



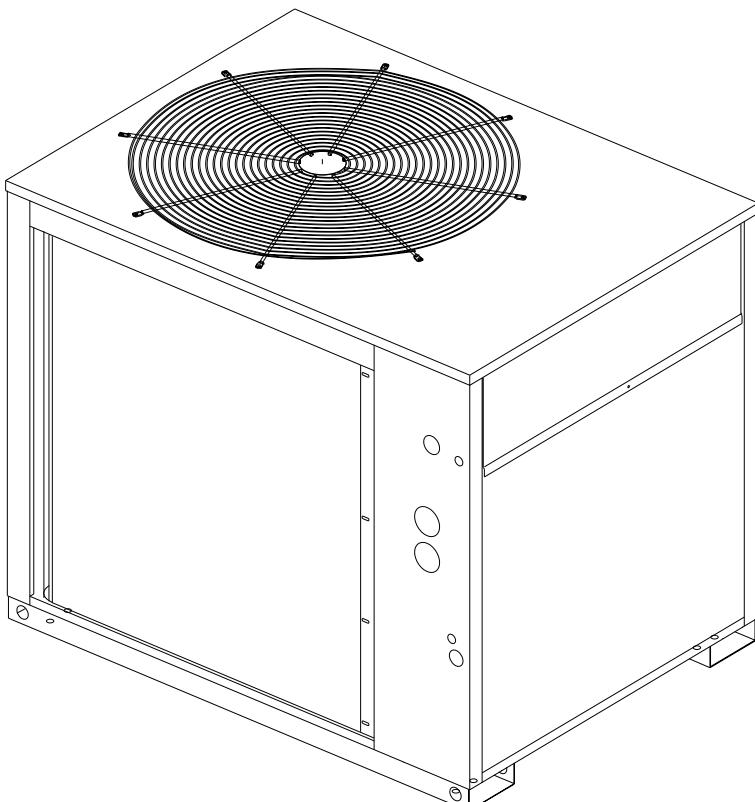
TRANE™

Wiring

CGA-W-4C

Library	Service Literature
Product Section	Refrigeration
Product	Scroll Liquid Chillers - A/C Cold Generators
Model	CGA
Literature Type	Unit Wiring
Sequence	4C
Date	May 2003
File No.	SV-RF-CG-CGA-W-4C 5/03
Supersedes	CGA-W-4B

10 AND 15 ton Air-Cooled Cold Generators™



Models

CGA 100 B_F
CGA 120 B_F
CGA 150 B_D
CGA 180 B_D

CGA 100B, 120B, 150B AND 180B Unit Wiring Manual

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Warnings and Cautions

Notice that Warnings and Cautions appear at appropriate intervals throughout this manual.

Warnings are provided to alert installing contractors and operating or service personnel to potential hazards that could result in personal injury or death, while Cautions are intended to alert personnel to conditions, that could result in equipment damage.

Your personal safety and proper operation of this system depend upon the strict observance of these precautions.

Model Number
Description

All standard Trane products are identified by a multiple-character model number that precisely identifies a particular type of unit. An explanation of the alphanumeric identification codes used for CGA units is provided on this page. It's use will enable the owner/operator, installing contractors and service engineers to define the operation, components and options for any specific unit.

C G A 1 2 0 B 3 0 0 F A

1 2 3 4 5 6 7 8 9 10 11 12

Digits 1,2,3

Unit Model

CGA = Cold Generator

Digits 4,5,6

Nominal Capacity

100 = 8 Tons (50Hz)

120 = 10 Tons

150 = 12.5 Tons (50Hz)

180 = 15 Tons

Digit 7

Form or Configuration

(Number of Refrigerant Circuits/

Number of Compressors)

B = 2 Ref. Ckts/ 2 Comps.

