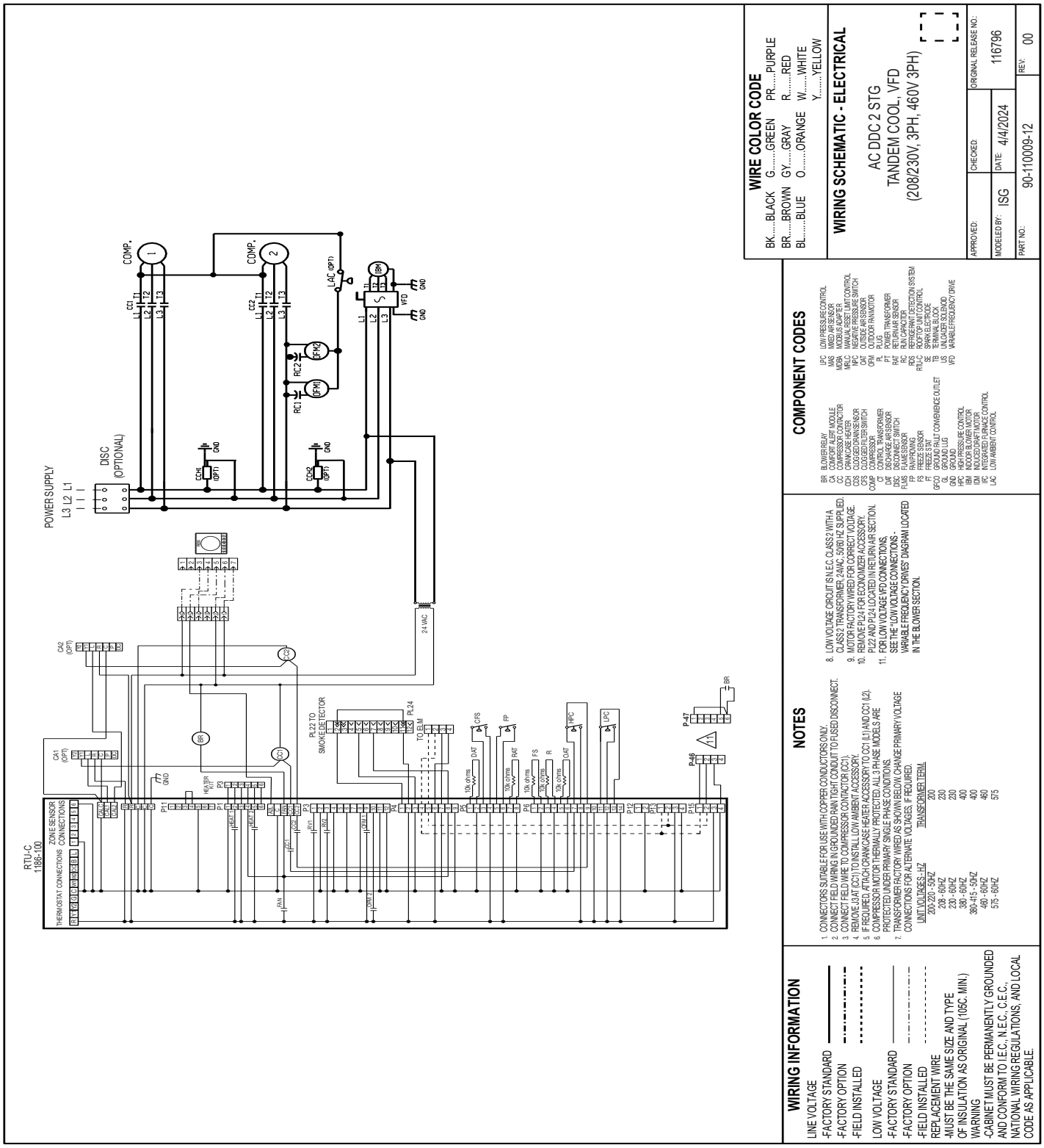
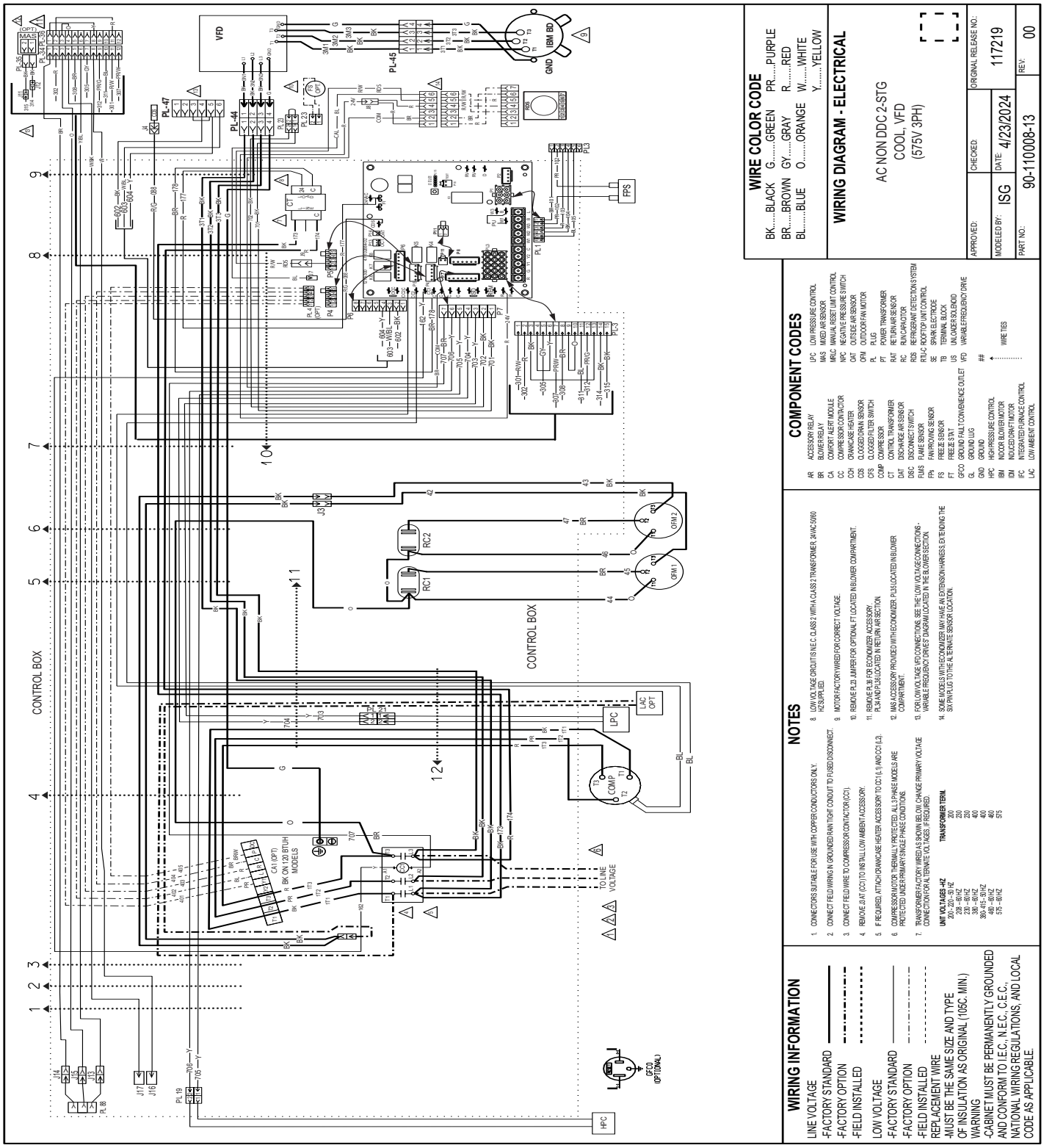
Appendix H. Wiring Diagrams & Schematics (Cont.)



Appendix H. Wiring Diagrams & Schematics (Cont.)


