable load for each of these circuits is 125 va sealed.
9. Terminal 6 of TB2 is for condenser fan contactor B (HXA) or condenser water pump (HXC). Terminal 1 of TB2 is for condenser fan contactor A (HXA). The maximum allowable load for each of these circuits is 125 va inrush, 125 va sealed. Separate field-supplied power is not required.

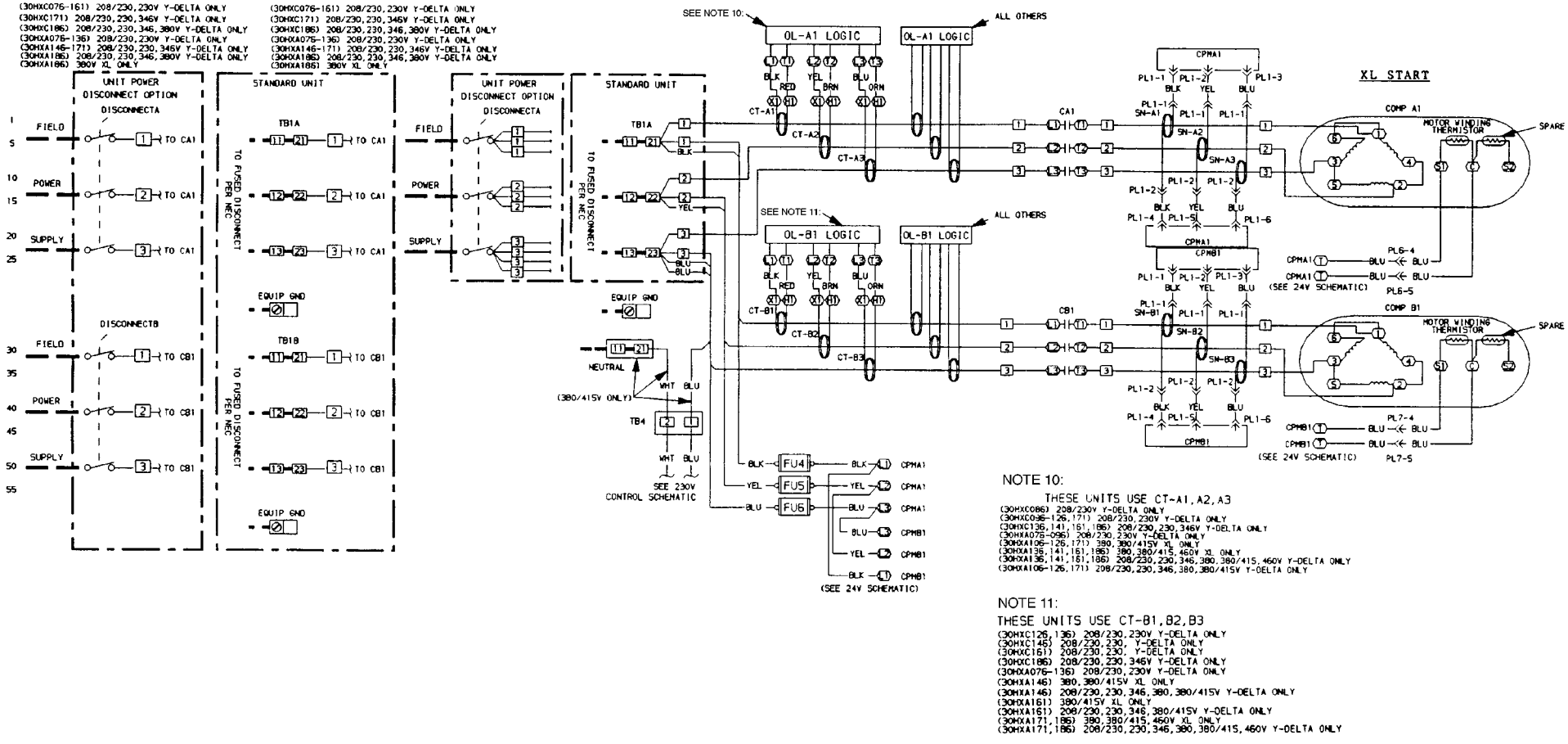
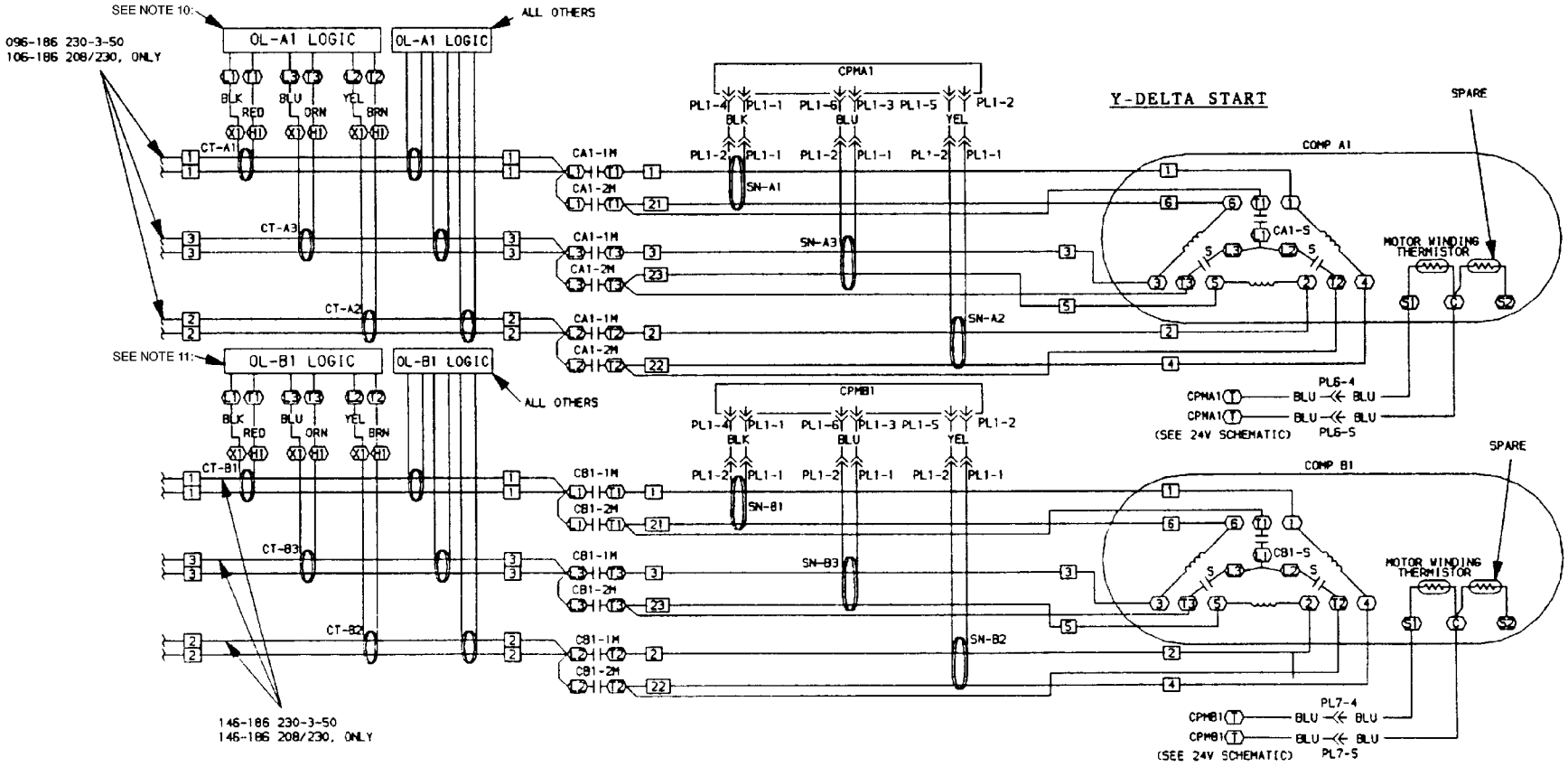


Fig. 1 — Power Wiring, 30HX076-186



NOTE 10:

THESE UNITS USE CT-A1, A2, A3

(30HXC086) 208/230V Y-DELTA ONLY
(30HXC096-126, 171) 208/230, 230V Y-DELTA ONLY
(30HXC136, 141, 161, 186) 208/230, 230, 346V Y-DELTA ONLY
(30HXA076-096) 208/230, 230V Y-DELTA ONLY
(30HXA106-126, 171) 380, 380/415V XL ONLY
(30HXA136, 141, 161, 186) 380, 380/415, 460V XL ONLY
(30HXA136, 141, 161, 186) 208/230, 230, 346, 380, 380/415, 460V Y-DELTA ONLY
(30HXA106-126, 171) 208/230, 230, 346, 380, 380/415V Y-DELTA ONLY

NOTE 11:

THESE UNITS USE CT-B1, B2, B3

(30HXC126, 136) 208/230, 230V Y-DELTA ONLY
(30HXC146) 208/230, 230, Y-DELTA ONLY
(30HXC161) 208/230, 230, Y-DELTA ONLY
(30HXC186) 208/230, 230, 346V Y-DELTA ONLY
(30HXA076-136) 208/230, 230V Y-DELTA ONLY
(30HXA146) 380, 380/415V XL ONLY
(30HXA146) 208/230, 230, 346, 380, 380/415V Y-DELTA ONLY
(30HXA161) 380/415V XL ONLY
(30HXA161) 208/230, 230, 346, 380/415V Y-DELTA ONLY
(30HXA171, 186) 380, 380/415, 460V XL ONLY
(30HXA171, 186) 208/230, 230, 346, 380, 380/415, 460V Y-DELTA ONLY

Fig. 1 — Power Wiring, 30HX076-186 (cont)

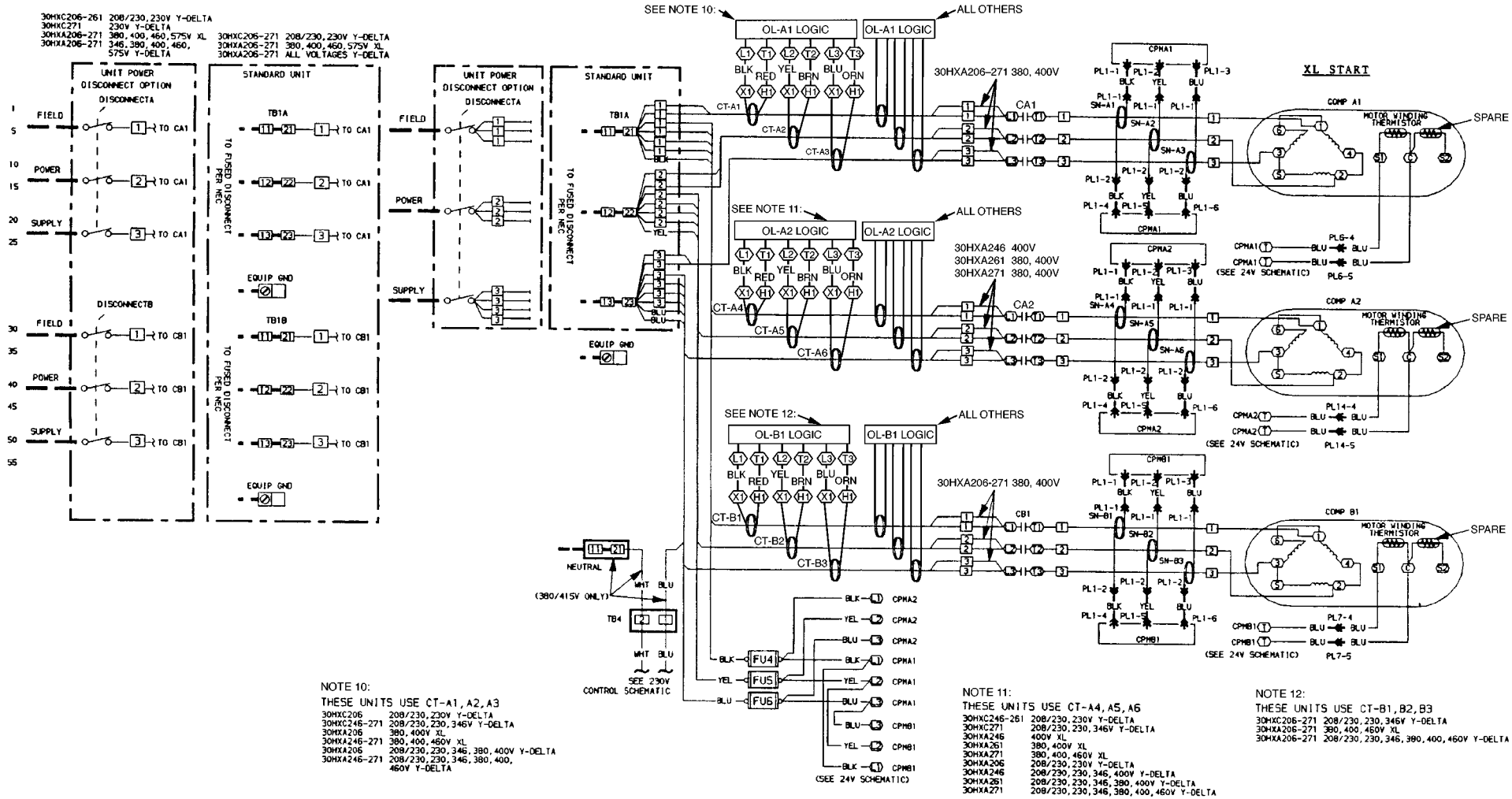
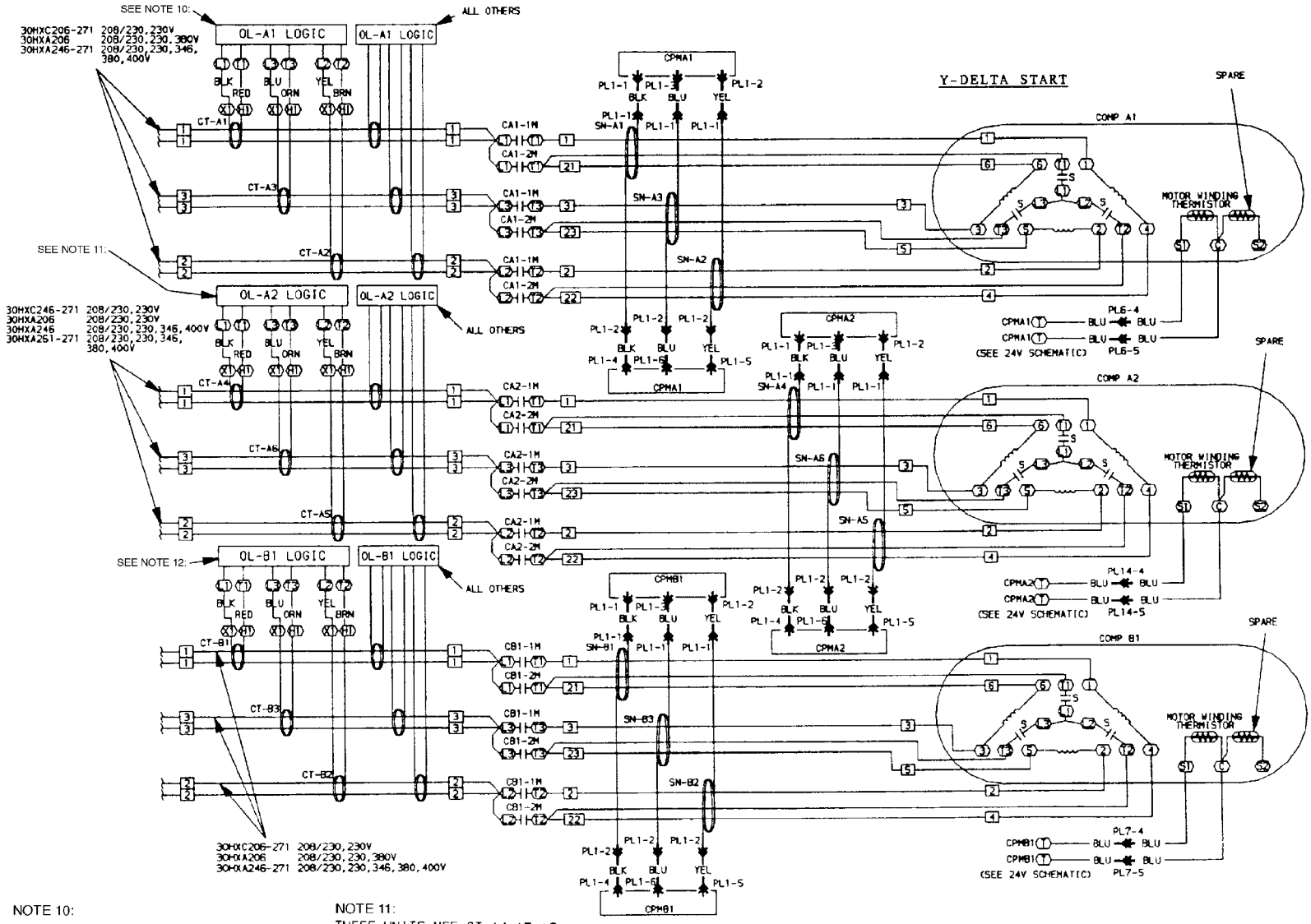