Digit 8

Voltage

1 = 208-230V/60/1*

3 = 208-230V/60/3

4 = 460V/60/3

W = 575V/60/3

D = 380-415V/50/3

* = Not Available on CGA180 Units

Digit 9

Factory Installed Options

O = No Options

H = Hot Gas Bypass

C = Black Epoxy Coil

K = Hot Gas Bypass and Black Epoxy Coil

Digit 10

Expansion Valve

O = Standard Expansion Valve

V = Low Leaving Water Temp. Expansion Valve

Digit 11

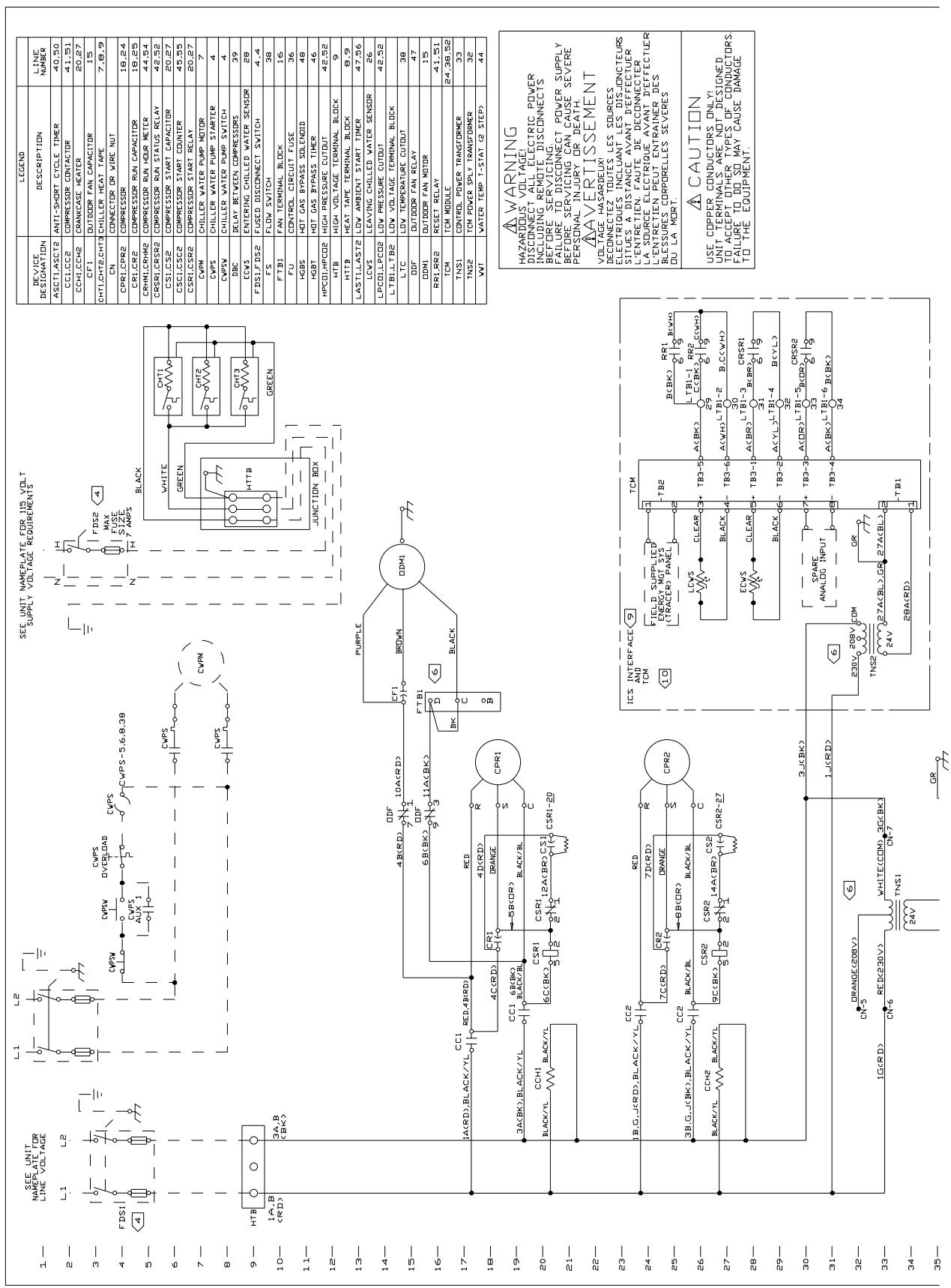
Major Design Sequence

F

Digit 12

Service Digit/Minor Design Change

Figure 1
CGA120B1
(208-230V/60/1) Schematic Diagram



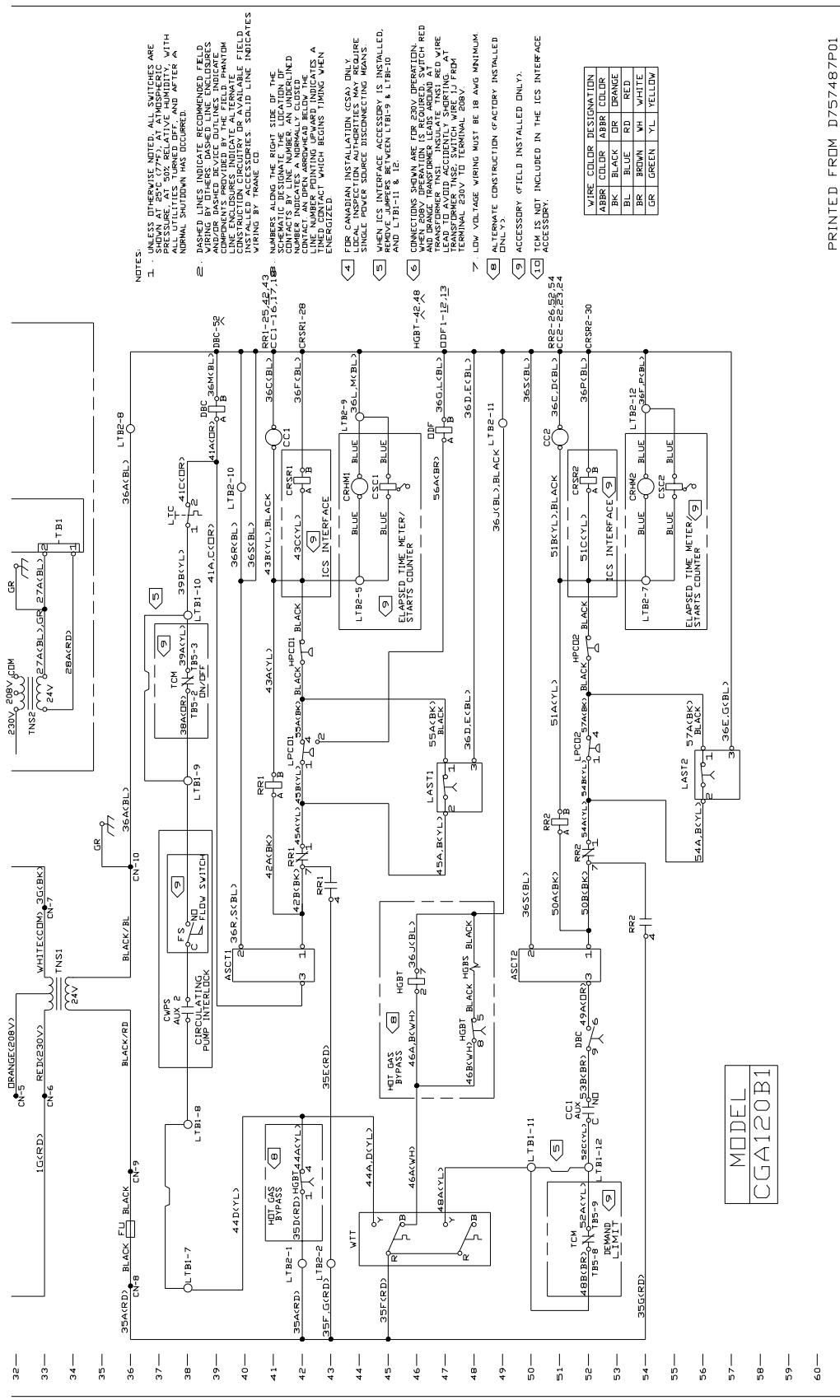
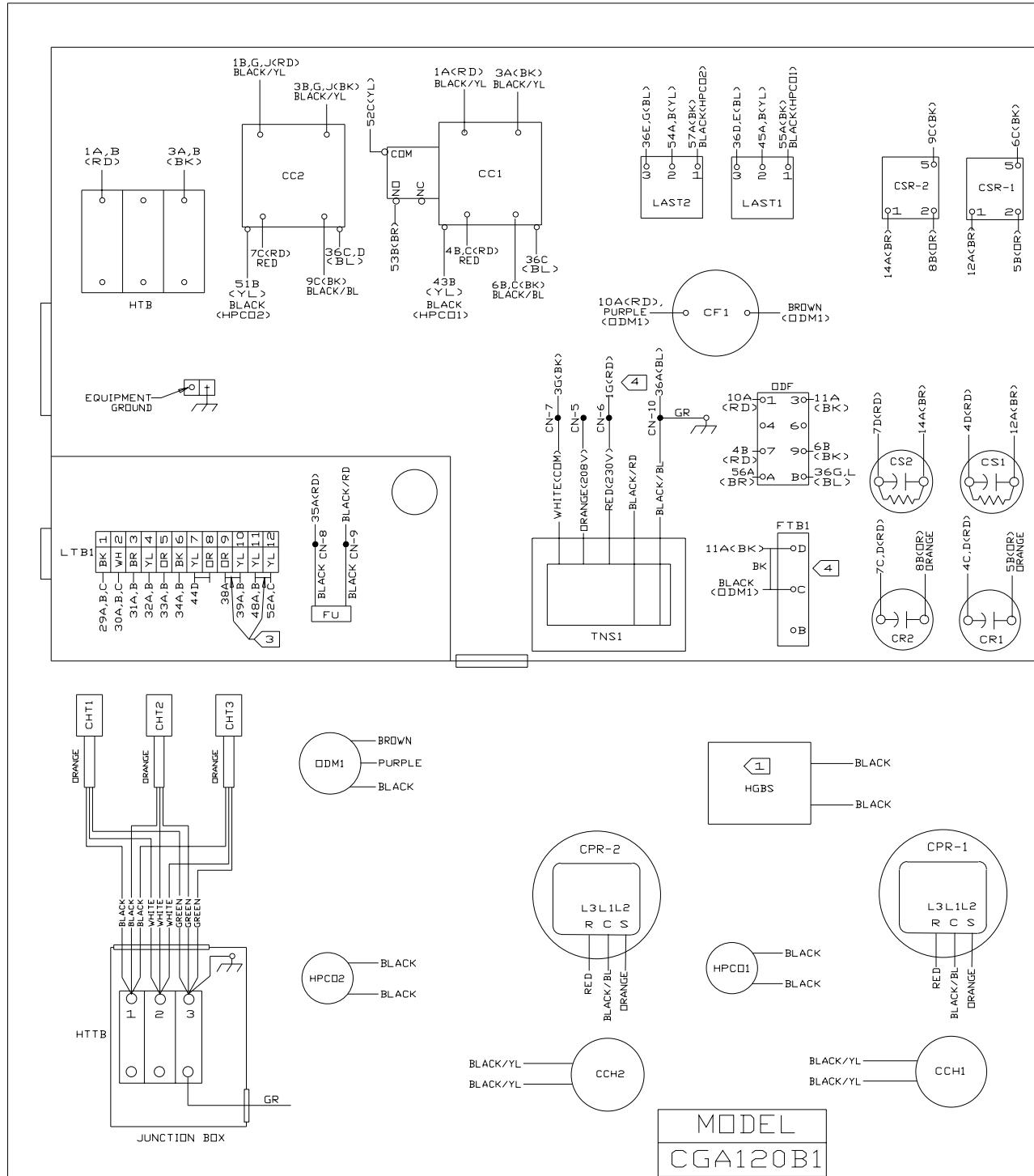
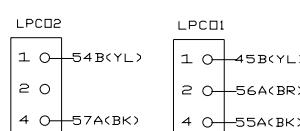
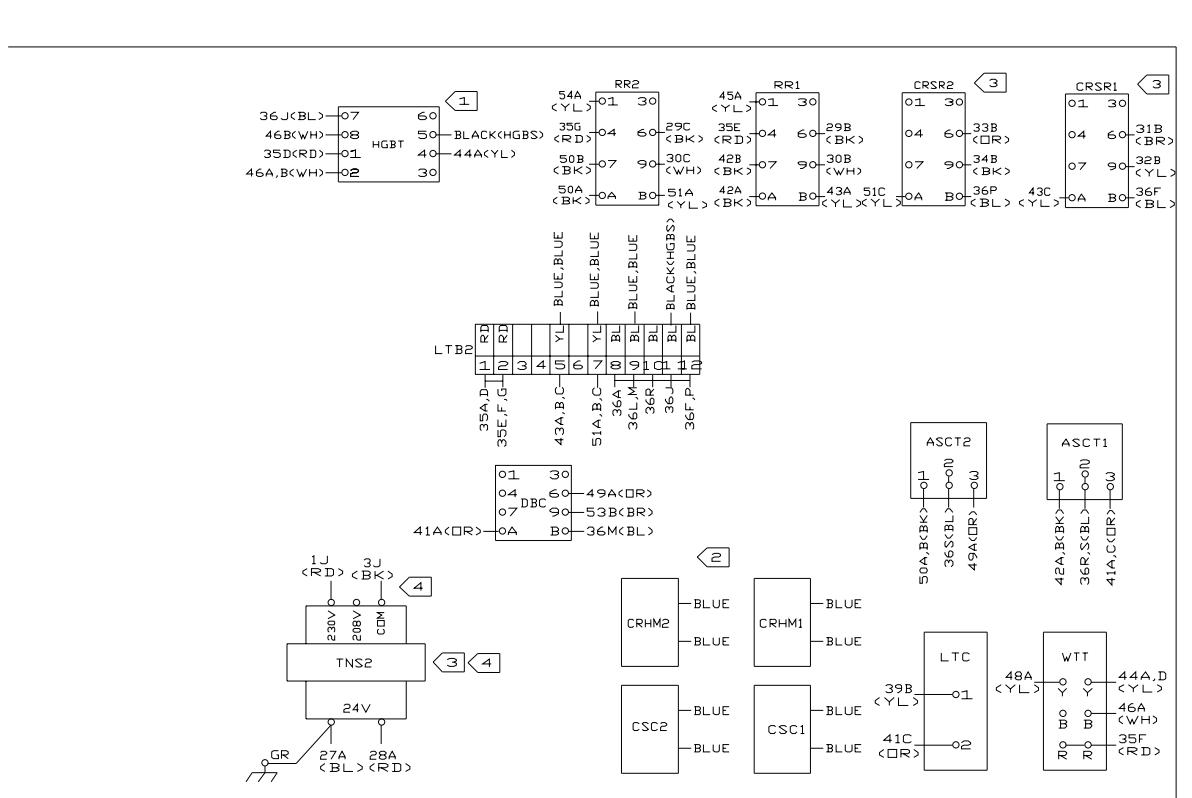