WIRE COLOR CODE
BK....BLACK G.....GREEN PR....PURPLE
BR....BROWN GY....GRAY R.....RED
BL.....BLUE O.....ORANGE W.....WHITE
Y.....YELLOW
WIRING DIAGRAM - ELECTRICAL
AC NON DDC 2-STG
COOL, VFD
(575V 3PH)
APPROVED:
CHECKED:
ORIGINAL RELEASE NO:
117219
MODELED BY: ISG
DATE: 4/23/2024
PART NO.: 90-110008-13
REV: 00
COMPONENT CODES
AR ACCESSORY RELAY
BR BLOWER RELAY
CA COMFORT ALERT MODULE
CC COMPRESSOR CONTACTOR
CCH CRANKCASE HEATER
CDS CLOGGED DRAIN SENSOR
CFS CLOGGED FILTER SWITCH
COMP COMPRESSOR
CT CONTROL TRANSFORMER
DAT DISCHARGE AIR SENSOR
DSC DISCONNECT SWITCH
FLAS FLAME SENSOR
FPs FAN PROVING SENSOR
FS FREEZE STAT
FT FREEZE SENSOR
GFCO GROUND FAULT CONVENIENCE OUTLET
G GROUND LUG
GND GROUND
HPC HIGH PRESSURE CONTROL
IBM INDOOR BLOWER MOTOR
IDM INDUCED DRAFT MOTOR
IFC INTEGRATED FURNACE CONTROL
LAC LOW AMBIENT CONTROL
LPC LOW PRESSURE CONTROL
MAS MIXED AIR SENSOR
MRLC MANUAL RESET LIMIT CONTROL
NPC NEGATIVE PRESSURE SWITCH
OAT OUTSIDE AIR SENSOR
OFM OUTDOOR FAN MOTOR
PL PLUG
PT POWER TRANSFORMER
RAT RETURN AIR SENSOR
RC RUN CAPACITOR
RDS REFRIGERANT DETECTION SYSTEM
RTU-C ROOFTOP UNIT CONTROL
SE SPARK ELECTRODE
TB TERMINAL BLOCK
US UNLOADER SOLENOID
VFD VARIABLE FREQUENCY DRIVE
WIRE TIES
NOTES
1. CONNECTORS SUITABLE FOR USE WITH COPPER CONDUCTORS ONLY.
2. CONNECT FIELD WIRING IN GROUNDED RAN TIGHT CONDUIT TO FUSED DISCONNECT.
3. CONNECT FIELD WIRE TO COMPRESSOR CONTACTOR (CC1).
4. REMOVE J3 AT (CC1) TO INSTALL LOW AMBIENT ACCESSORY.
5. IF REQUIRED, ATTACH CRANKCASE HEATER ACCESSORY TO CC1 (L1 AND CC1 (L2).
6. COMPRESSOR MOTOR THERMALLY PROTECTED. ALL 3-PHASE MODELS ARE PROTECTED UNDER PRIMARY SINGLE PHASE CONDITIONS.
7. TRANSFORMER FACTORY WIRED AS SHOWN BELOW. CHANGE PRIMARY VOLTAGE CONNECTION FOR ALTERNATE VOLTAGES, IF REQUIRED.
UNIT VOLTAGES -HZ TRANSFORMER TERM.
208/230-3-PE 200
208 - 60HZ 208
230 - 60HZ 230
380 - 60HZ 380
380-415-3-PE 400
460 - 60HZ 460
575 - 60HZ 575
8. LOW VOLTAGE CIRCUITS NE.C. CLASS 2 WITH A CLASS 2 TRANSFORMER. 24VAC-50/60 HZ SUPPLIED.
9. MOTOR FACTORY WIRED FOR CORRECT VOLTAGE.
10. REMOVE PL23 JUMPER FOR OPTIONAL FT LOCATED IN BLOWER COMPARTMENT.
11. REMOVE PL36 FOR ECONOMIZER ACCESSORY. PL34 AND PL35 LOCATED IN RETURN AIR SECTION.
12. MAS ACCESSORY PROVIDED WITH ECONOMIZER. PL35 LOCATED IN BLOWER COMPARTMENT.
13. FOR LOW VOLTAGE VFD CONNECTIONS, SEE THE LOW VOLTAGE CONNECTIONS - VARIABLE FREQUENCY DRIVE DIAGRAM LOCATED IN THE BLOWER SECTION.
14. SOME MODELS WITH ECONOMIZER MAY HAVE AN EXTENSION HARNESS. EXTENDING THE SUPPLIED LOTHE ALTERNATE SENSOR LOCATION.
WIRING INFORMATION
LINE VOLTAGE
-FACTORY STANDARD
-FACTORY OPTION
-FIELD INSTALLED
LOW VOLTAGE
-FACTORY STANDARD
-FACTORY OPTION
-FIELD INSTALLED
REPLACEMENT WIRE
-MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105C. MIN.)
WARNING
-CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., NATIONAL WIRING REGULATIONS, AND LOCAL CODE AS APPLICABLE.
CONTROL BOX
VFD
IBM BD
GND
PL-45
PL-47
PL-44
PL-46
PL-34
PL-36
PL-23
PL-24
PL-35
PL-1
PL3
PL4
PL5
PL6
PL7
PL8
PL9
PL10
PL11
PL12
PL13
PL14
PL15
PL16
PL17
PL18
PL19
PL20
PL21
PL22
PL88
FPS
RC1
RC2
OFM11
OFM12
J3
J4
J11
J12
J13
J14
J15
J16
J17
J18
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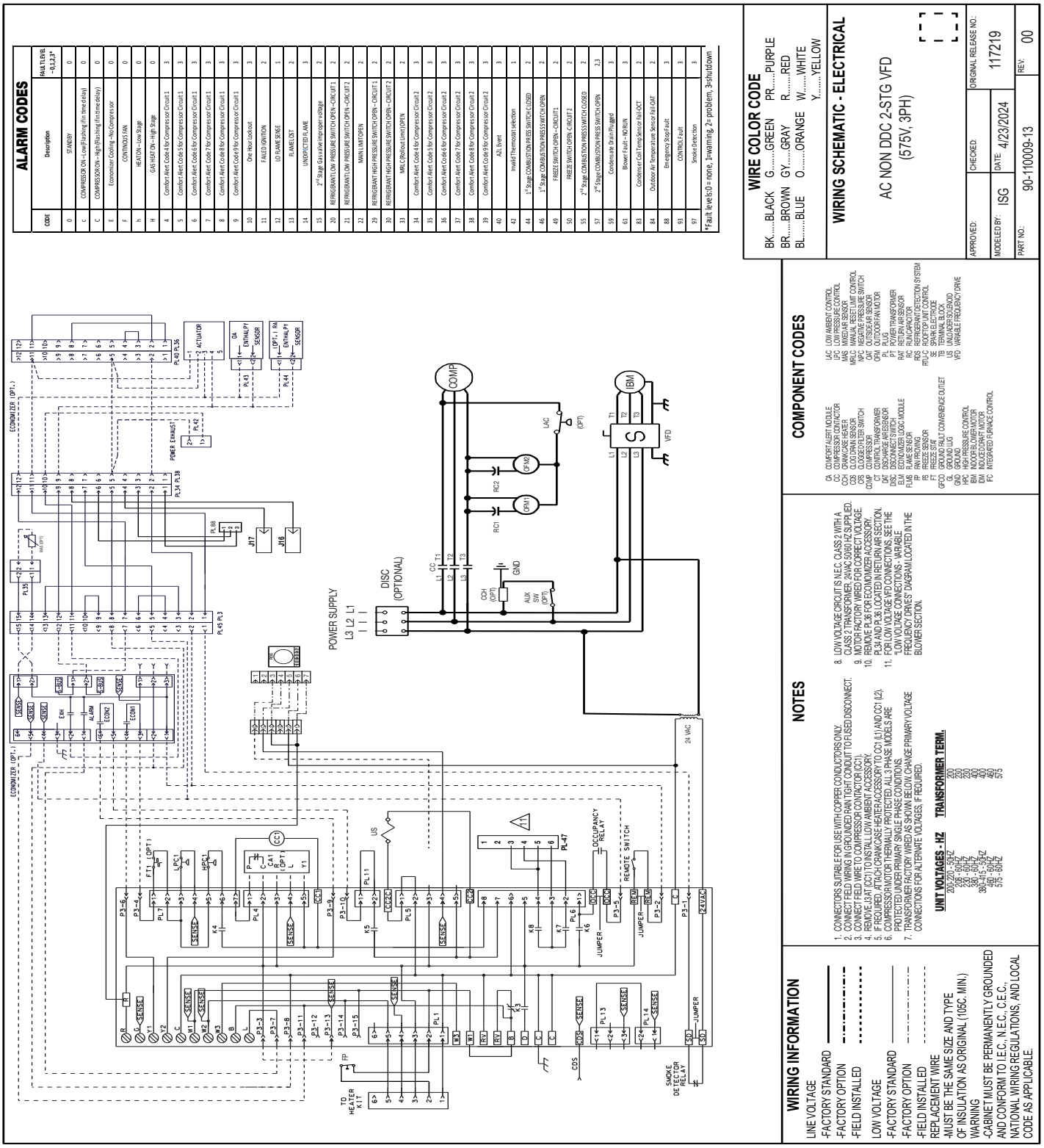
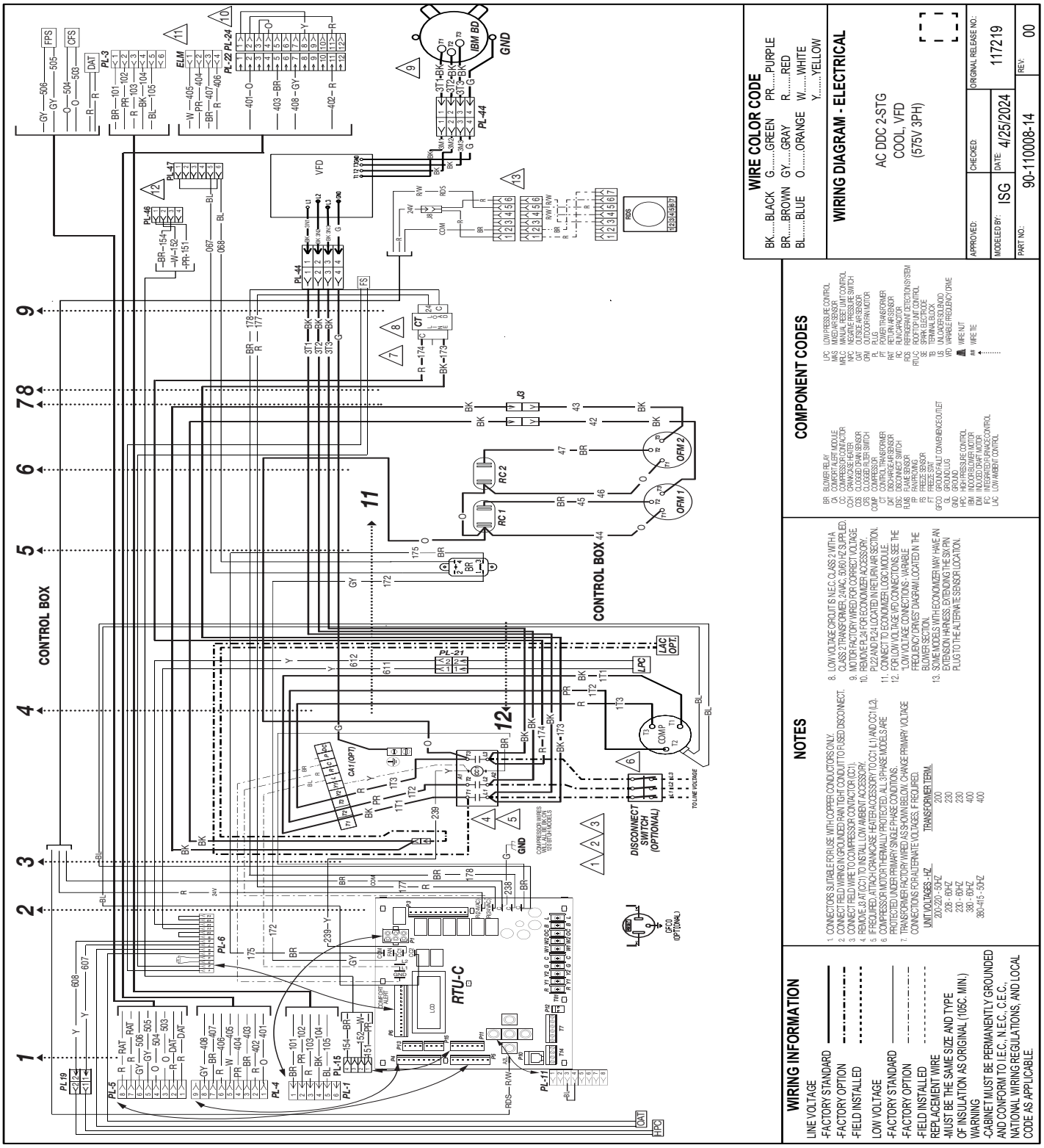
J50

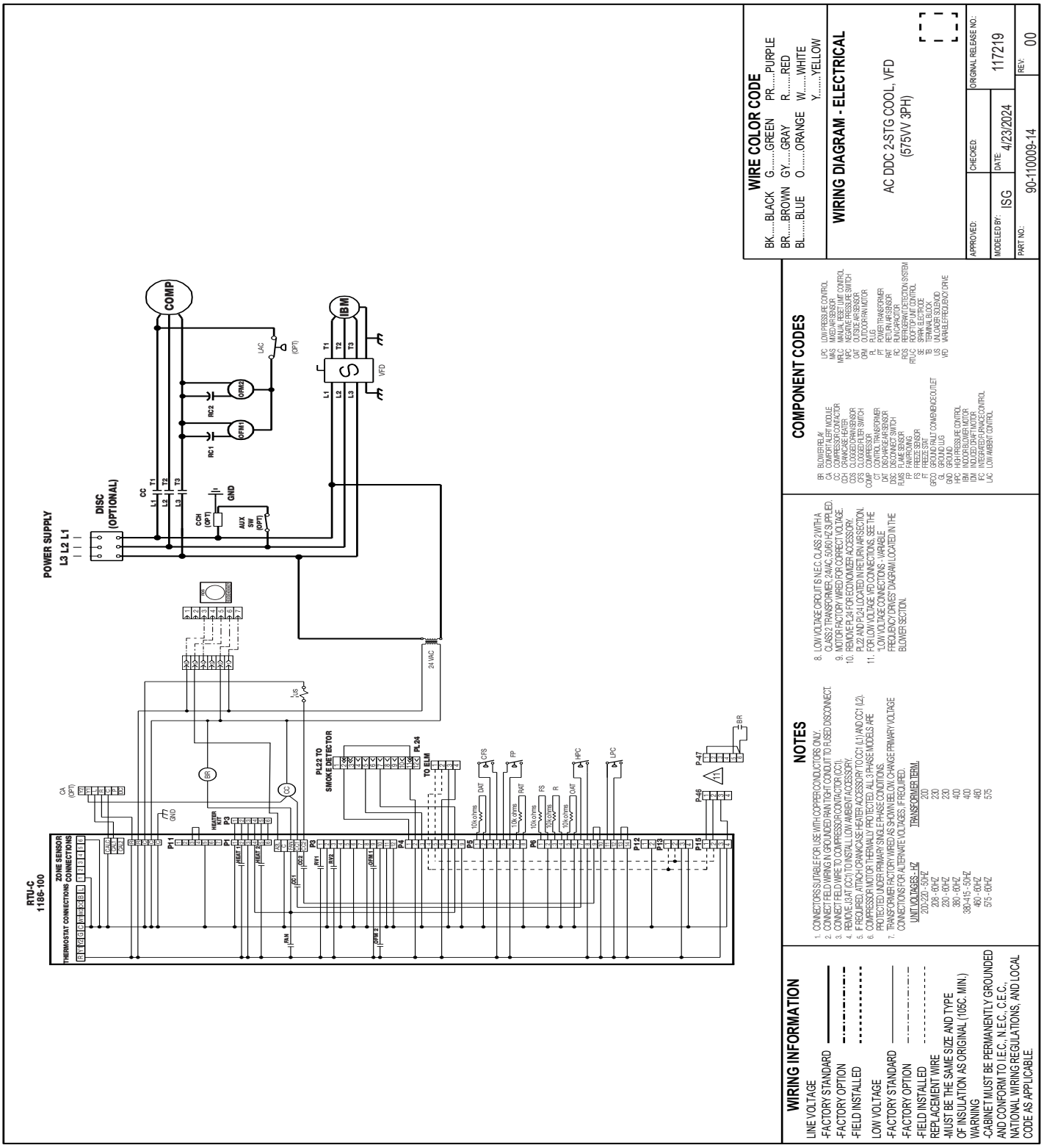
Appendix H. Wiring Diagrams & Schematics (Cont.)