Fig. 2 — Power Wiring, 30HX206-271



NOTE 10:

THESE UNITS USE CT-A1, A2, A3

30HXC206	208/230, 230V Y-DELTA
30HXC246-271	208/230, 230, 346V Y-DELTA
30HXA206	380, 400V XL
30HXA246-271	380, 400, 460V XL
30HXA206	208/230, 230, 346, 380, 400V Y-DELTA
30HXA246-271	208/230, 230, 346, 380, 400, 460V Y-DELTA

NOTE 11:

THESE UNITS USE CT-A4, A5, A6

30HXC246-261	208/230, 230V Y-DELTA
30HXC271	208/230, 230, 346V Y-DELTA
30HXA246	400V XL
30HXA261	380, 400V XL
30HXA271	380, 400, 460V XL
30HXA206	208/230, 230V Y-DELTA
30HXA246	208/230, 230, 346, 400V Y-DELTA
30HXA261	208/230, 230, 346, 380, 400V Y-DELTA
30HXA271	208/230, 230, 346, 380, 400, 460V Y-DELTA

NOTE 12:

THESE UNITS USE CT-B1, B2, B3

30HXC206-271	208/230, 230, 346V Y-DELTA
30HXA206-271	380, 400, 460V XL
30HXA206-271	208/230, 230, 346, 380, 400, 460V Y-DELTA

Fig. 2 — Power Wiring, 30HX206-271 (cont)