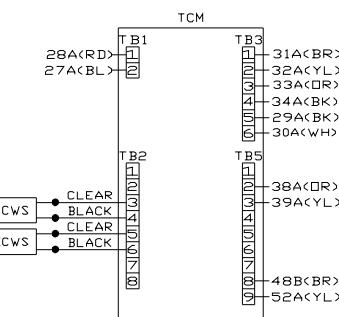
Figure 2
CGA120B1
(208-230V/60/1) Connection Diagram





NOTES:

- ① HOT GAS BYPASS ALTERNATE CONSTRUCTION INCLUDES HGBT, HGBS AND ASSOCIATED WIRING (FACTORY INSTALLED ONLY).
- ② FIELD INSTALLED ELAPSED TIME METER AND START COUNTER ACCESSORIES.
- ③ FIELD INSTALLED INTEGRATED COMFORT SYSTEM INTERFACE ACCESSORY. REMOVE JUMPERS BETWEEN LTBI-9 & LTBI-10 AND LTBI-11 & LTBI-12 WHEN INSTALLED.
- ④ CONNECTIONS SHOWN ARE FOR 230V OPERATION. WHEN 208V OPERATION IS REQUIRED, SWITCH RED AND ORANGE TRANSFORMER LEADS AROUND AT TRANSFORMER TNS1. INSULATE TNS1 RED WIRE LEAD TO AVOID ACCIDENTAL SHORTING. AT TRANSFORMER TNS2, SWITCH WIRE (JGRD) FROM TERMINAL 230V TO TERMINAL 208V.



WARNING

 **WARNING**
HAZARDOUS VOLTAGE !
DISCONNECT ALL ELECTRIC
POWER INCLUDING REMOTE
DISCONNECTS BEFORE

SERVICING.
FAILURE TO DISCONNECT
POWER BEFORE SERVICING
CAN CAUSE SEVERE
PERSONAL INJURY OR
DEATH.