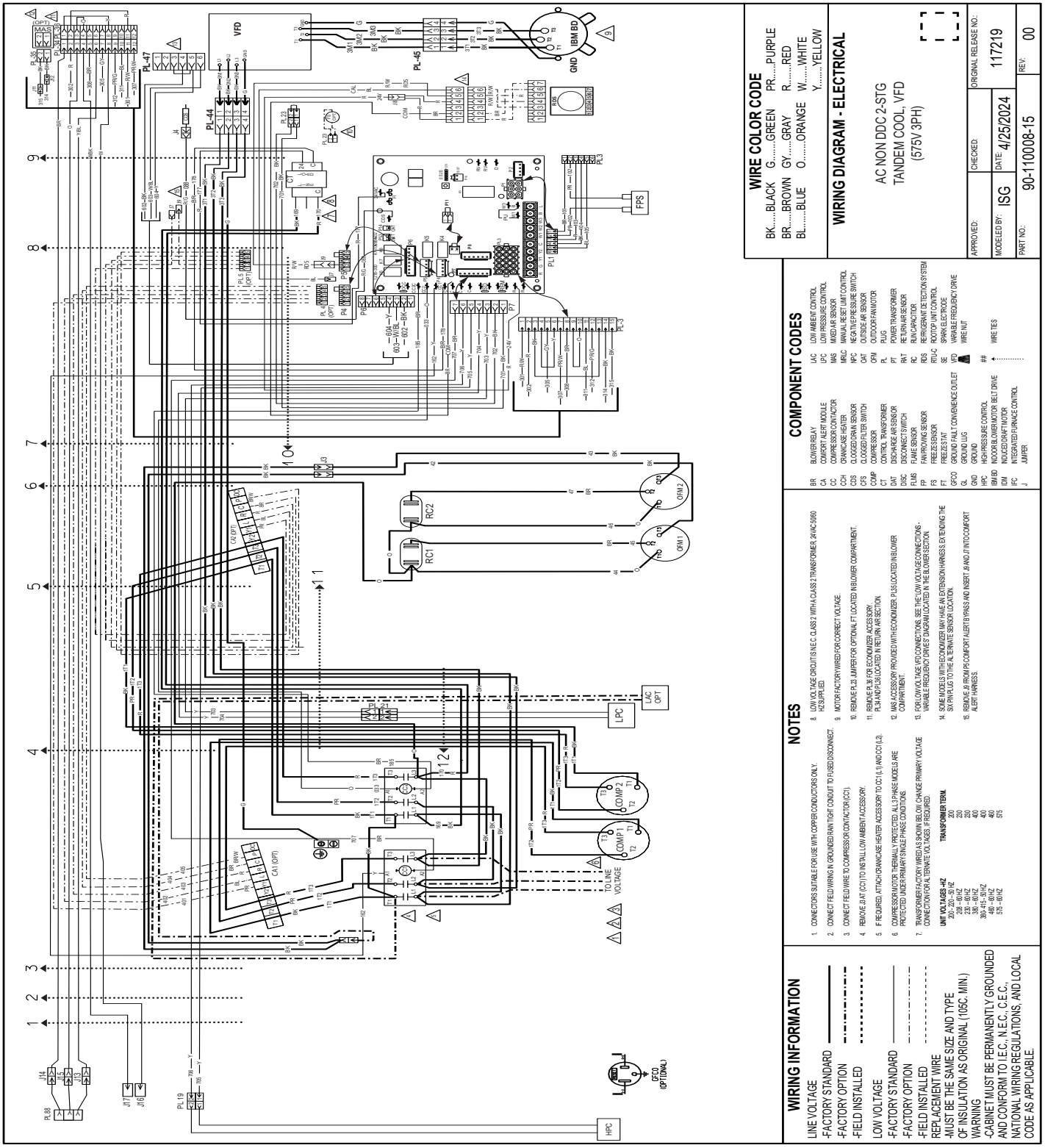
Appendix H. Wiring Diagrams & Schematics (Cont.)



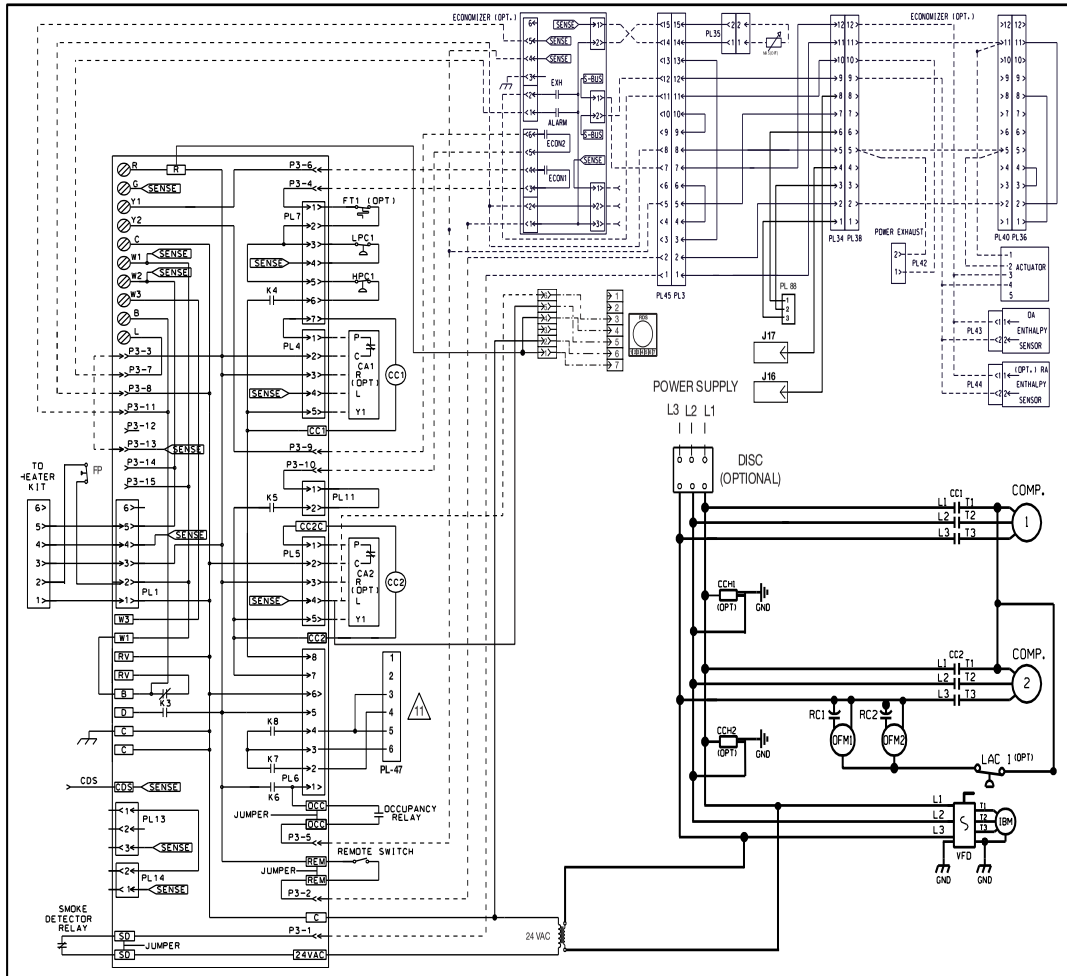
Appendix H. Wiring Diagrams & Schematics (Cont.)



Appendix H. Wiring Diagrams & Schematics (Cont.)



Appendix H. Wiring Diagrams & Schematics (Cont.)



ALARM CODES

CODE	Description	FAULT LEVEL ~0,1,2,3*
0	STANDBY	0
c	COMPRESSOR ON ~Low (Flashing if in time delay)	0
C	COMPRESSOR ON ~ High (Flashing if in time delay)	0
E	Economizer Cooling ~ No Compressor	0
F	CONTINOUS FAN	0
h	HEAT ON ~ Low Stage	0
H	GAS HEAT ON ~ High Stage	0
4	Comfort Alert Code 4 for Compressor Circuit 1	3
5	Comfort Alert Code 5 for Compressor Circuit 1	3
6	Comfort Alert Code 6 for Compressor Circuit 1	3
7	Comfort Alert Code 7 for Compressor Circuit 1	3
8	Comfort Alert Code 8 for Compressor Circuit 1	3
9	Comfort Alert Code 9 for Compressor Circuit 1	3
10	One Hour Lockout	3
11	FAILED IGNITION	2
12	LO FLAME SENSE	1
13	FLAME LOST	2
14	UNEXPECTED FLAME	3
15	2nd Stage Gas valve improper voltage	2
20	REFRIGERANT LOW PRESSURE SWITCH OPEN ~ CIRCUIT 1	2
21	REFRIGERANT LOW PRESSURE SWITCH OPEN ~ CIRCUIT 2	2
22	MAIN LIMIT OPEN	2
29	REFRIGERANT HIGH PRESSURE SWITCH OPEN ~ CIRCUIT 1	2
30	REFRIGERANT HIGH PRESSURE SWITCH OPEN ~ CIRCUIT 2	2
33	MRLC (Rollout Limit) OPEN	2
34	Comfort Alert Code 4 for Compressor Circuit 2	3
35	Comfort Alert Code 5 for Compressor Circuit 2	3
36	Comfort Alert Code 6 for Compressor Circuit 2	3
37	Comfort Alert Code 7 for Compressor Circuit 2	3
38	Comfort Alert Code 8 for Compressor Circuit 2	3
39	Comfort Alert Code 9 for Compressor Circuit 2	3
40	A2L Event	3
42	Invalid Thermostat selection	1
44	1st Stage COMBUSTION PRESS SWITCH CLOSED	2
46	1st Stage COMBUSTION PRESS SWITCH OPEN	2
49	FREEZE SWITCH OPEN ~ CIRCUIT 1	2
50	FREEZE SWITCH OPEN ~CIRCUIT 2	2
55	2nd Stage COMBUSTION PRESS SWITCH CLOSED	2
57	2nd Stage COMBUSTION PRESS SWITCH OPEN	2,3
59	Condensate Drain Plugged	3
61	Blower Fault ~NO RUN	3
83	Condenser Coil Temp Sensor Fail-OCT	2
84	Outdoor Air Temperature Sensor Fail-OAT	2
88	Emergency Stop Fault	3
93	CONTROL Fault	3
97	Smoke Detection	3

*Fault levels: 0 = none, 1=warning, 2=problem, 3=shutdown

WIRE COLOR CODE

BK.....BLACK G.....GREEN PR.....PURPLE
BR.....BROWN GY.....GRAY R.....RED
BL.....BLUE O.....ORANGE W.....WHITE
Y.....YELLOW

WIRING INFORMATION

LINE VOLTAGE
-FACTORY STANDARD
-FACTORY OPTION
-FIELD INSTALLED

LOW VOLTAGE
-FACTORY STANDARD
-FACTORY OPTION
-FIELD INSTALLED

REPLACEMENT WIRE
-MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105C. MIN.)