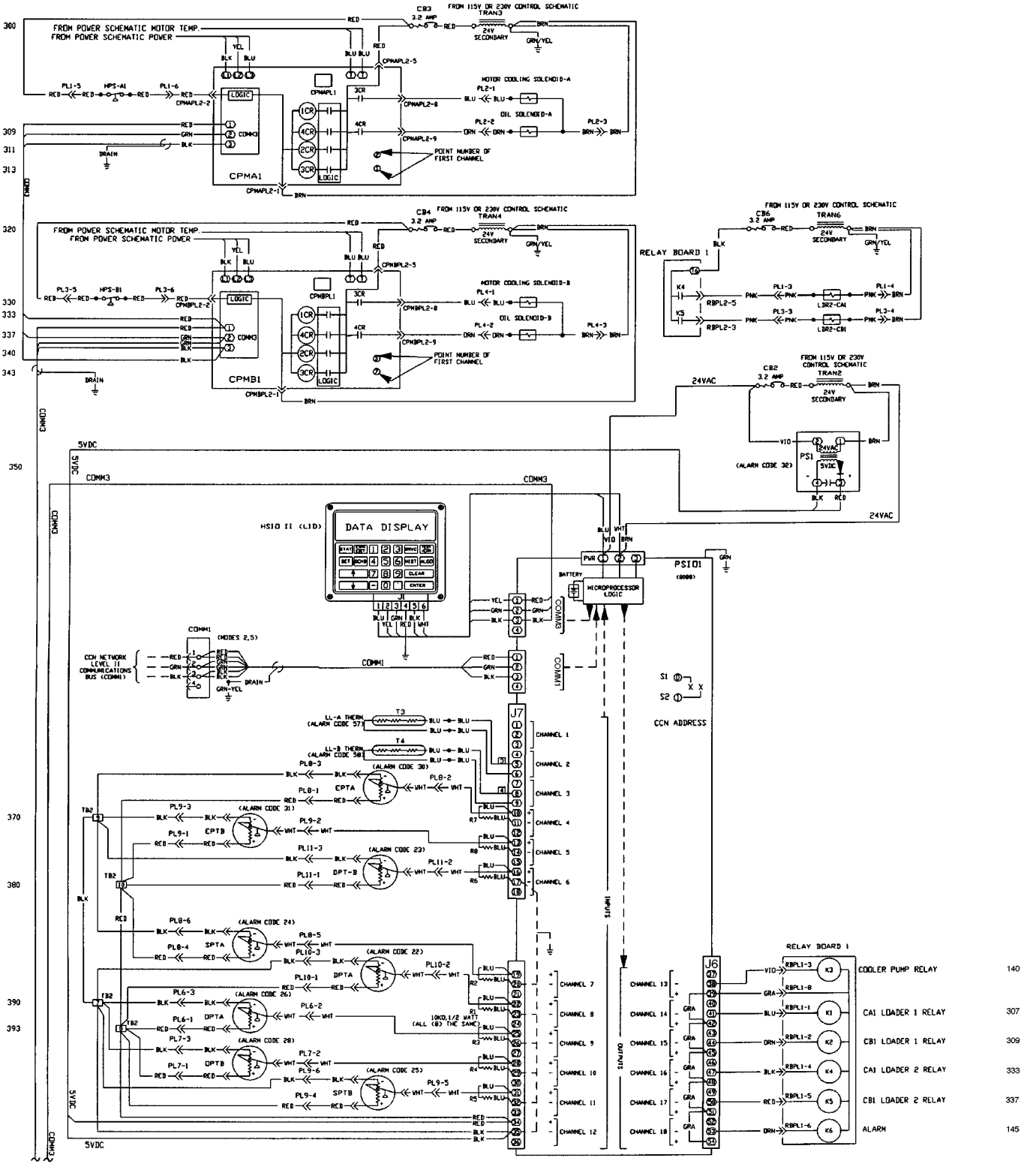


Fig. 3 — Control Wiring, 24 v, 30HX076-186

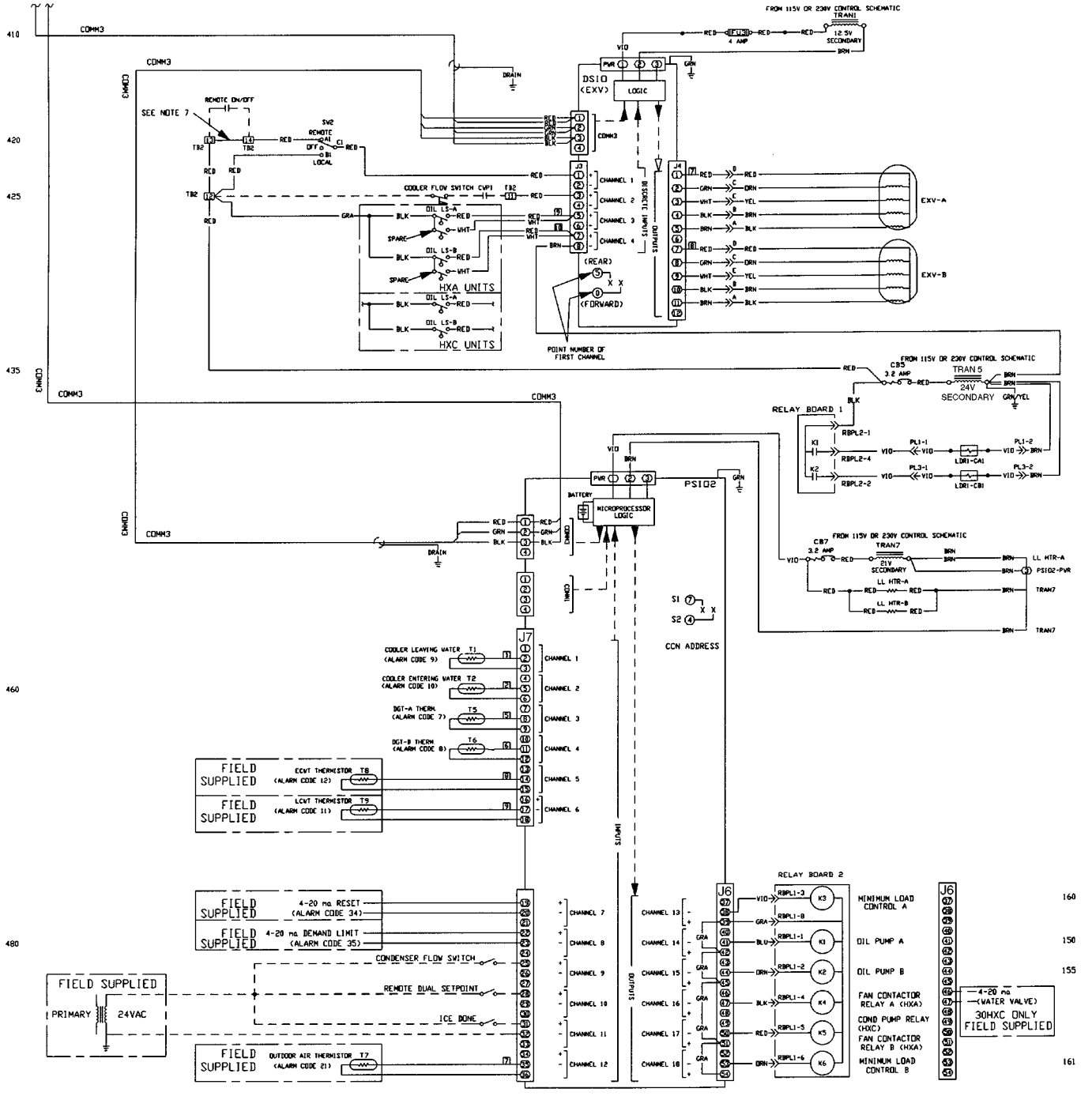


Fig. 3 — Control Wiring, 24 v, 30HX076-186 (cont)