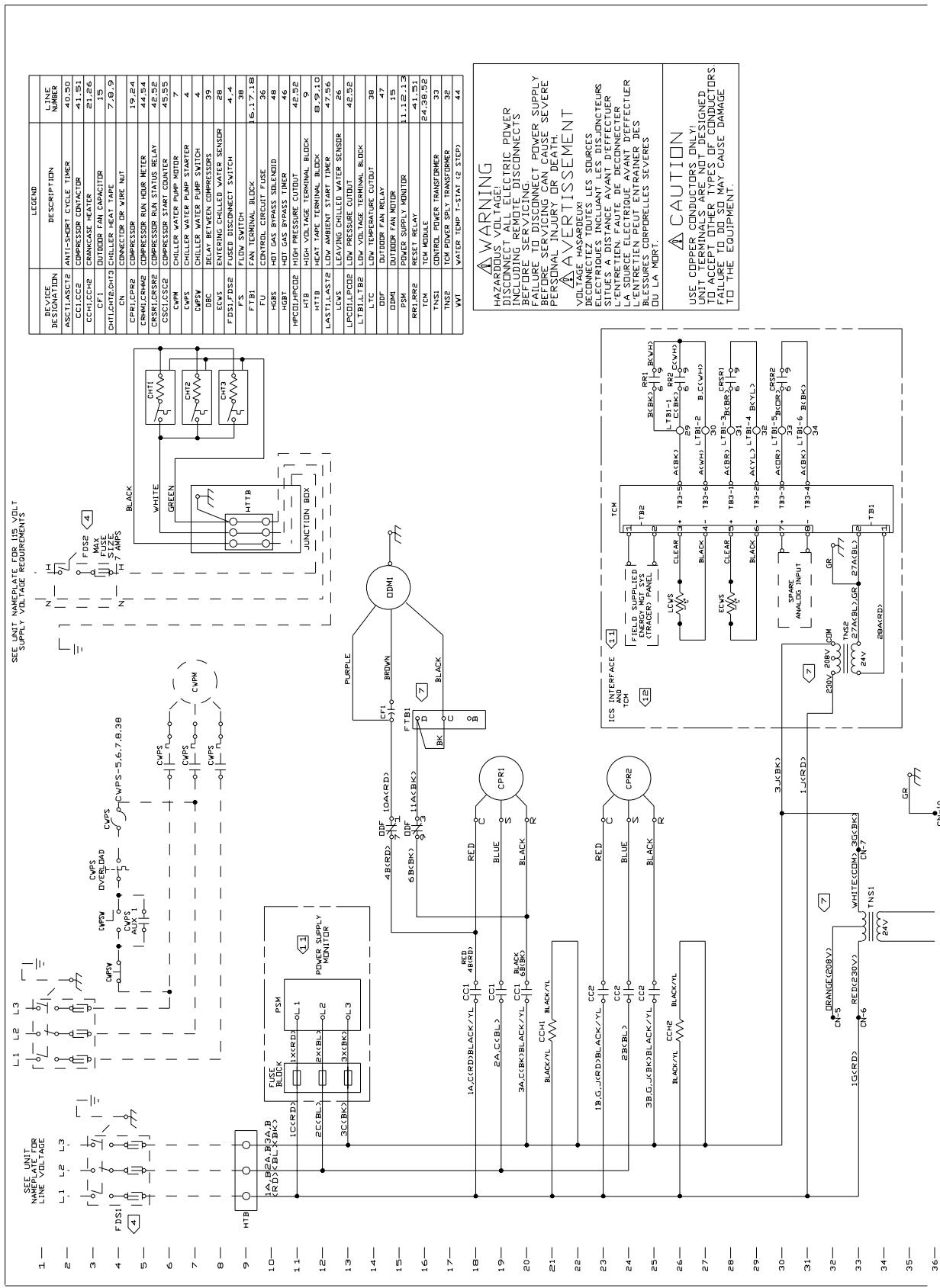
AVERTISSEMENT

AVERTISSEMENT
VOLTAGE HASARDUE !
DECONNECTEZ TOUTES LES
SOURCES ELECTRIQUES
INCLANT LES
DISJONCTEURS SITUES
A DISTANCE AVANT
D'EFFECTUER L'ENTRETIEN
AUTE DE DECONNECTER
LA SOURCE ELECTRIQUE
AVANT D'EFFECTUER
L'ENTRETIEN PEUT
ENTRAINER DES BLESSURES
CORPORELLES SEVERES

CAUTION

USE COPPER CONDUCTORS ONLY! UNIT TERMINALS ARE
NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS.
FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT.

Figure 3
CGA120B3
(208-230V/60/3) Schematic Diagram



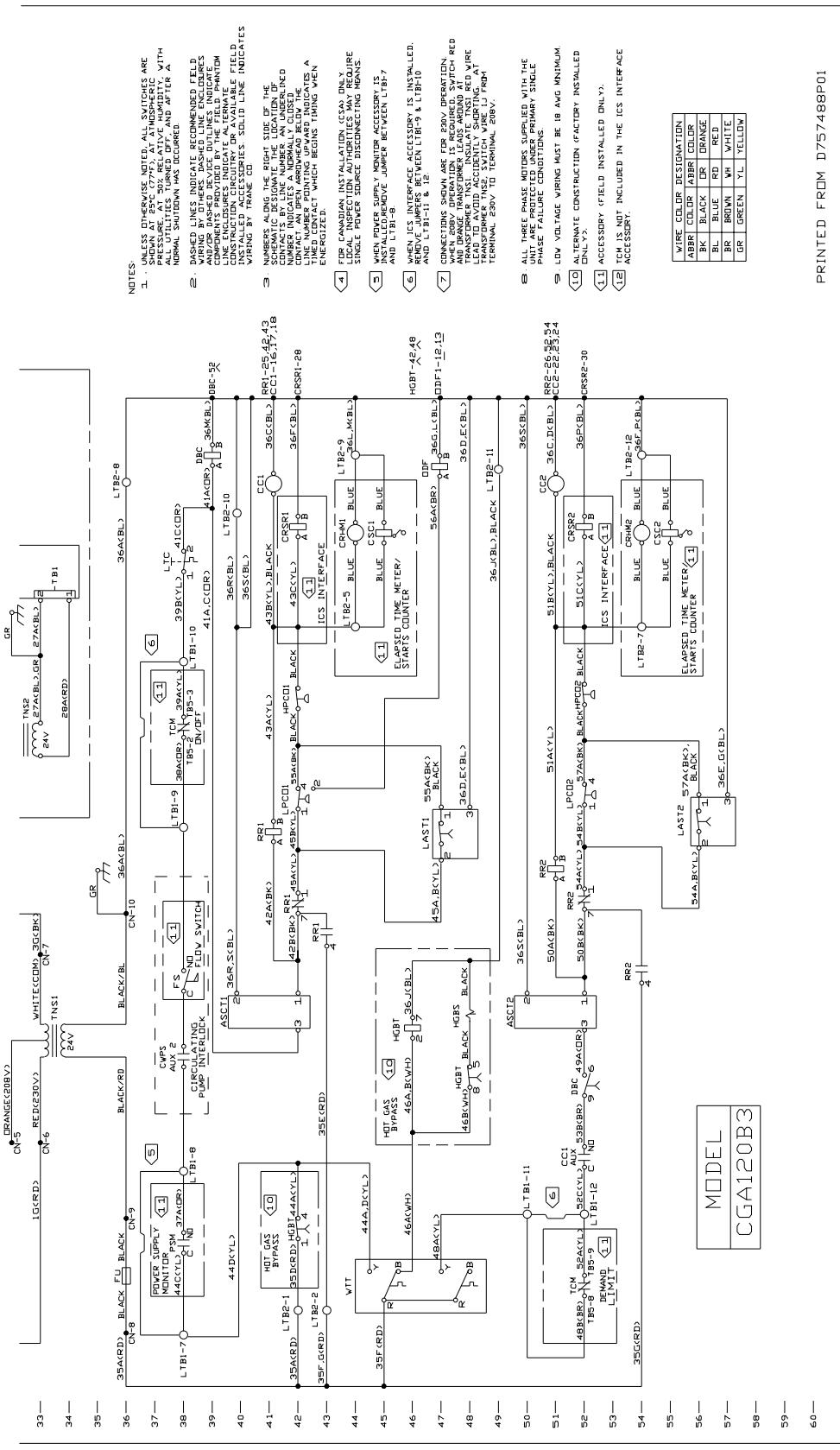
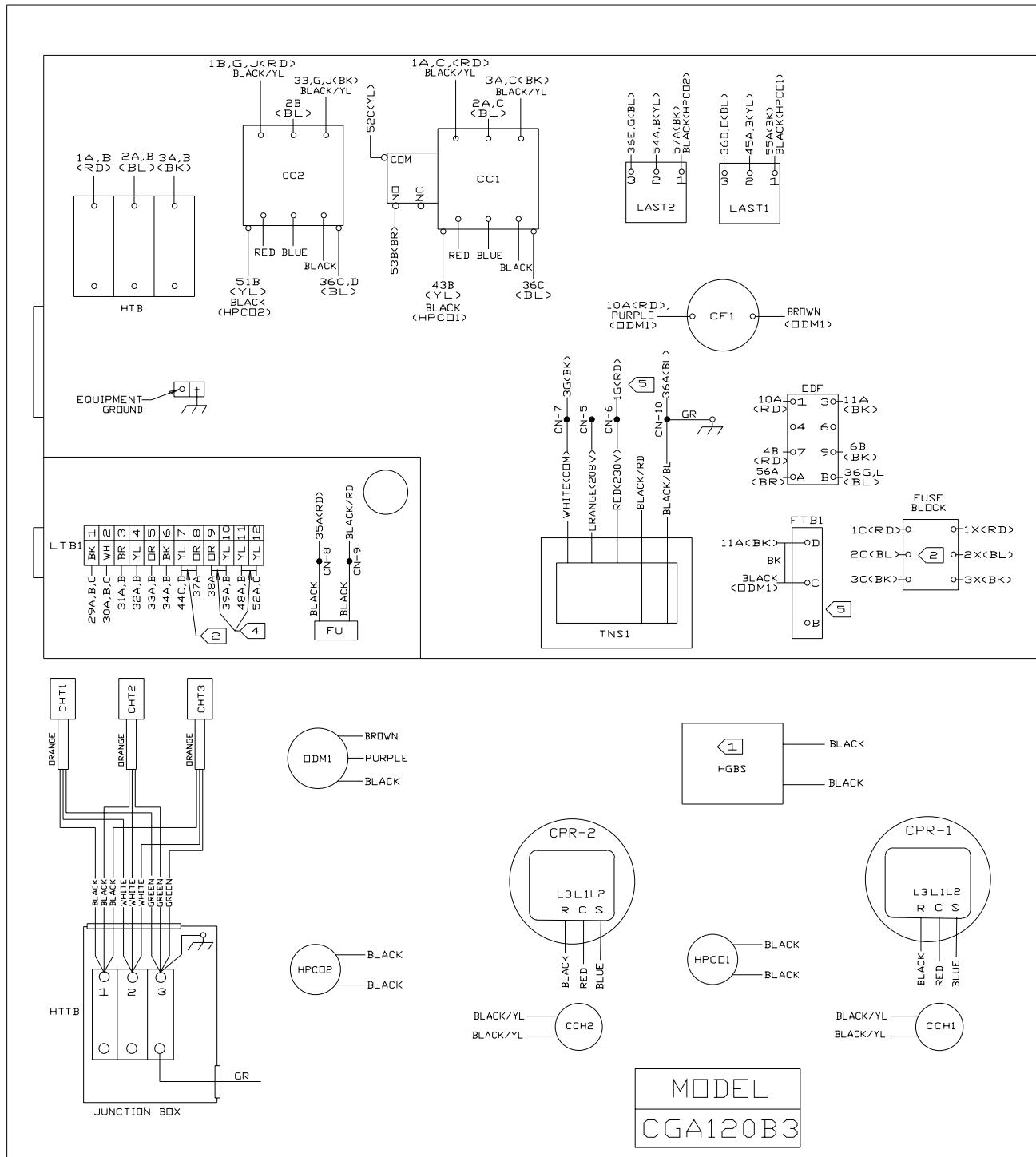
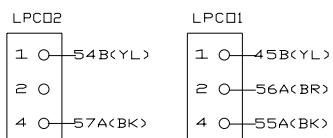
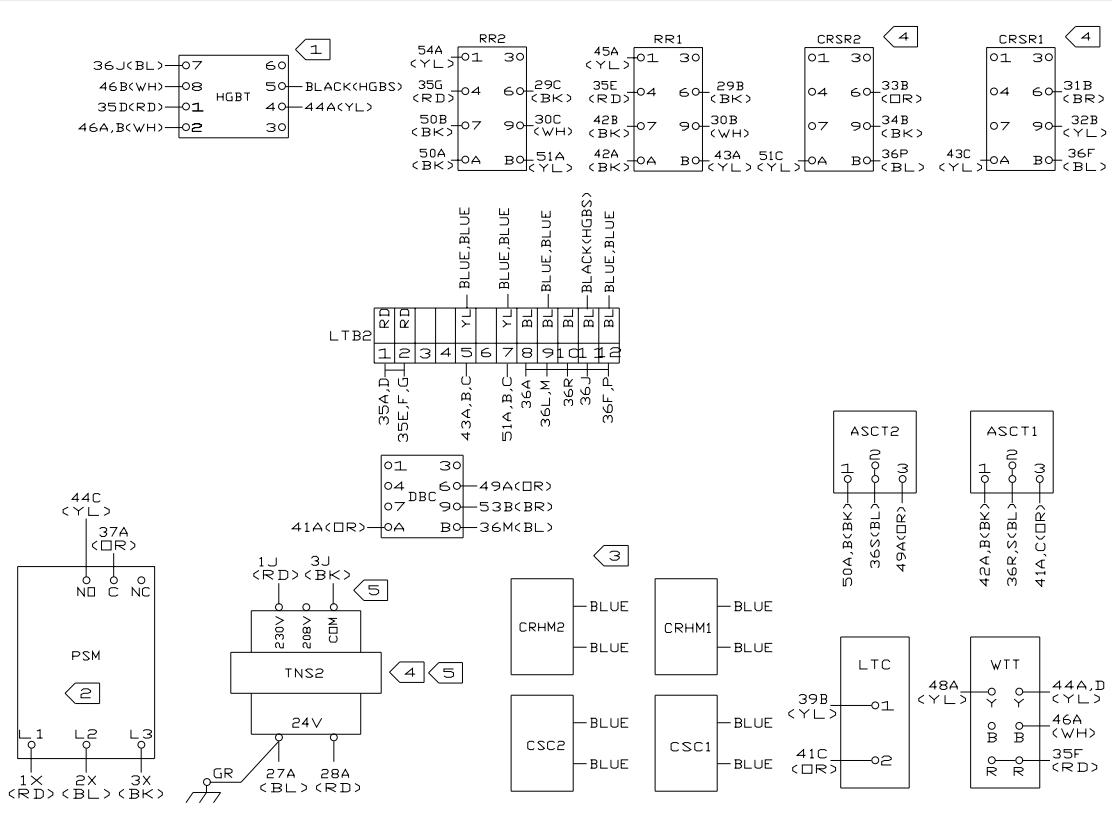