WARNING
-CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., NATIONAL WIRING REGULATIONS, AND LOCAL CODE AS APPLICABLE.

NOTES

1. CONNECTORS SUITABLE FOR USE WITH COPPER CONDUCTORS ONLY.
2. CONNECT FIELD WIRING IN GROUNDED RAIN TIGHT CONDUIT TO FUSED DISCONNECT.
3. CONNECT FIELD WIRE TO COMPRESSOR CONTACTOR (CC1).
4. REMOVE J3 AT (CC1) TO INSTALL LOW AMBIENT ACCESSORY.
5. IF REQUIRED, ATTACH CRANKCASE HEATER ACCESSORY TO CC1 (L1) AND CC1 (L2).
6. COMPRESSOR MOTOR THERMALLY PROTECTED. ALL 3 PHASE MODELS ARE PROTECTED UNDER PRIMARY SINGLE PHASE CONDITIONS.
7. TRANSFORMER FACTORY WIRED AS SHOWN BELOW. CHANGE PRIMARY VOLTAGE CONNECTIONS FOR ALTERNATE VOLTAGES, IF REQUIRED.

UNIT VOLTAGES - HZ	TRANSFORMER TERM.
200-220 - 50HZ	200
208 - 60HZ	230
230 - 60HZ	230
380 - 60HZ	400
380-415 - 50HZ	400
460 - 60HZ	460
575 - 60HZ	575

8. LOW VOLTAGE CIRCUIT IS N.E.C. CLASS 2 WITH A CLASS 2 TRANSFORMER, 24VAC 50/60 HZ SUPPLIED.
9. MOTOR FACTORY WIRED FOR CORRECT VOLTAGE.
10. REMOVE PL36 FOR ECOMOMIZER ACCESSORY. PL34 AND PL36 LOCATED IN RETURN AIR SECTION.
11. FOR LOW VOLTAGE VFD CONNECTIONS, SEE THE "LOW VOLTAGE CONNECTIONS - VARIABLE FREQUENCY DRIVES" DIAGRAM LOCATED IN THE BLOWER SECTION.

COMPONENT CODES

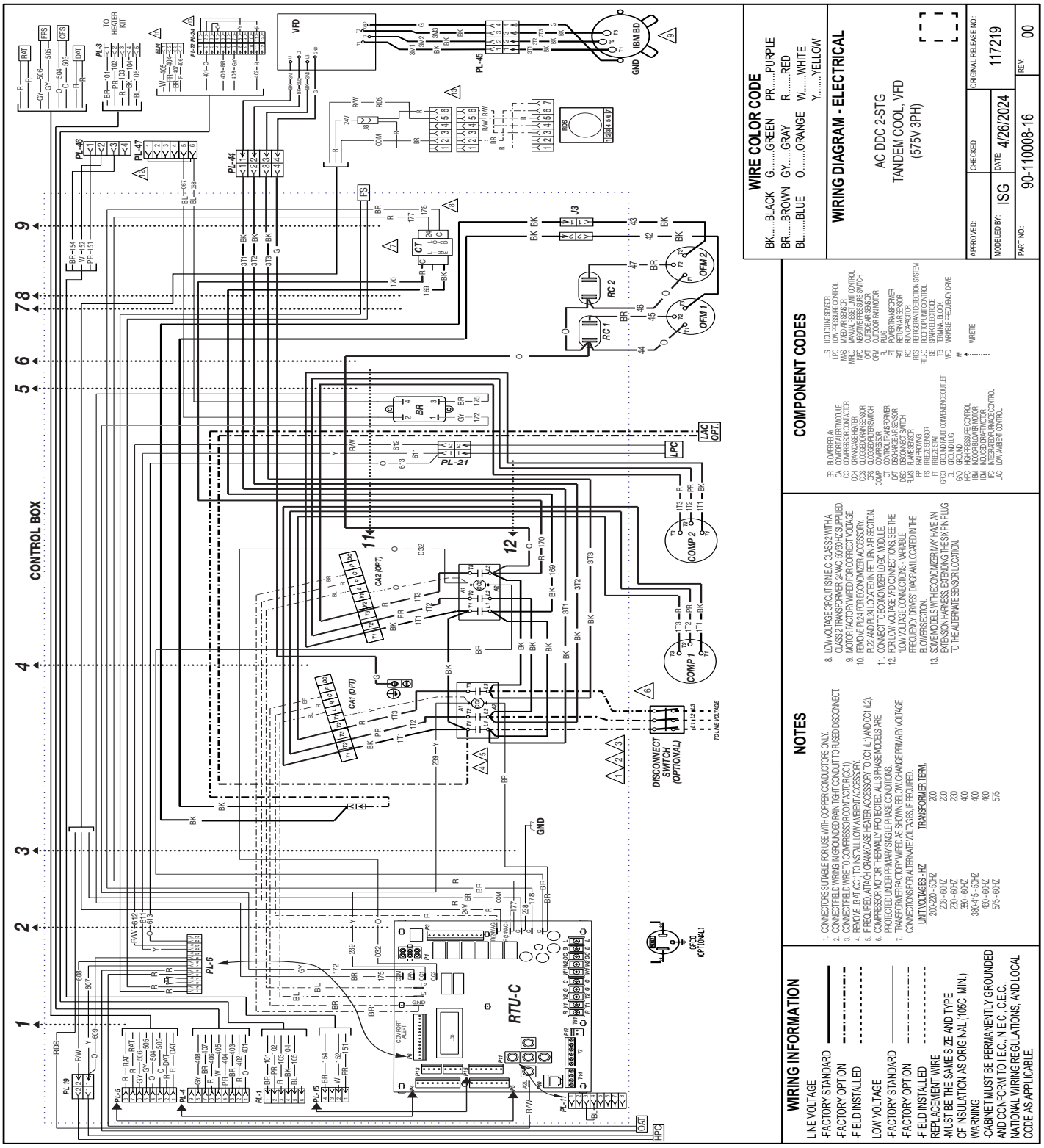
BC BLOWER CONTACTOR
CA COMFORT ALERT MODULE
CC COMPRESSOR CONTACTOR
CCH CRANKCASE HEATER
CDS CLOG DRAIN SENSOR
CFS CLOGGED FILTER SWITCH
COMP COMPRESSOR
CT CONTROL TRANSFORMER
DAT DISCHARGE AIR SSENSOR
DISC DISCONNECT SWITCH
ELM ECONOMIZER LOGIC MODULE
FLMS FLAME SENSOR
FP FAN PROVING
FS FREEZE SENSOR
FT FREEZE STAT
GFCO GROUND FAULT CONVENIENCE OUTLET
GL GROUND LUG
GND GROUND
HPC HIGH PRESSURE CONTROL
IBM INDOOR BLOWER MOTOR
IDM INDUCED DRAFT MOTOR
IFC INTEGRATED FURNACE CONTROL
LAC LOW AMBIENT CONTROL
LPC LOW PRESSURE CONTROL
MAS MIXED AIR SENSOR
MRLC MANUAL RESET LIMIT CONTROL
NPC NEGATIVE PRESSURE SWITCH
OAT OUTSIDE AIR SENSOR
OFM OUTDOOR FAN MOTOR
PL PLUG
PT POWER TRANSFORMER
RAT RETURN AIR SENSOR
RC RUN CAPACITOR
RDS REFRIGERANT DETECTION SYSTEM
RTUC ROOFTOP UNIT CONTROL
SE SPARK ELECTRODE
TB TERMINAL BLOCK
US UNLOADER SOLENOID
VFD VARIABLE FREQUENCY DRIVE

WIRING SCHEMATIC ELECTRICAL

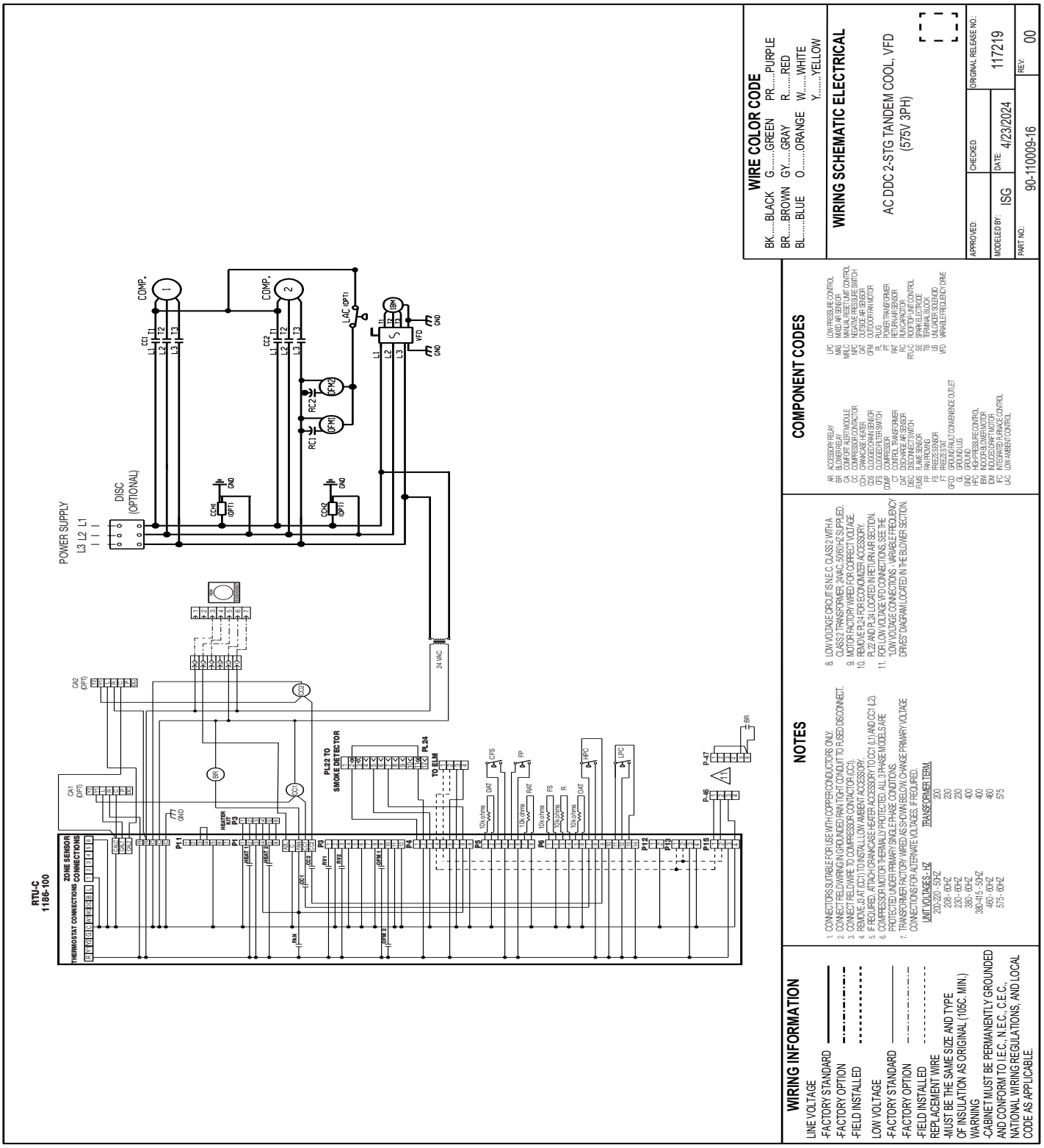
AC NON DDC 2-STG
TANDEM COOL,VFD
(575V, 3PH)