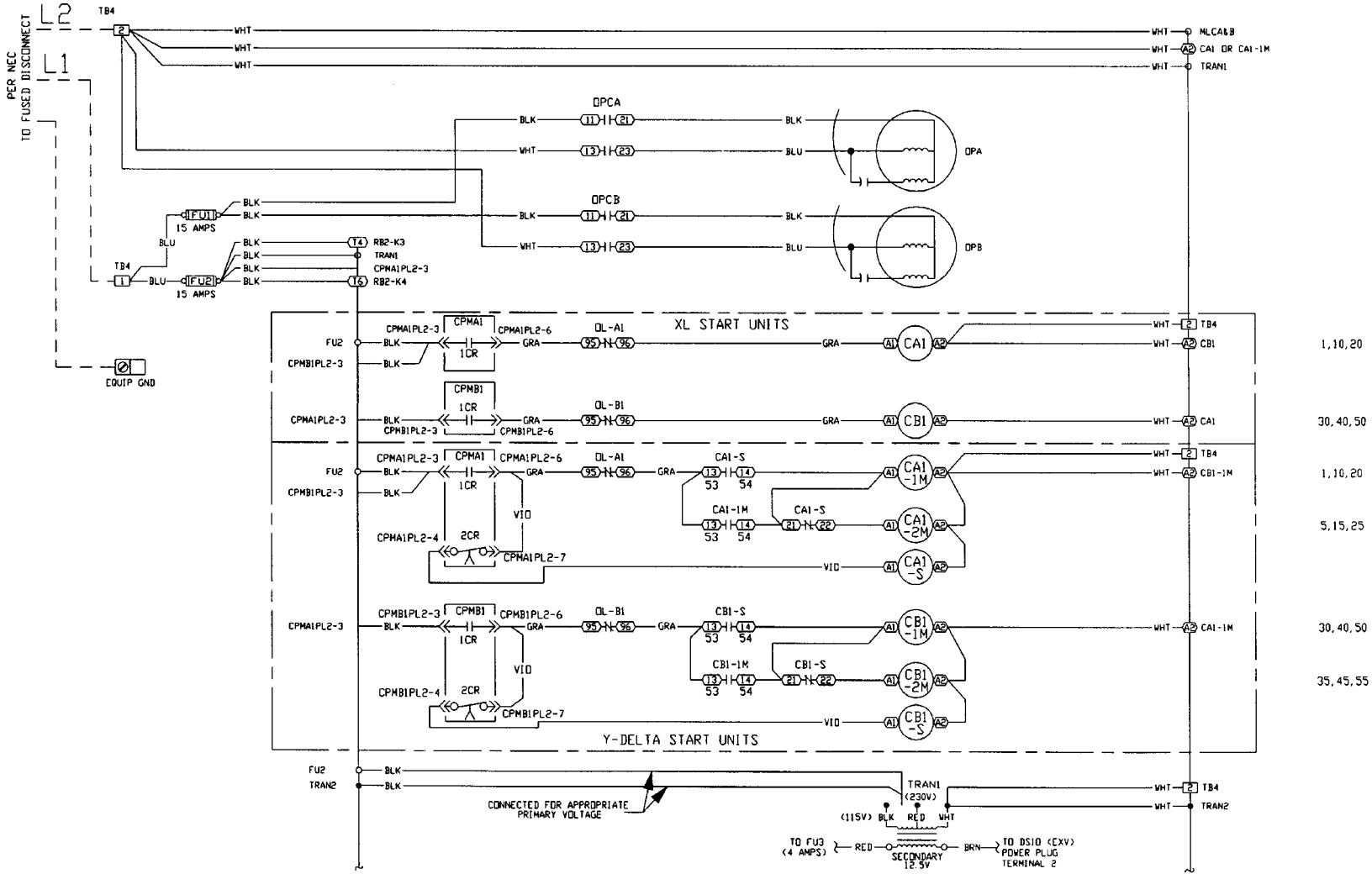


Fig. 4 — Control Wiring, 115 v or 230 v, 30HX076-186

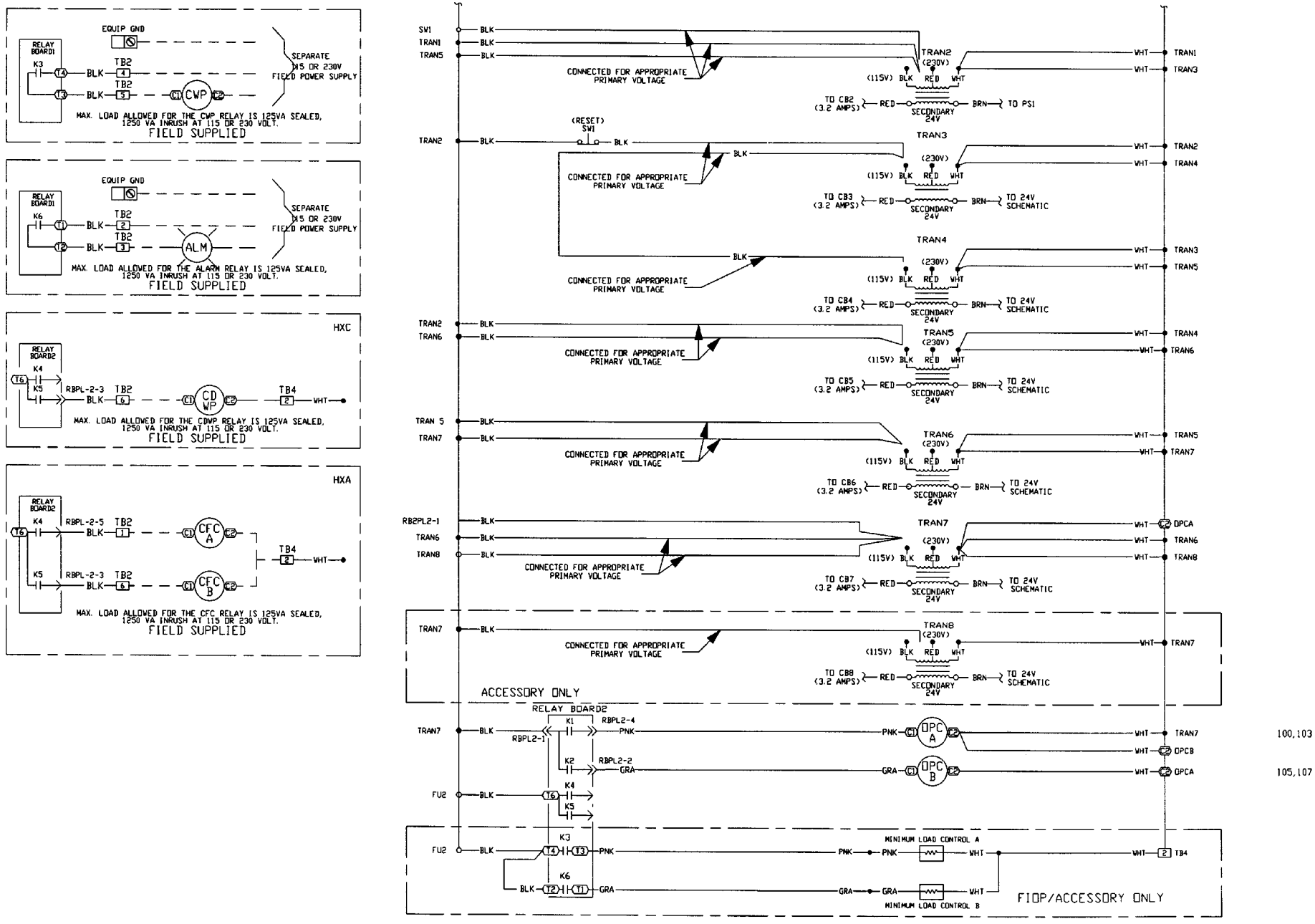


Fig. 4 — Control Wiring, 115 v or 230 v, 30HX076-186 (cont)