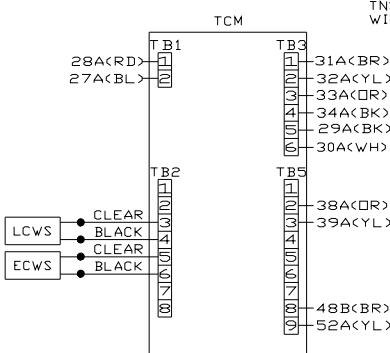
Figure 4
CGA120B3
(208-230V/60/3) Connection Diagram





NOTES:

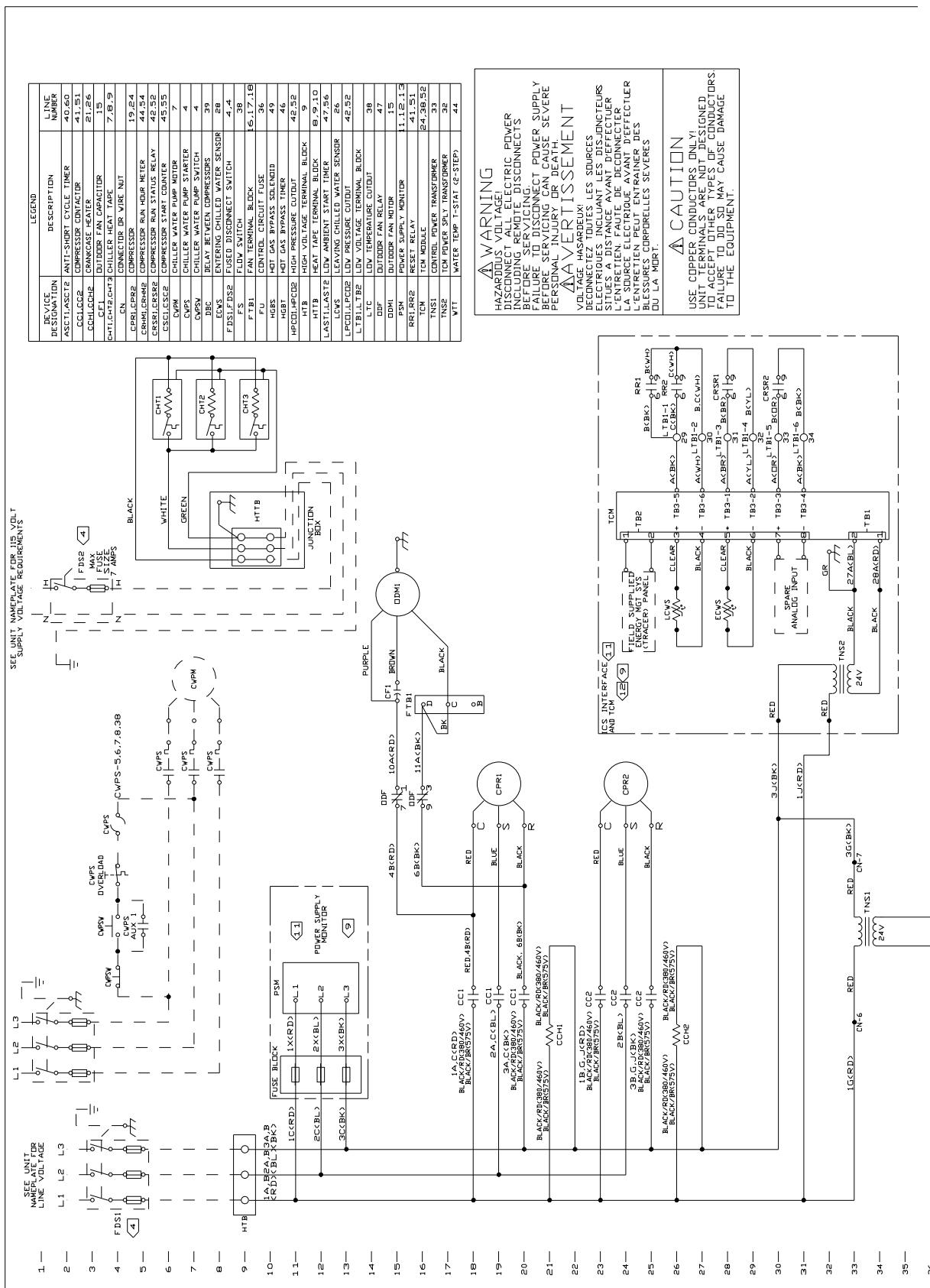
- ① HOT GAS BYPASS ALTERNATE CONSTRUCTION INCLUDES HGBT, HGBS AND ASSOCIATED WIRING (FACTORY INSTALLED ONLY).
- ② FIELD INSTALLED POWER SUPPLY MONITOR ACCESSORY. REMOVE JUMPER BETWEEN LTB1-7 AND LTB1-8 WHEN INSTALLED.
- ③ FIELD INSTALLED ELAPSED TIME METERS AND START COUNTER ACCESSORIES.
- ④ FIELD INSTALLED INTEGRATED COMFORT SYSTEM INTERFACE ACCESSORY. REMOVE JUMPERS BETWEEN LTB1-9 & LTB1-10 AND LTB1-11 & LTB1-12 WHEN INSTALLED.
- ⑤ CONNECTIONS SHOWN ARE FOR 230V OPERATION. WHEN 208V OPERATION IS REQUIRED, SWITCH RED AND ORANGE TRANSFORMER LEADS AROUND AT TRANSFORMER TNS1. INSULATE TNS1 RED WIRE LEAD TO AVOID ACCIDENTALLY SHORTING. AT TRANSFORMER TNS2, SWITCH WIRE 1J(RD) FROM TERMINAL 230V TO TERMINAL 208V.

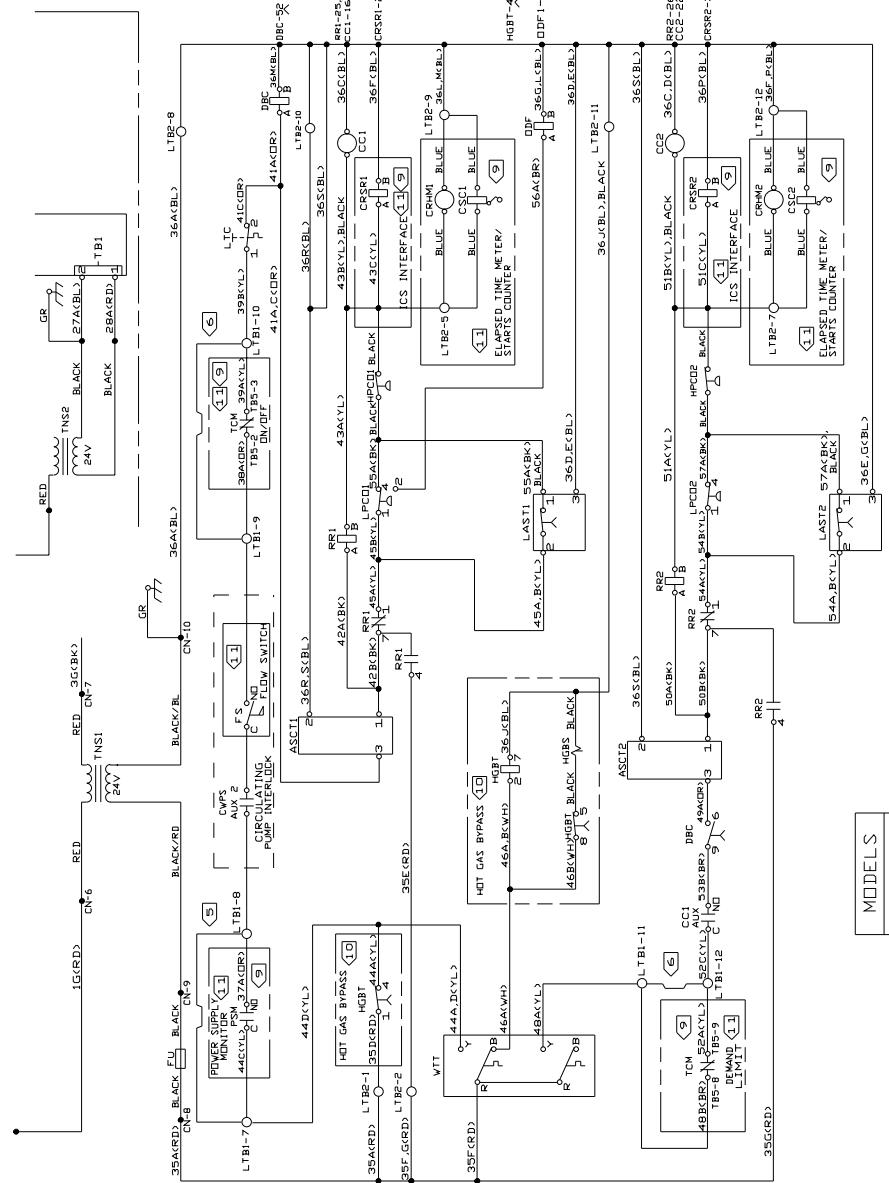


WARNING	AVERTISSEMENT
HAZARDOUS VOLTAGE ! DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING	VOLTAGE HASARDEUX ! DECONNECTEZ TOUTES LES SOURCES ELECTRIQUES INCLUANT LES DISJONCTEURS SITUES A DISTANCE AVANT D'EFFECTUER L'ENTRETIEN.
FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.	FAUTE DE DECONNECTER LA SOURCE ELECTRIQUE AVANT D'EFFECTUER L'ENTRETIEN PEUT ENTRAINER DES BLESSURES CORPORELLES SEVERES OU LA MORT.

CAUTION
USE COPPER CONDUCTORS ONLY. UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT.