APPROVED:	CHECKED:	ORIGINAL RELEASE NO.:
MODELED BY: ISG	DATE: 4/23/2024	117219
PART NO.: 90-110009-15		REV: 00

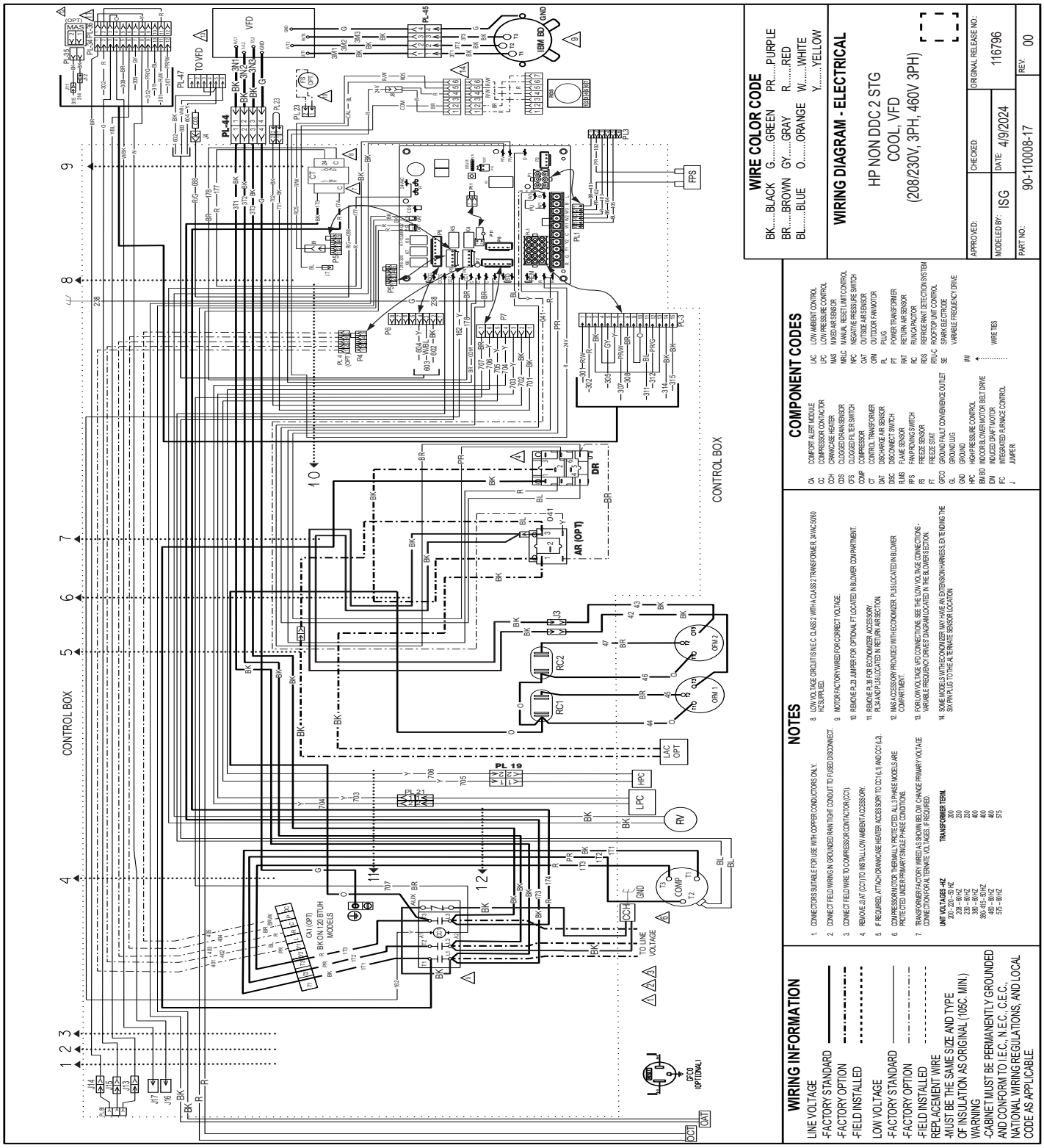
Appendix H. Wiring Diagrams & Schematics (Cont.)



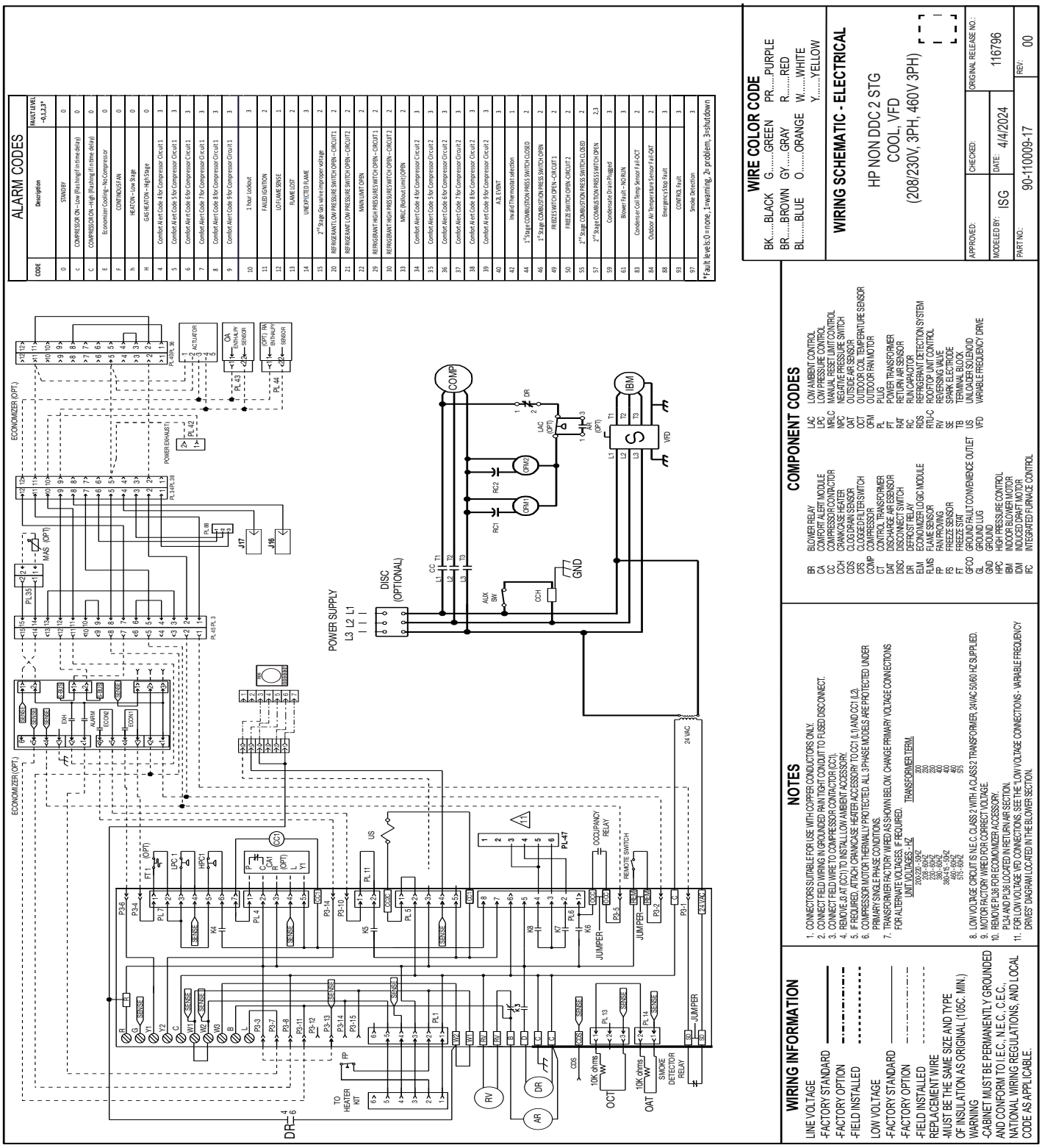
Appendix H. Wiring Diagrams & Schematics (Cont.)



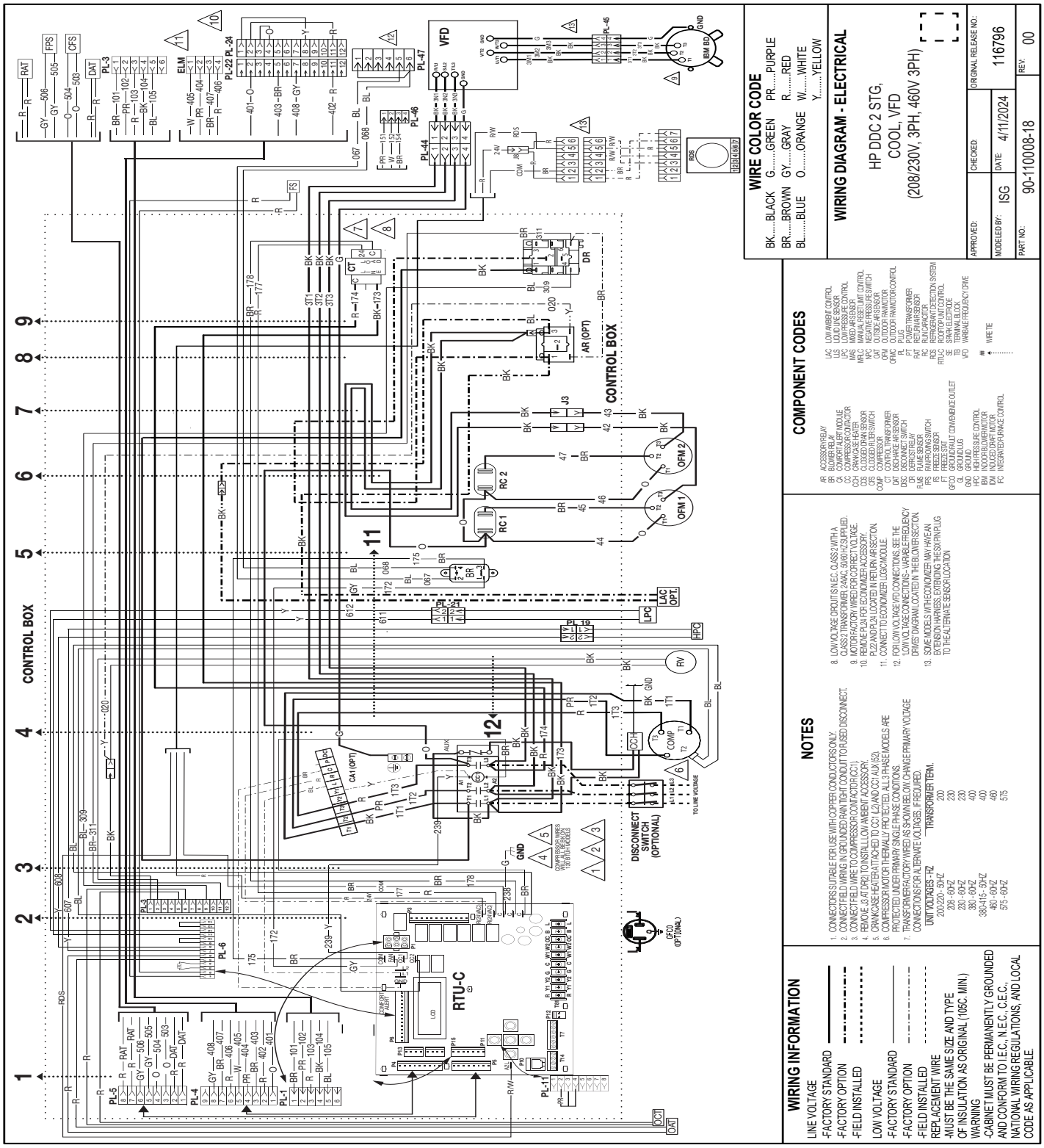
Appendix H. Wiring Diagrams & Schematics (Cont.)