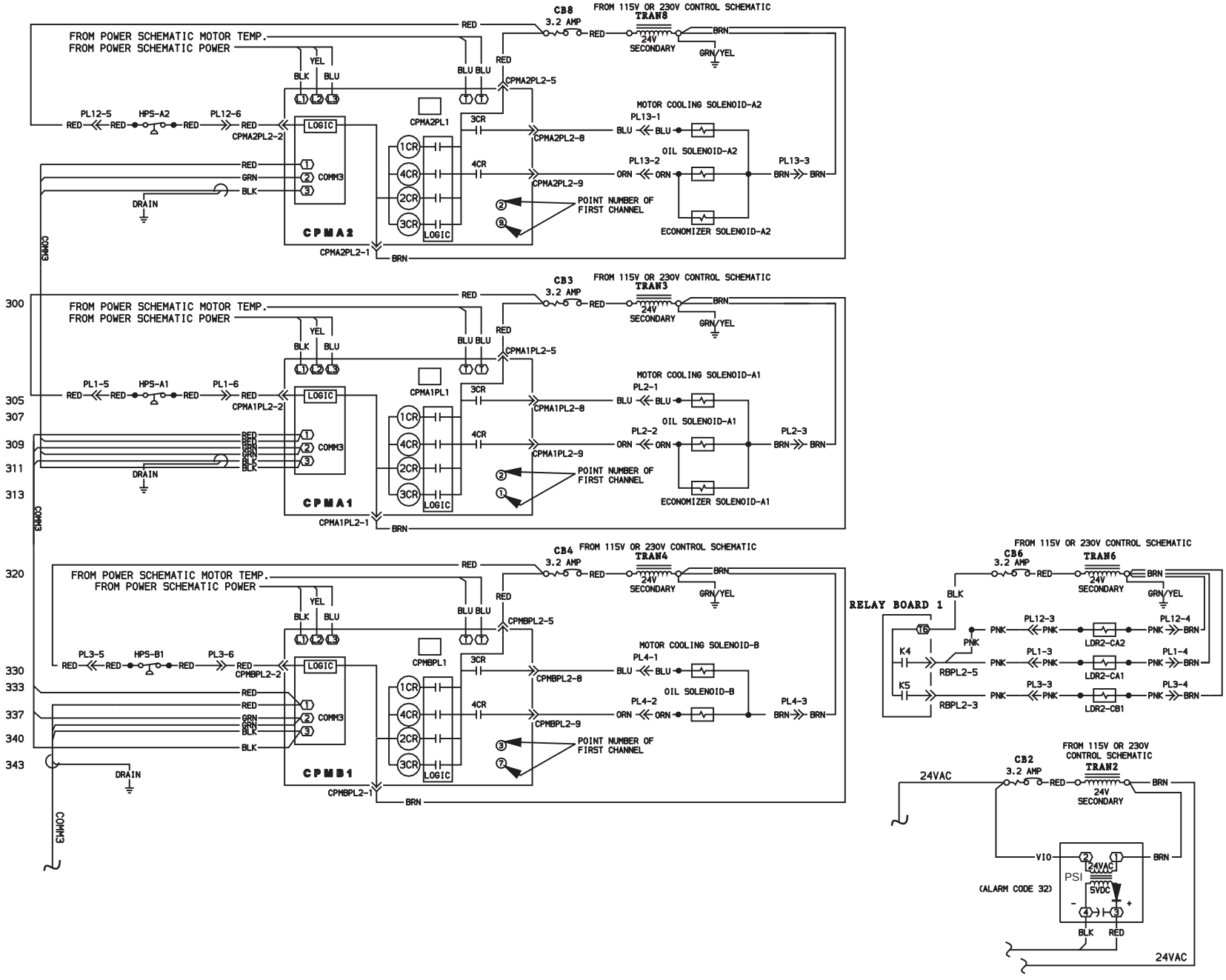


Fig. 5 — Control Wiring, 24 v, 30HX206-271

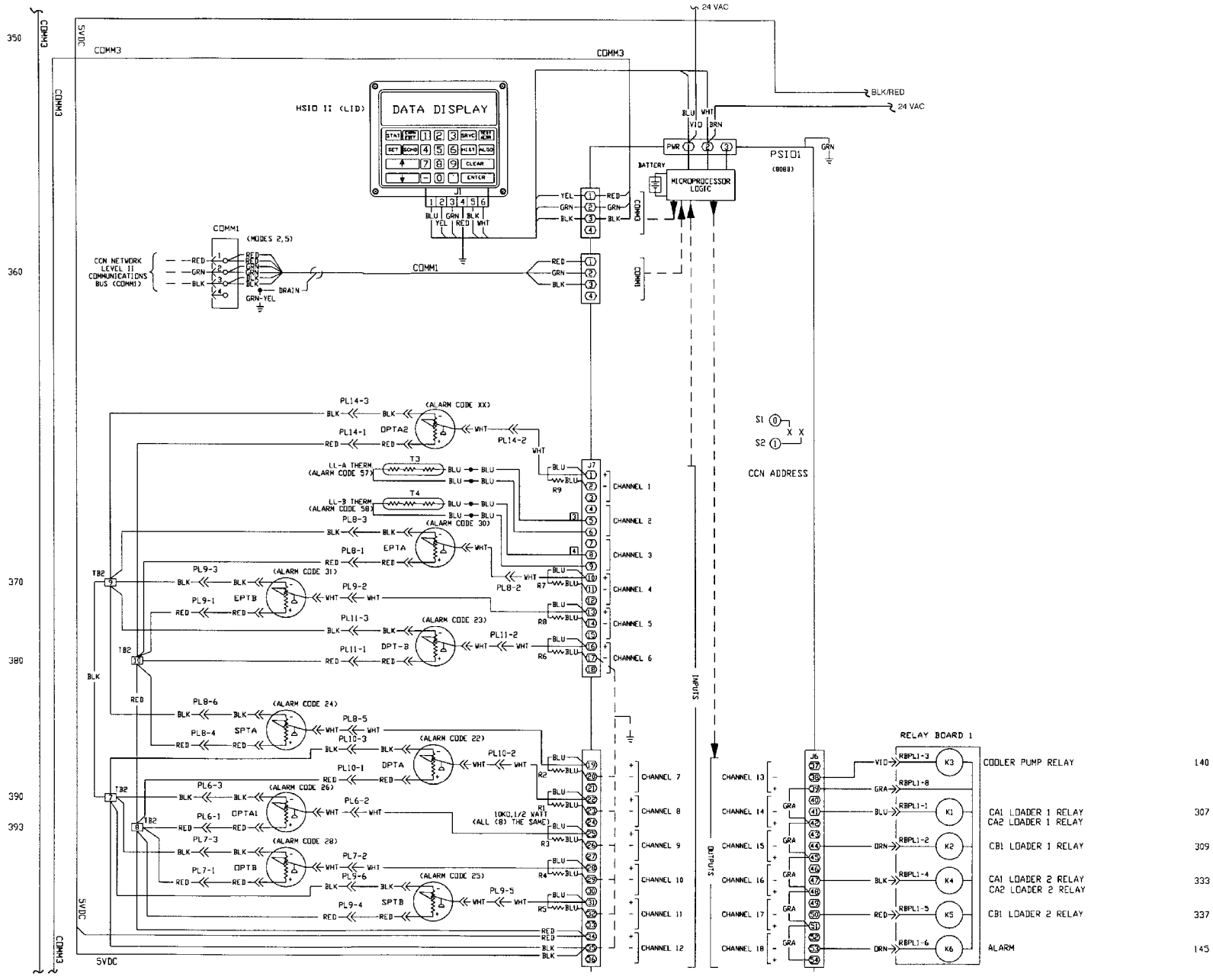


Fig. 5 — Control Wiring, 24 v, 30HX206-271 (cont)

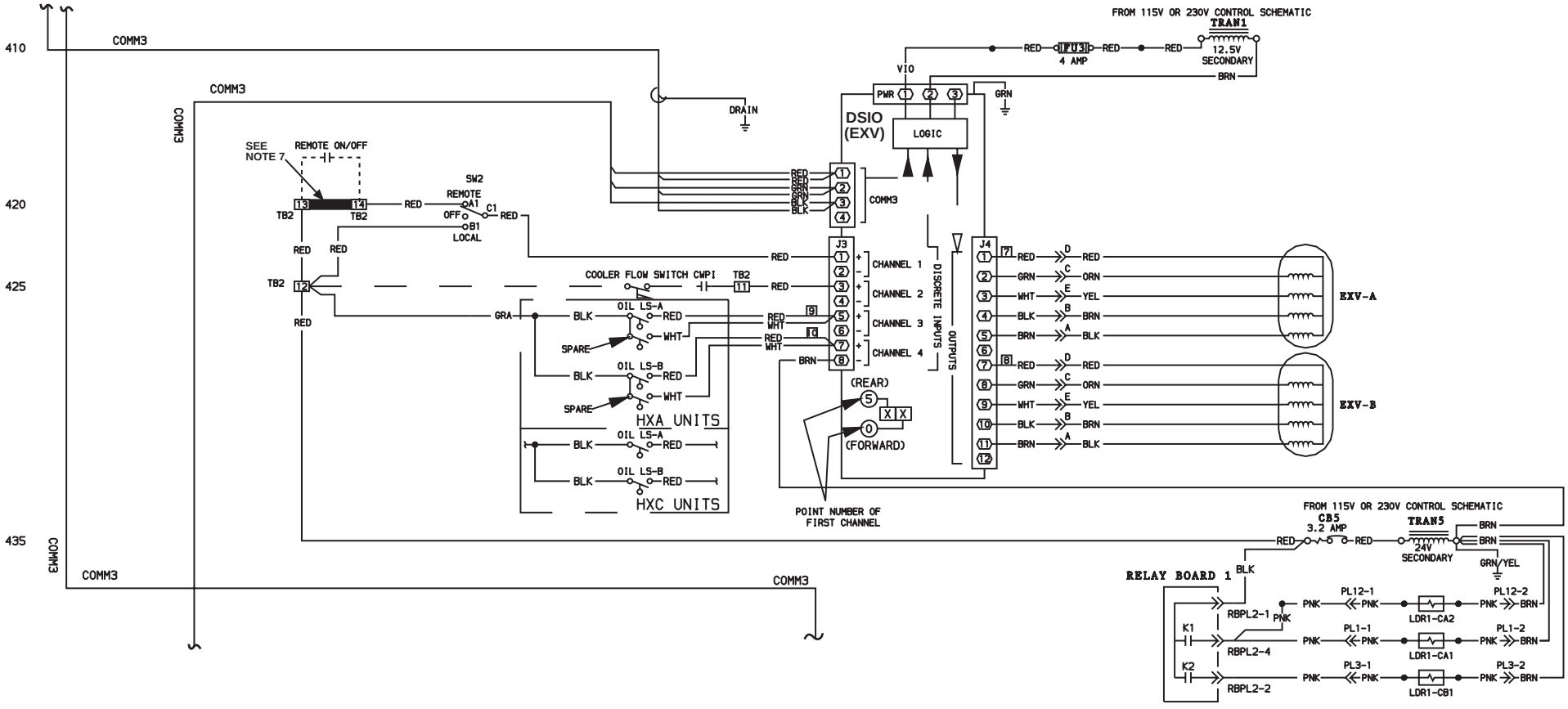


Fig. 5 — Control Wiring, 24 v, 30HX206-271 (cont)

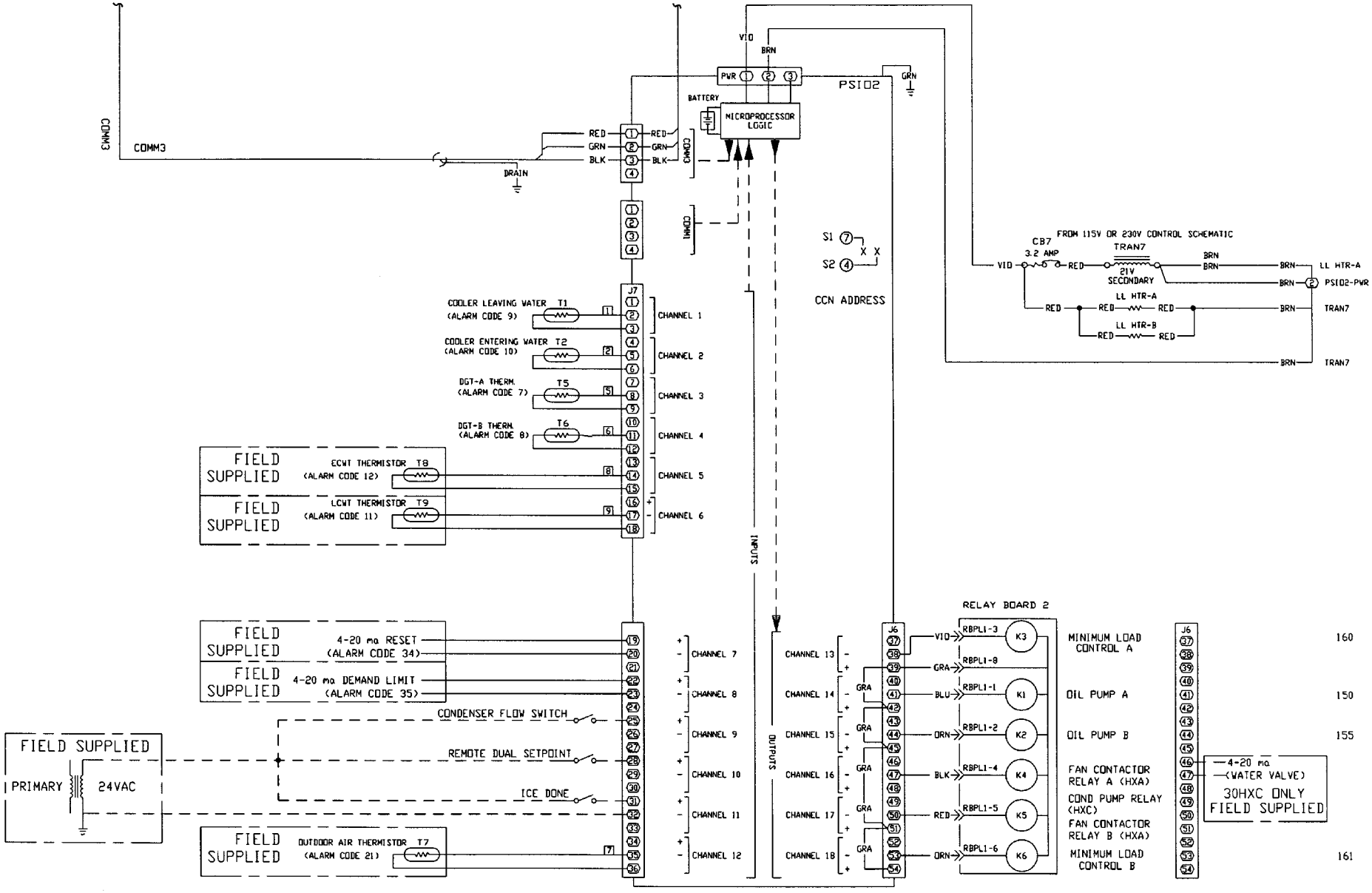


Fig. 5 — Control Wiring, 24 v, 30HX206-271 (cont)