Figure 5
CGA100BD (380-415V/50/3)
CGA120B4 (460V/60/3)
CGA120BW (575V/60/3) Schematic Diagram



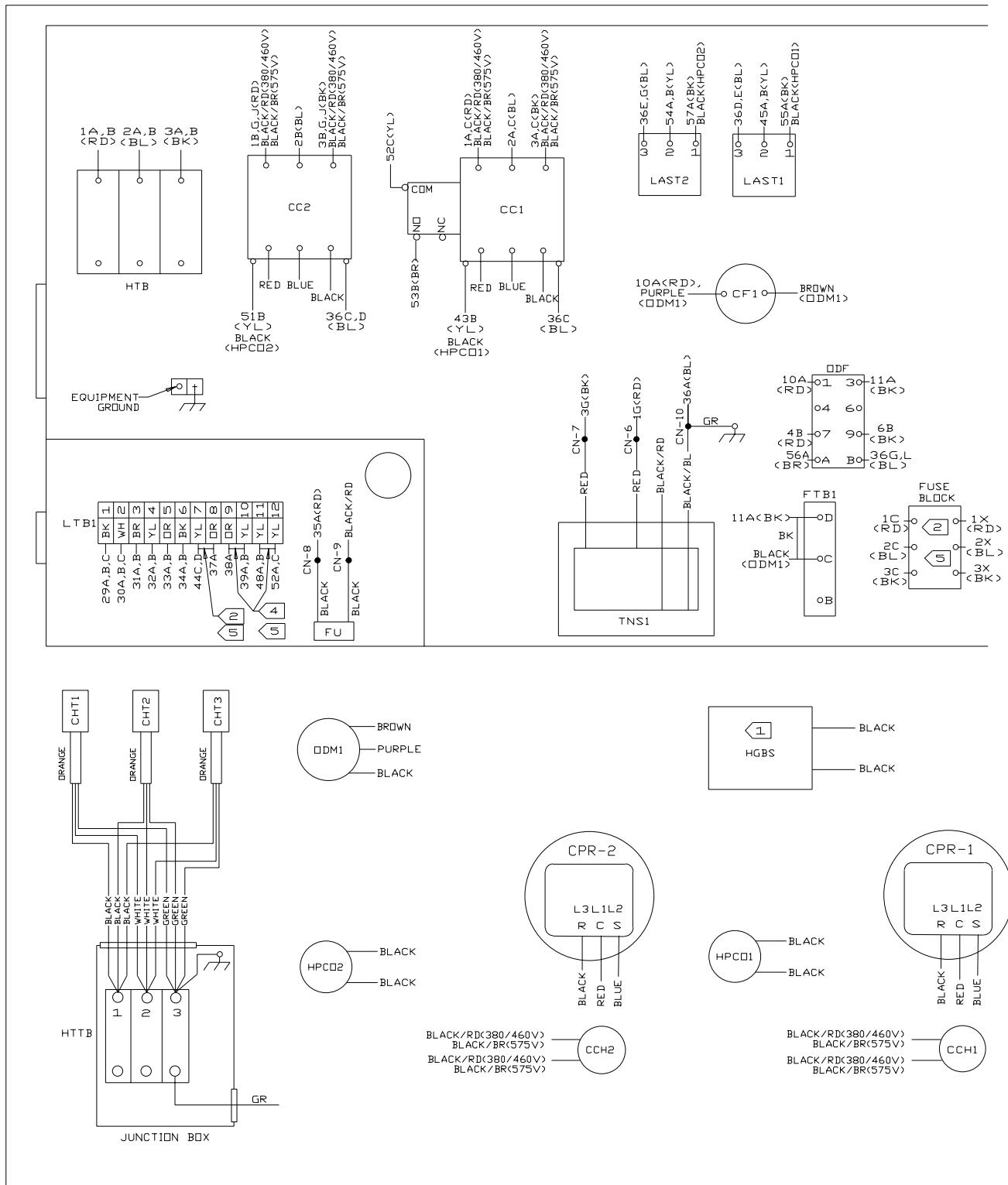


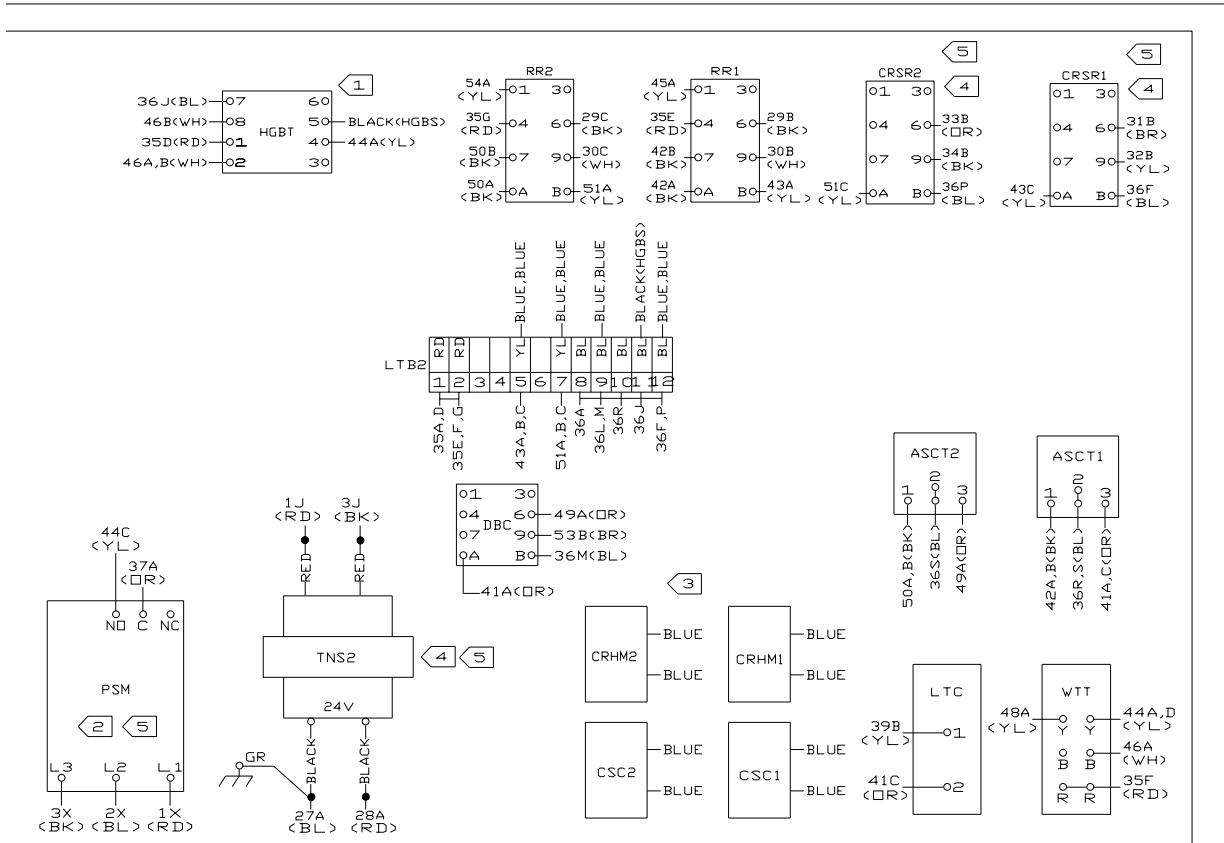
MODEL S	CGA100BD CGA120BW CGA120B4
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WIRE	COLOR	DESIGNATION
ABBR	COLOR	ABBR COLOR
BK	BLACK	OR ORANGE
BL	BLUE	RD RED
BR	BROWN	WH WHITE
GR	GREEN	YL YELLOW

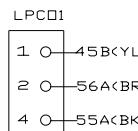
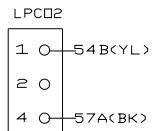
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Figure 6
CGA100BD (380-415V/50/3)
CGA120B4 (460V/60/3)
CGA120BW (575V/60/3) Connection Diagram

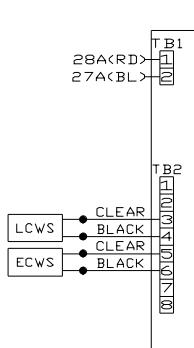




NOTES:



- ① HOT GAS BYPASS ALTERNATE CONSTRUCTION INCLUDES HGBT, HGBS AND ASSOCIATED WIRING (FACTORY INSTALLED ONLY).
- ② FIELD INSTALLED POWER SUPPLY MONITOR ACCESSORY. REMOVE JUMPER BETWEEN LTBI-7 AND LTBI-8 WHEN INSTALLED.
- ③ FIELD INSTALLED ELAPSED TIME METER AND START COUNTER ACCESSORIES.
- ④ FIELD INSTALLED INTEGRATED COMFORT SYSTEM INTERFACE ACCESSORY. REMOVE JUMPERS BETWEEN LTBI-9 & LTBI-10 AND LTBI-11 & LTBI-12 WHEN INSTALLED.
- ⑤ THIS ACCESSORY NOT AVAILABLE FOR 380-415V/50 HZ/3 PHASE UNIT APPLICATION.