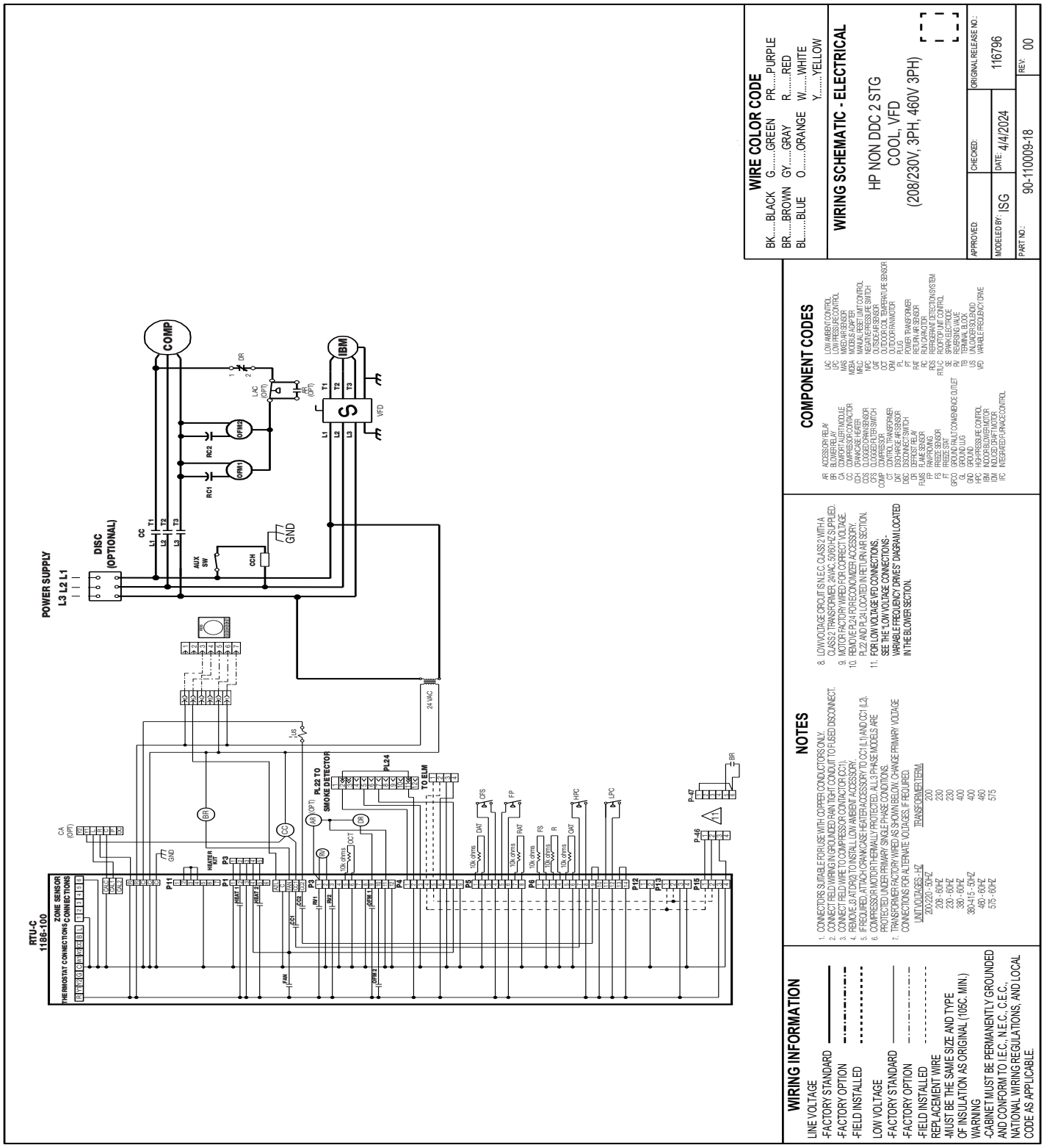
Appendix H. Wiring Diagrams & Schematics (Cont.)



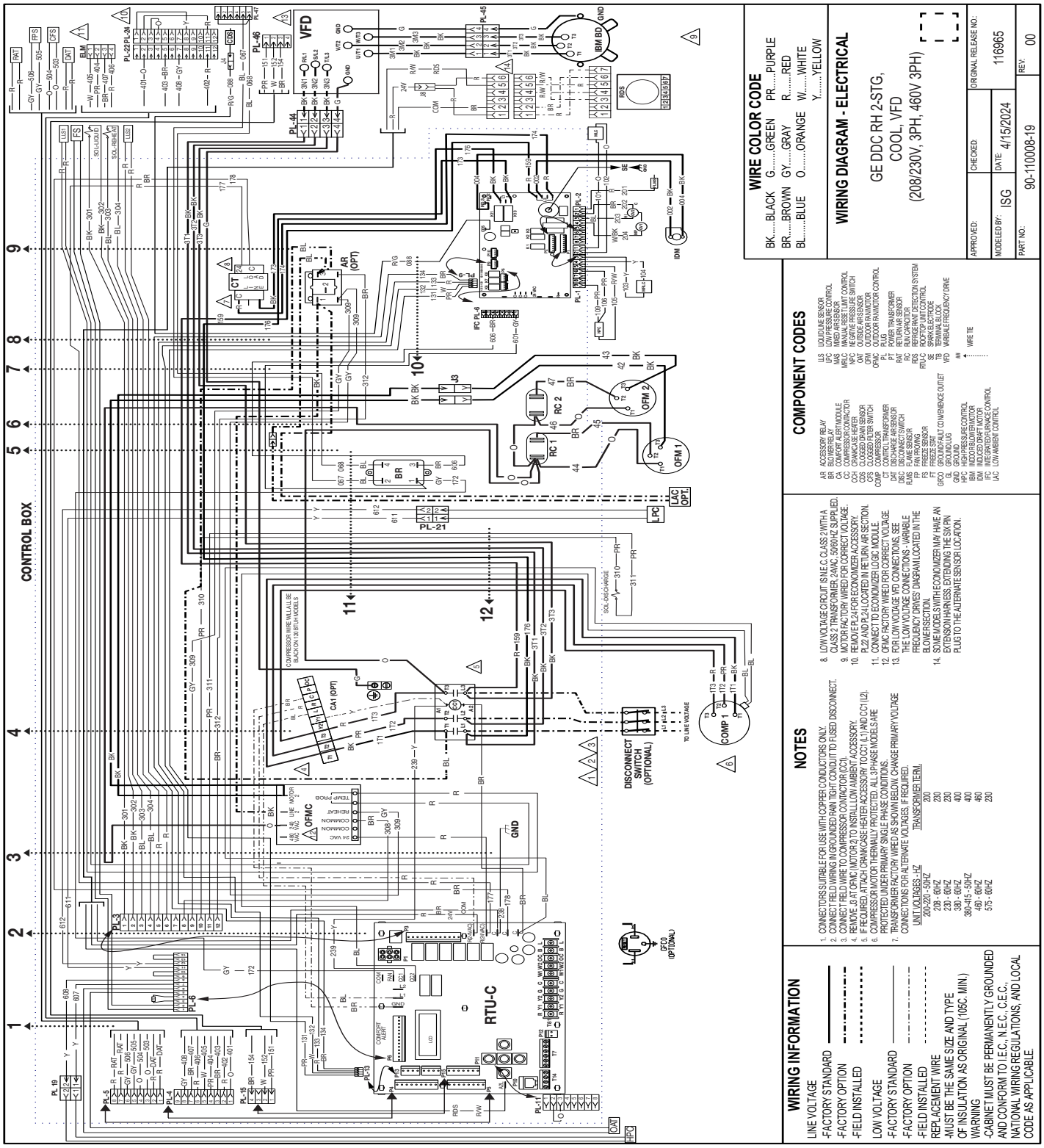
Appendix H. Wiring Diagrams & Schematics (Cont.)



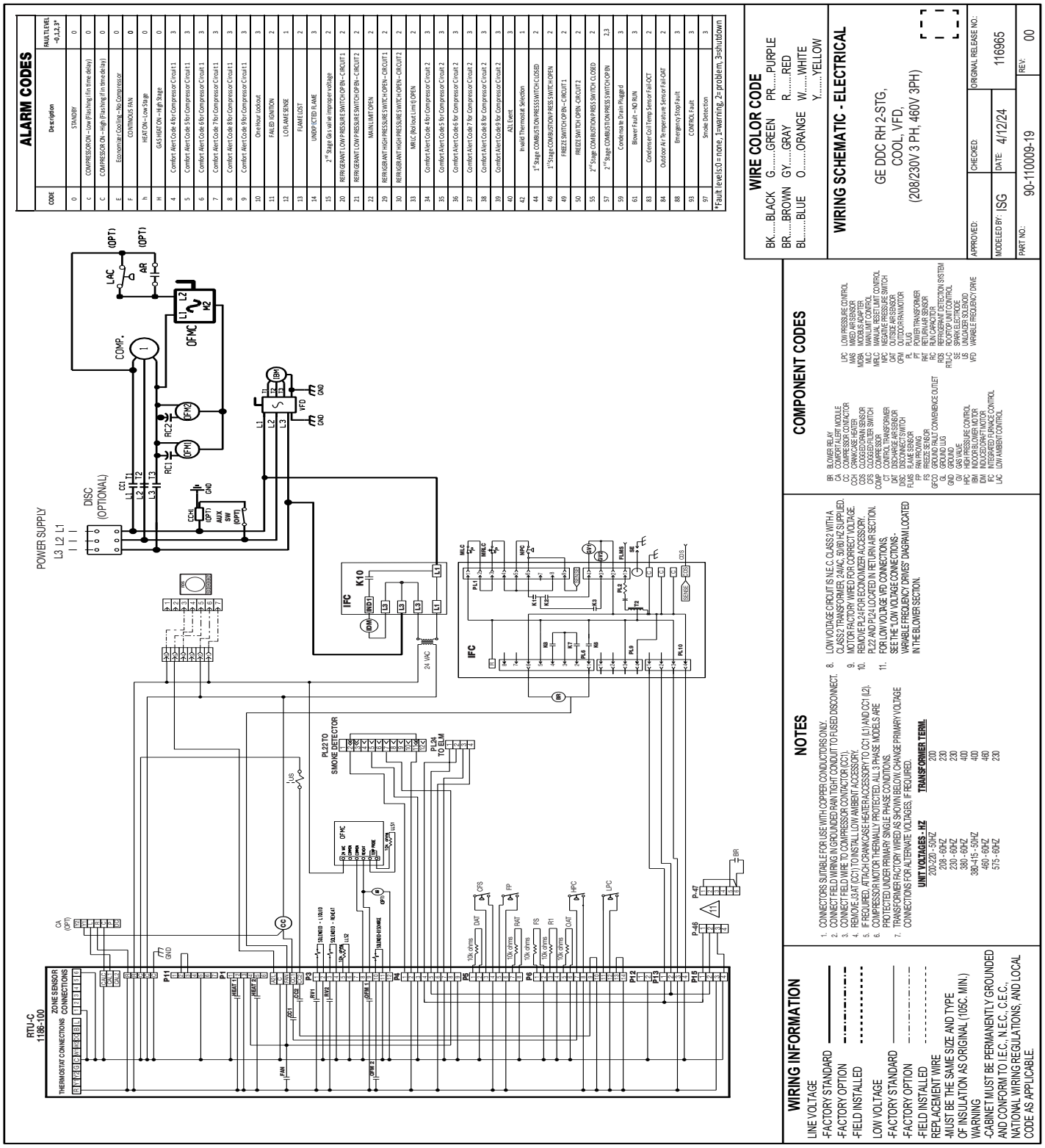
Appendix H. Wiring Diagrams & Schematics (Cont.)