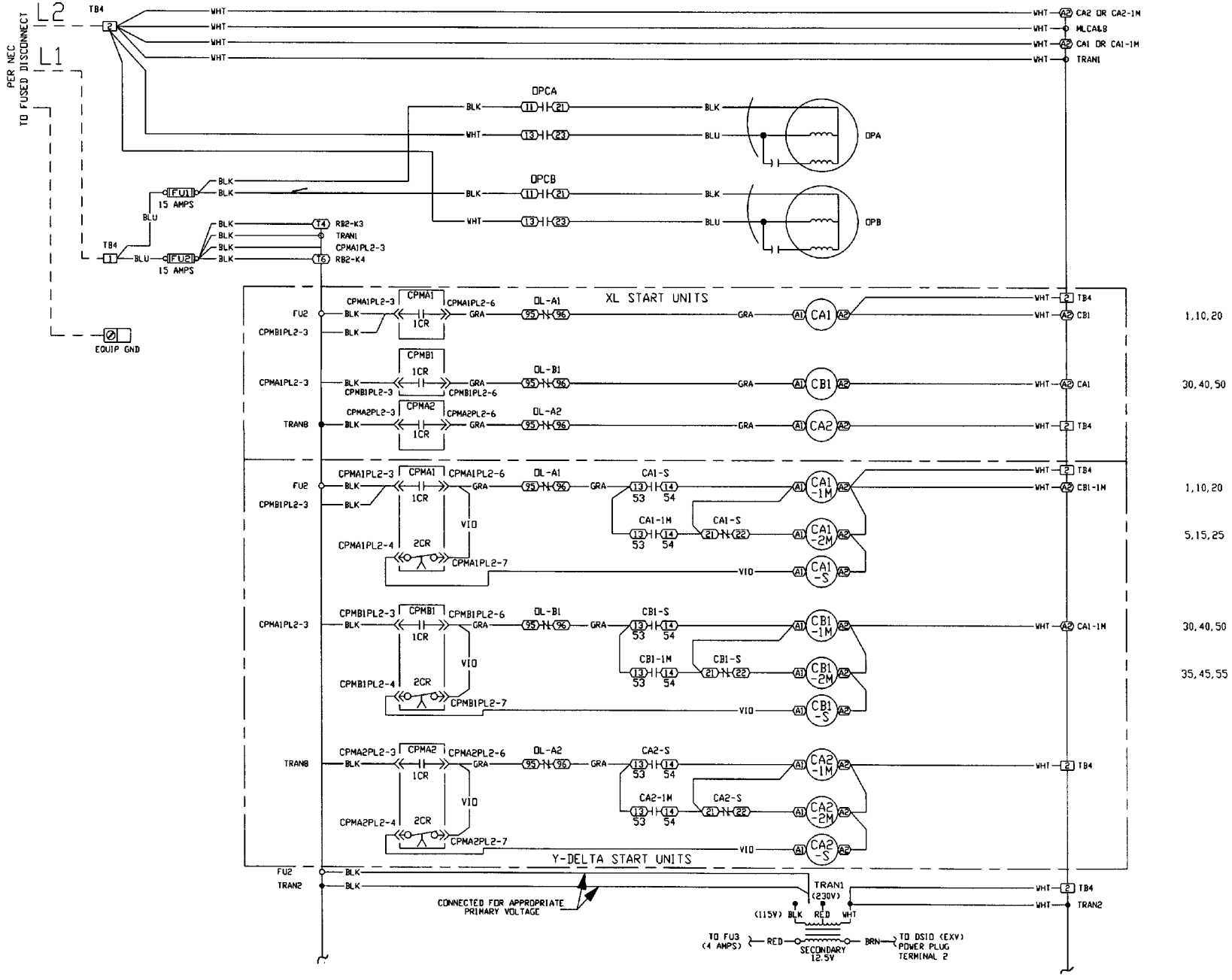


Fig. 6 — Control Wiring, 115 v or 230 v, 30HX206-271

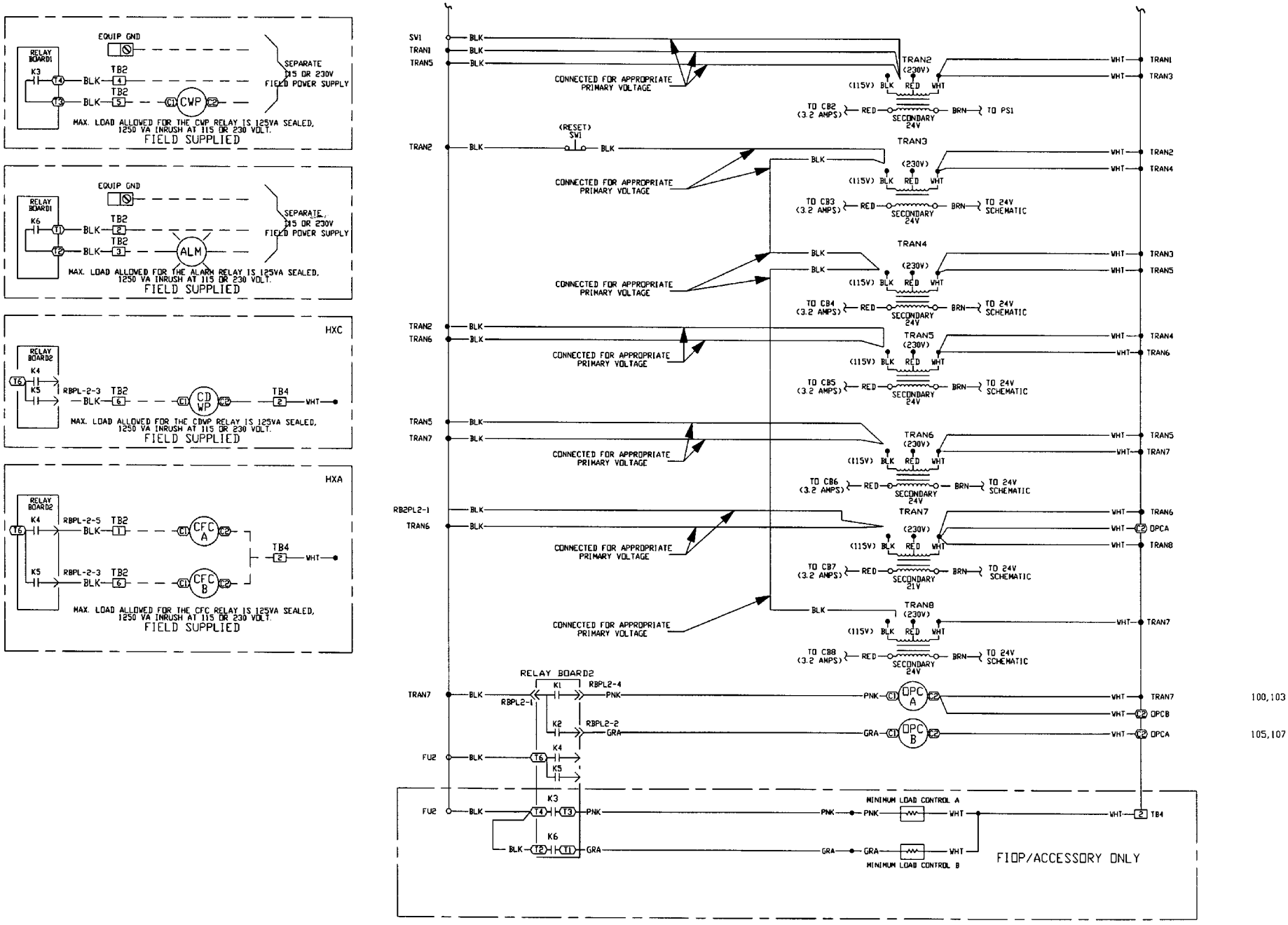


Fig. 6 — Control Wiring, 115 v or 230 v, 30HX206-271 (cont)