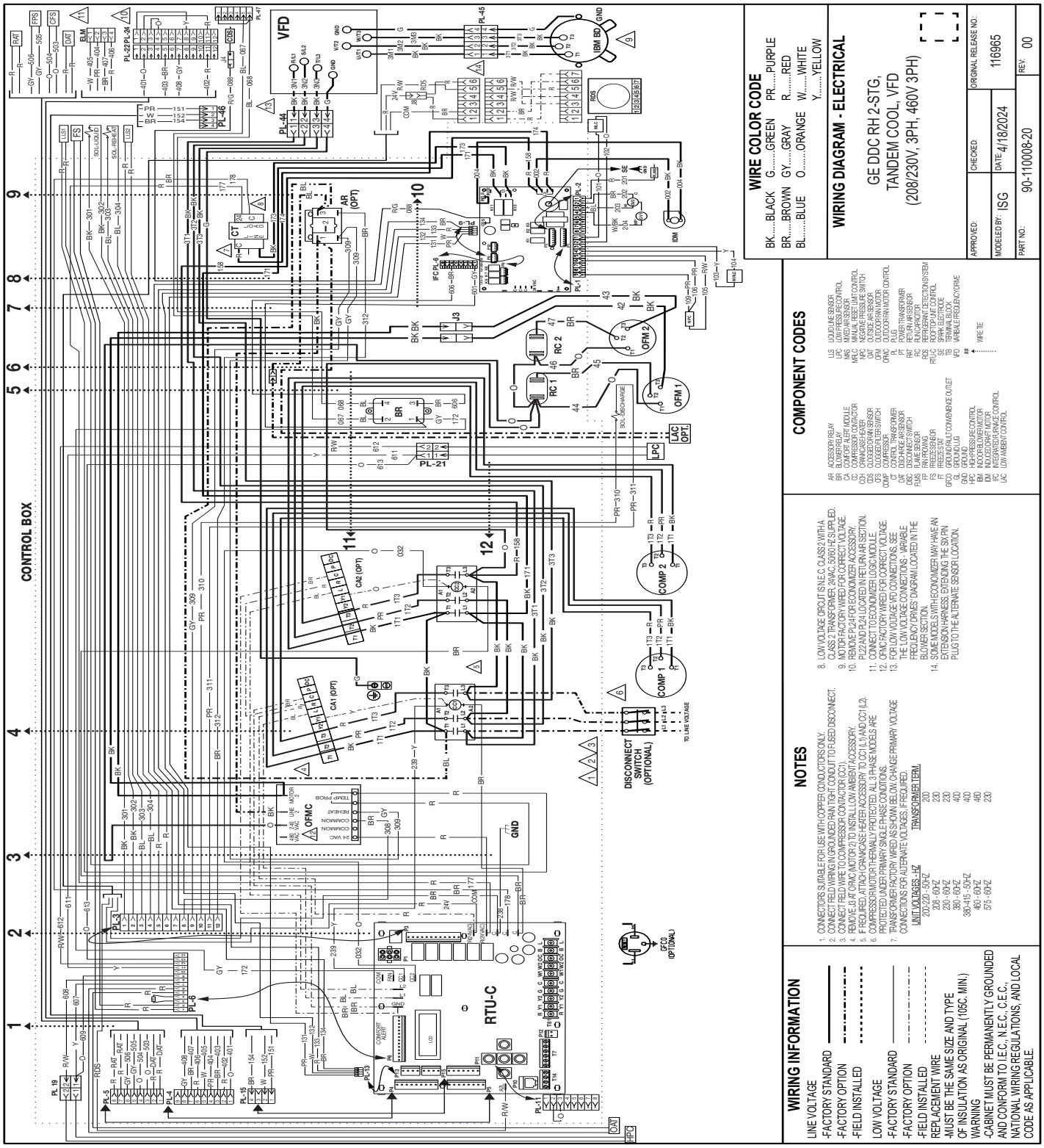
Appendix H. Wiring Diagrams & Schematics (Cont.)



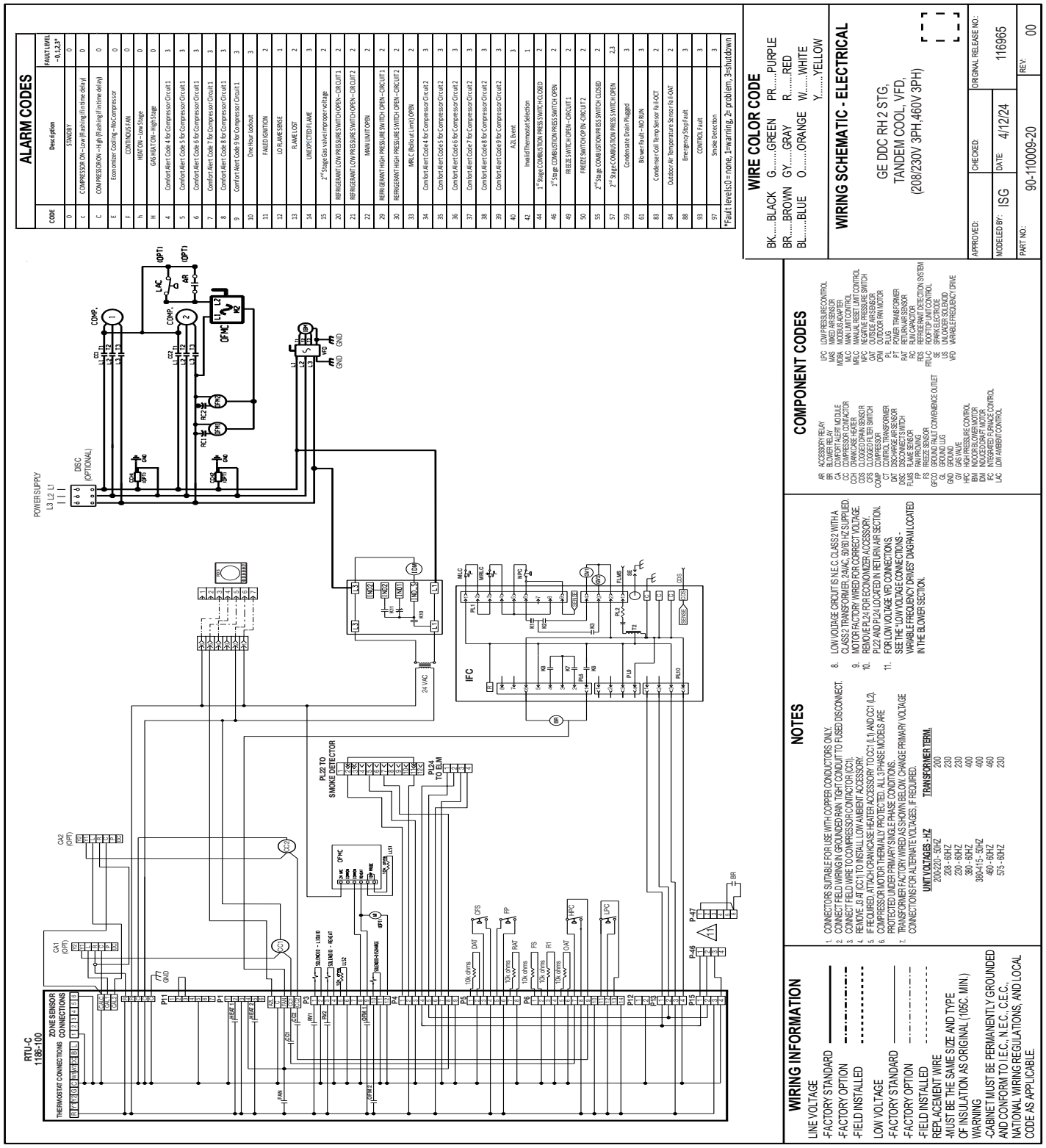
Appendix H. Wiring Diagrams & Schematics (Cont.)



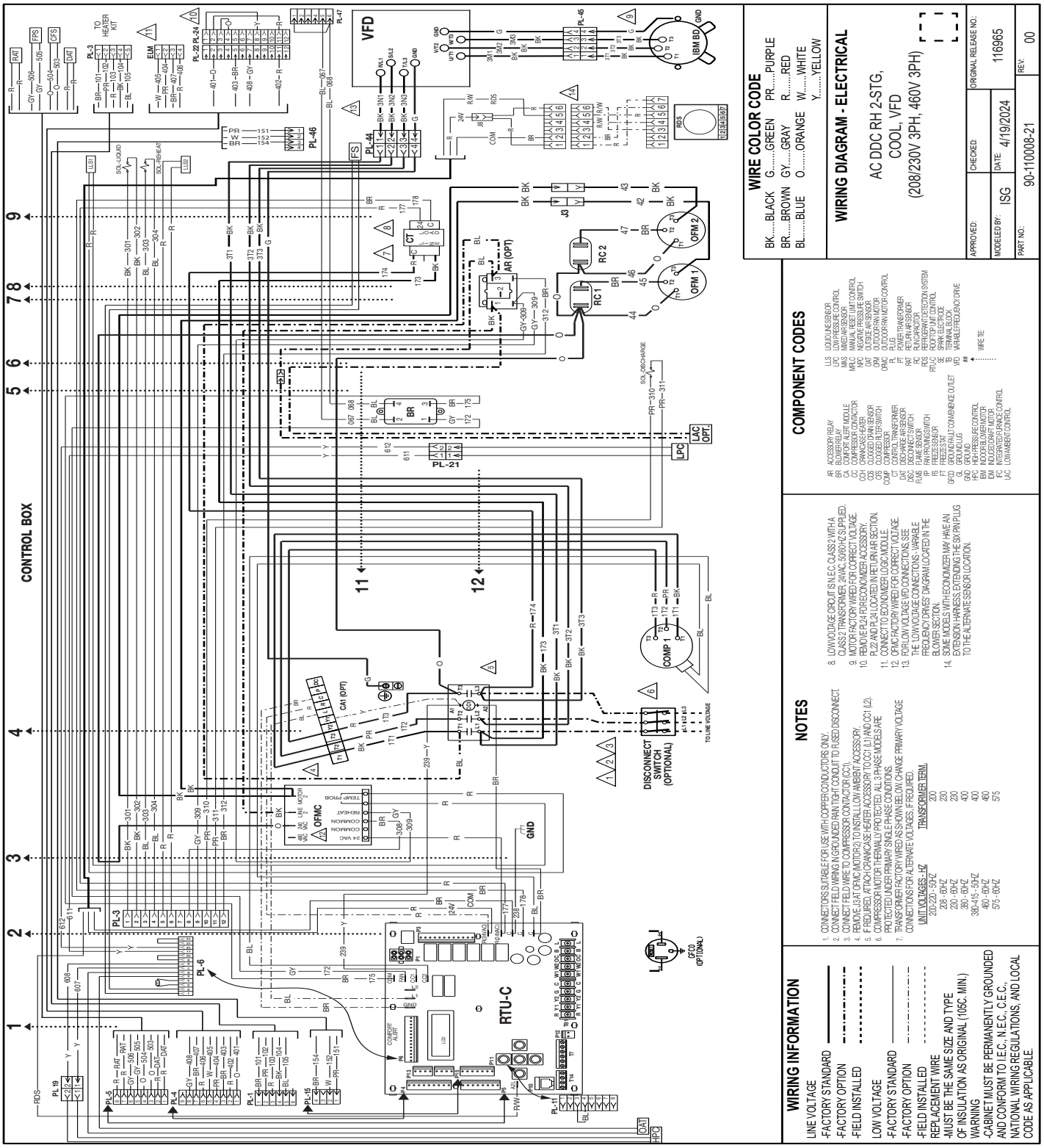
Appendix H. Wiring Diagrams & Schematics (Cont.)



Appendix H. Wiring Diagrams & Schematics (Cont.)



Appendix H. Wiring Diagrams & Schematics (Cont.)



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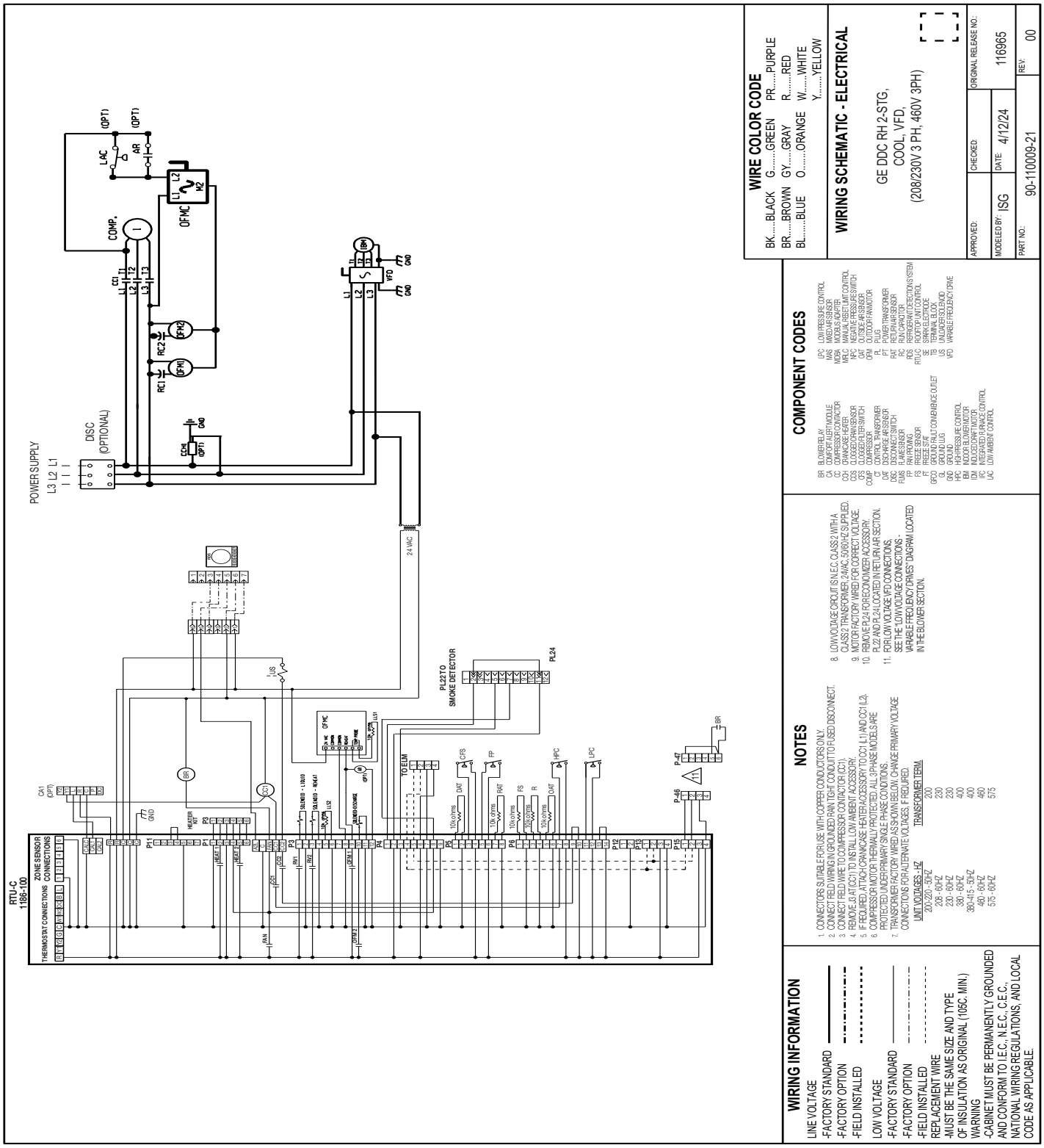

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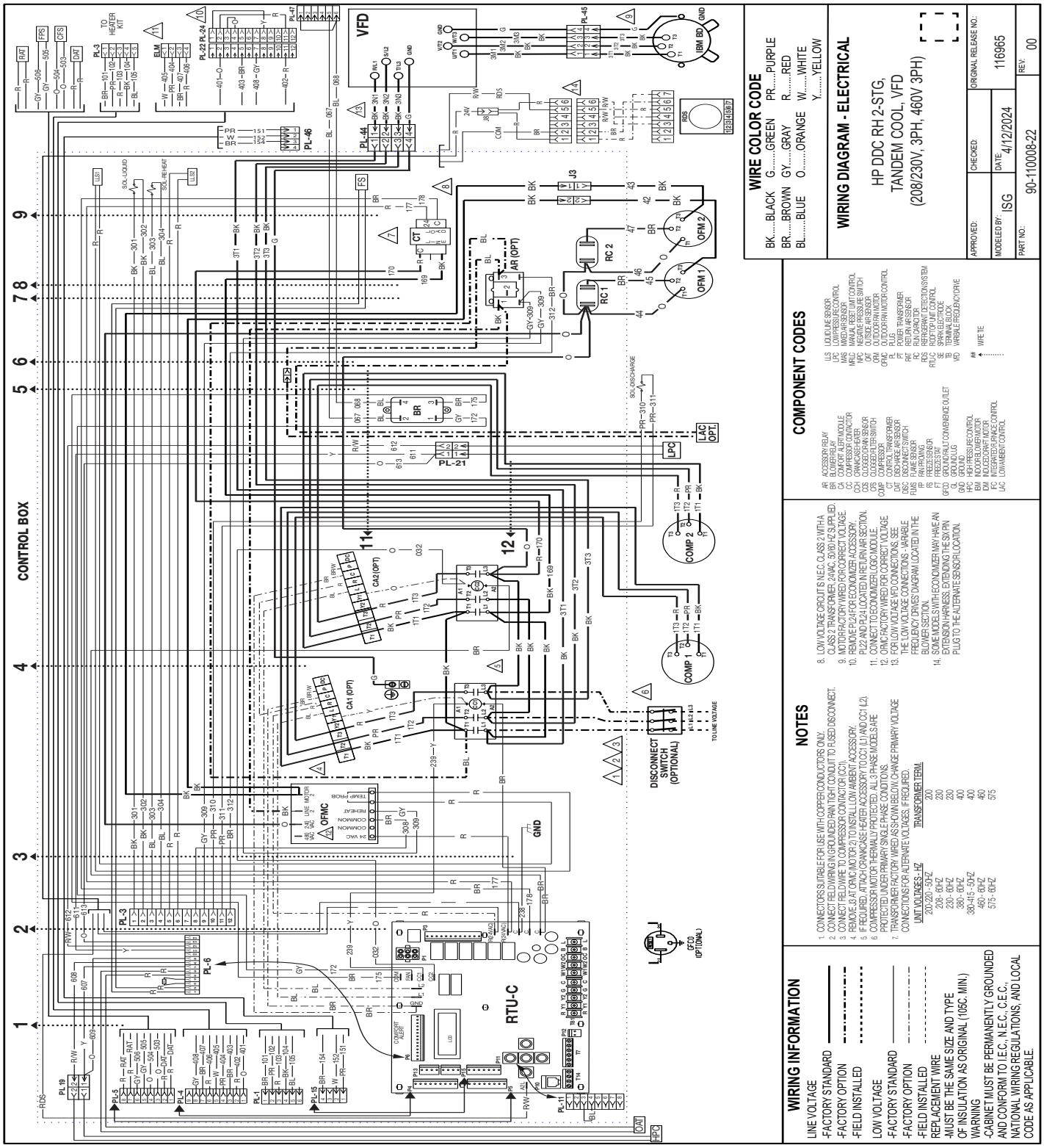
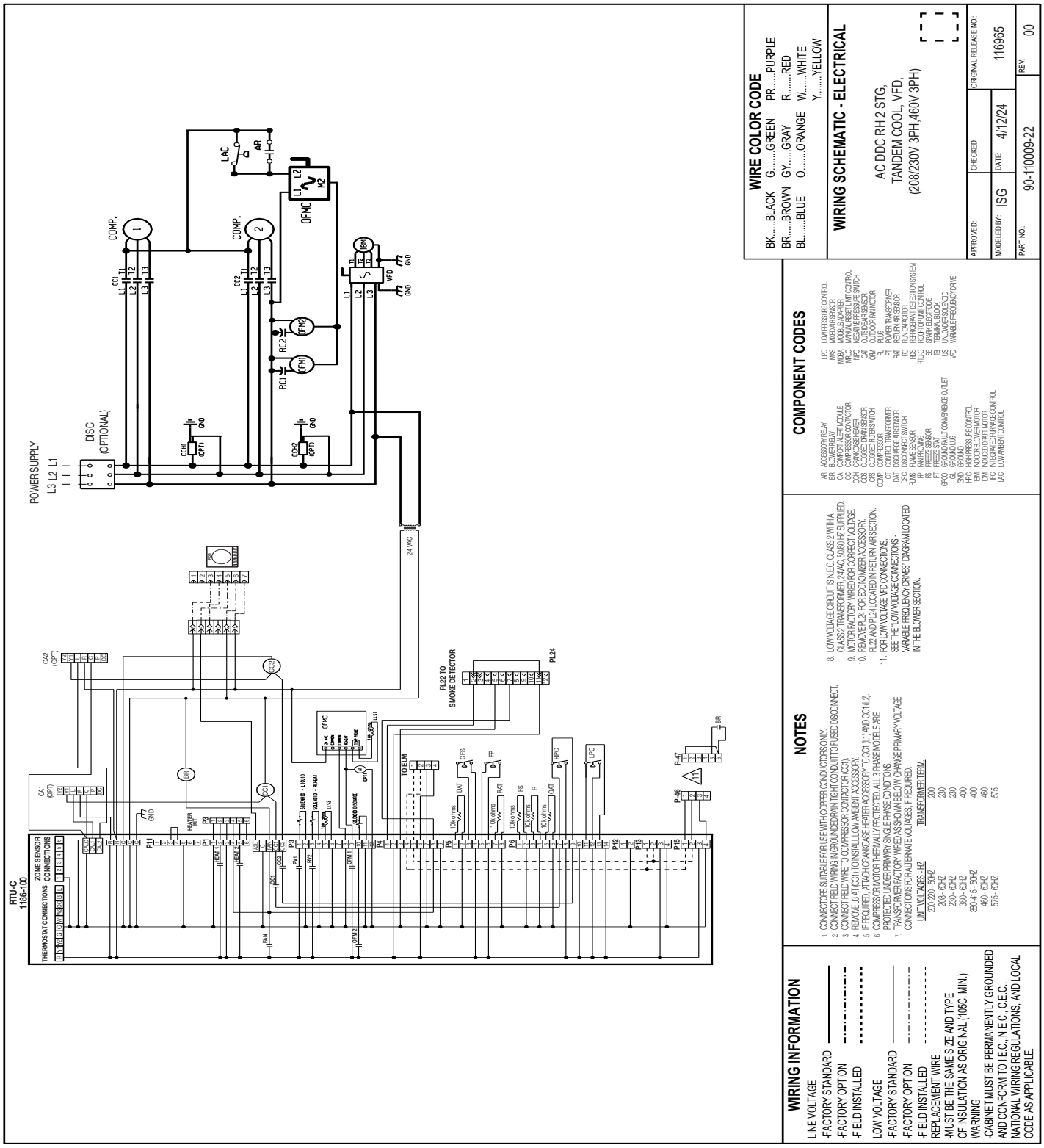
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