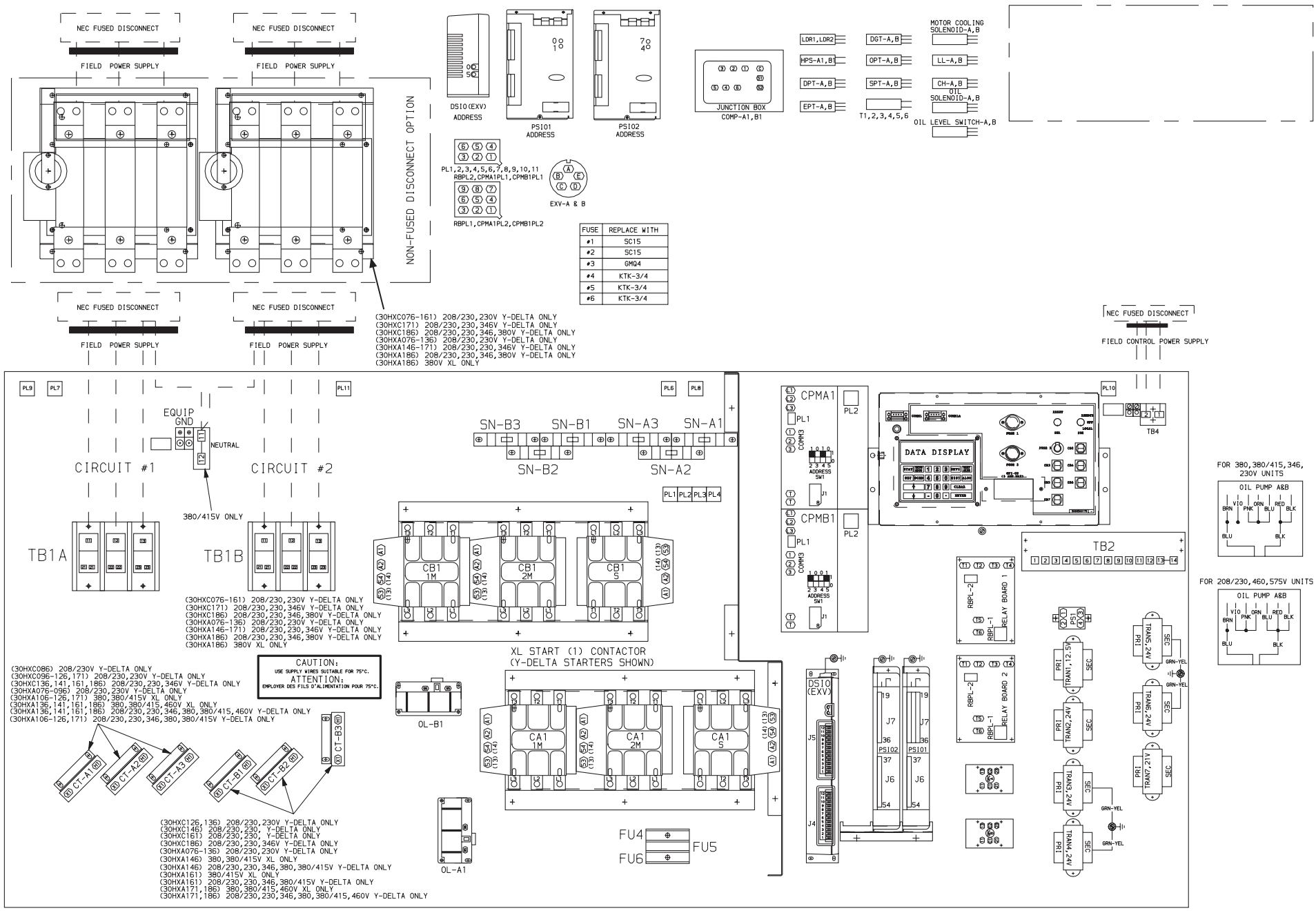


Fig. 7 — Component Arrangement, 30HX076-186

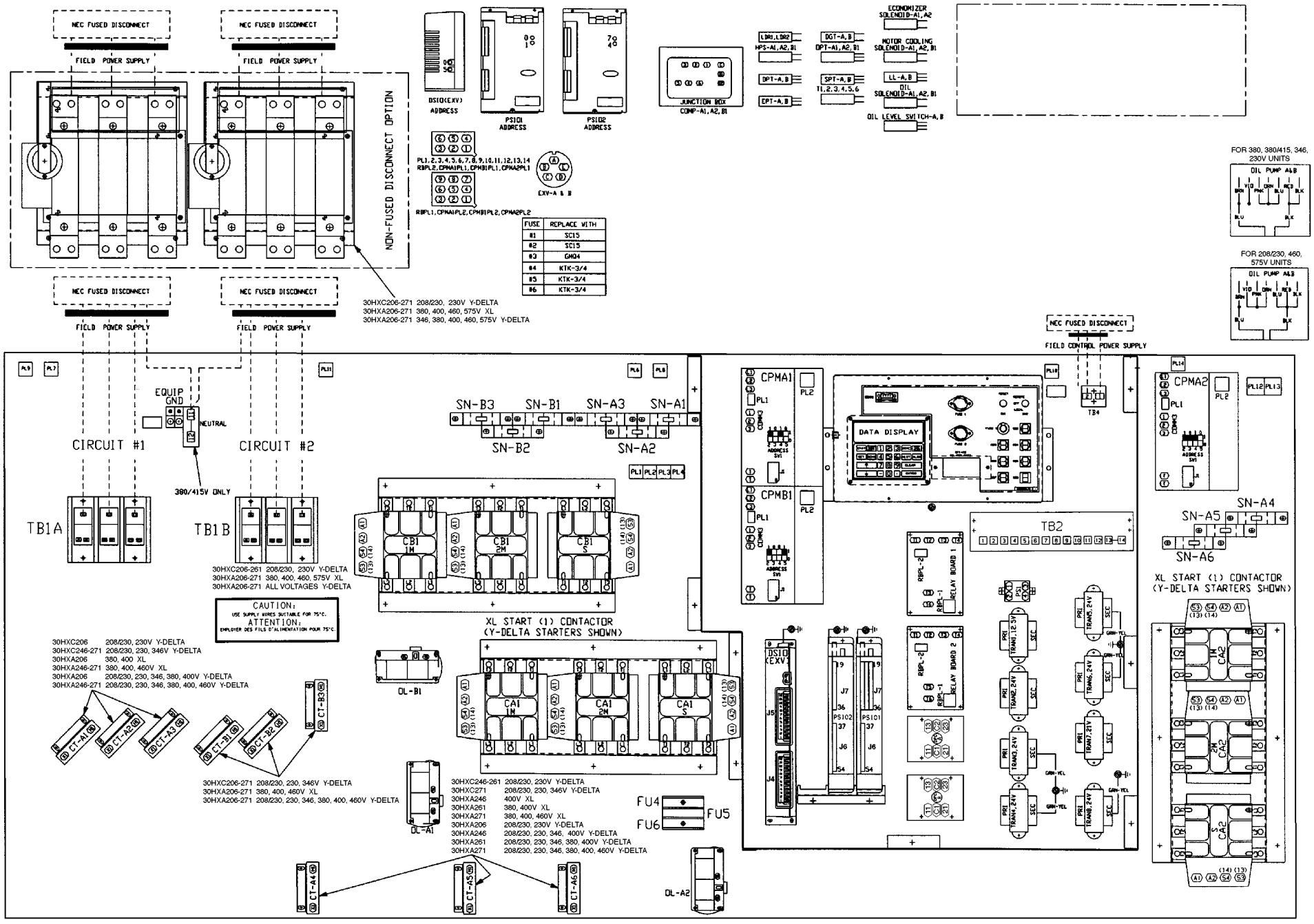


Fig. 8 — Component Arrangement, 30HX206-271