MODELS
CGA100BD
CGA120BW
CGA120B4

⚠️ WARNING
HAZARDOUS VOLTAGE !
DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.

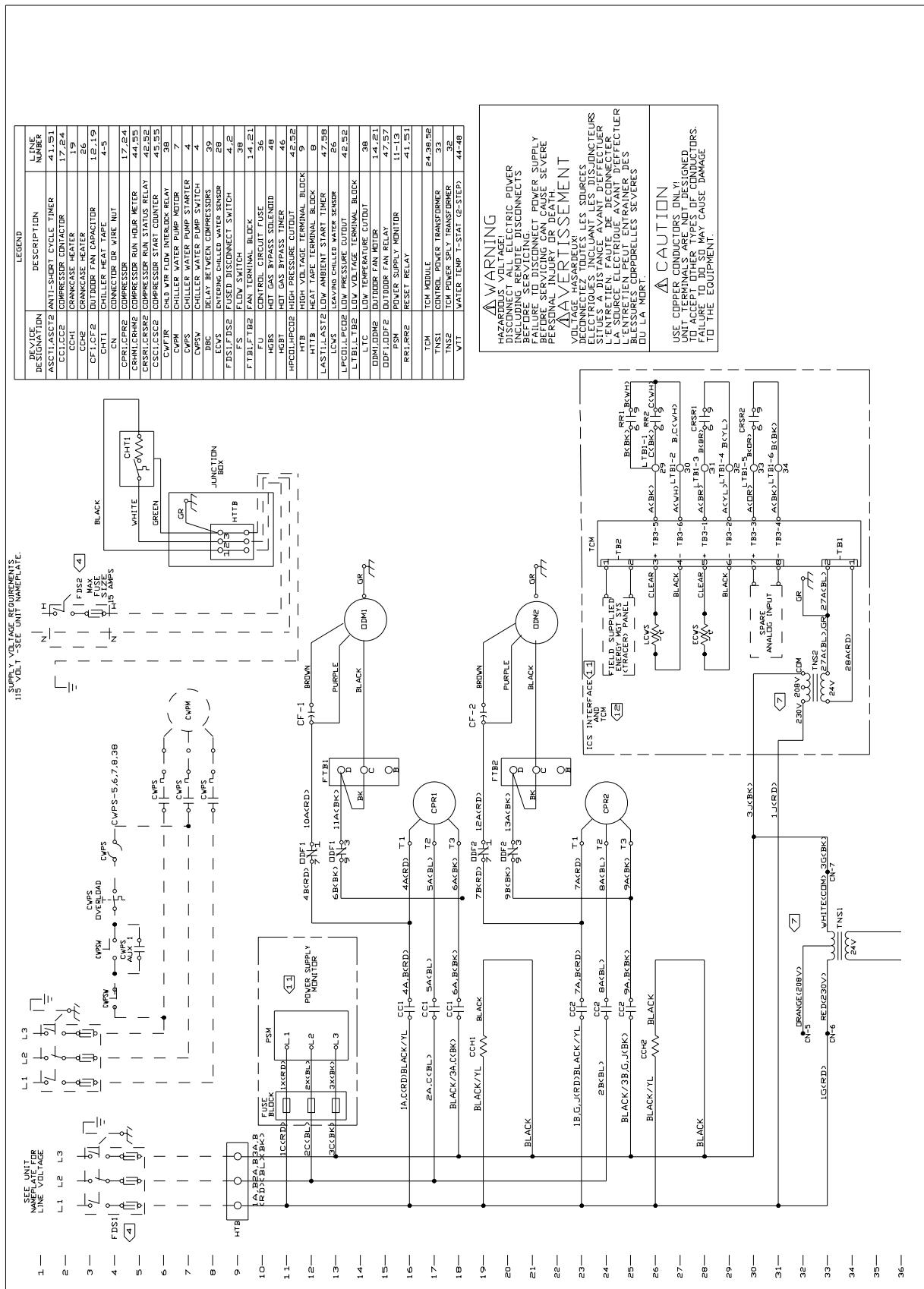
FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.

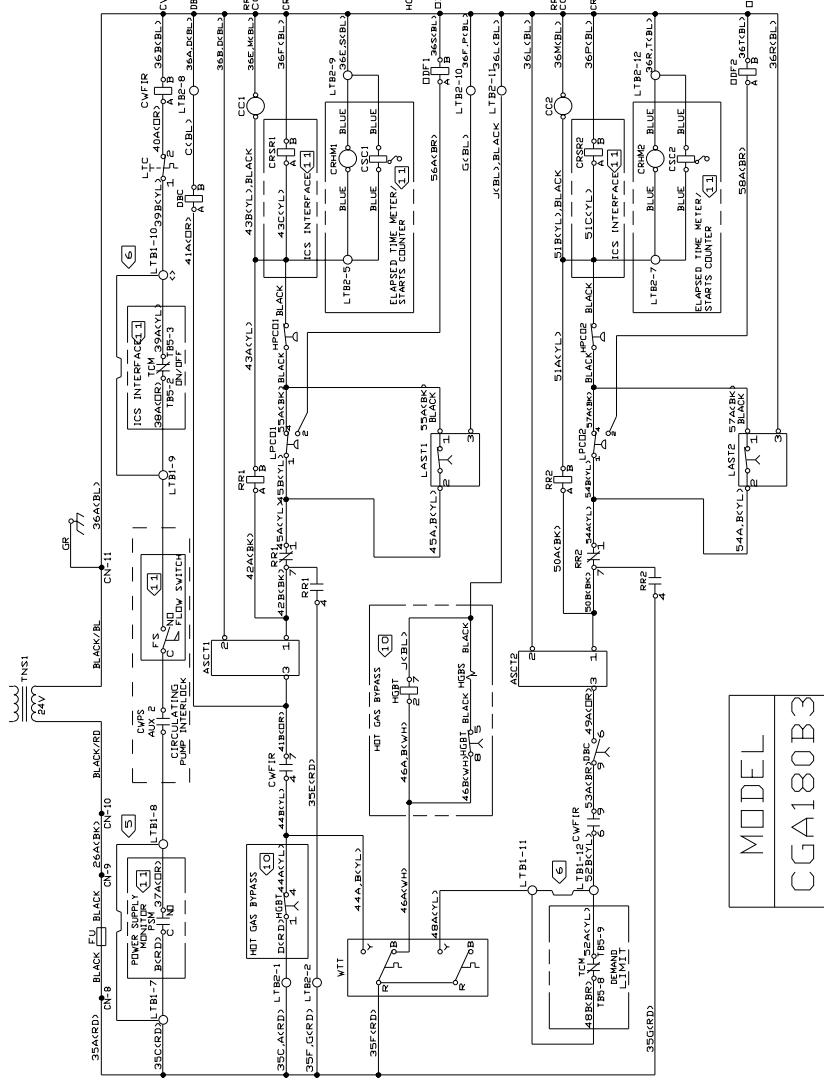
⚠️ AVERTISSEMENT
VOLTAGE HASARDÉ !
DECONNECTEZ TOUTES LES SOURCES ÉLECTRIQUES Y COMPRIS LES DISJONCTEURS SITUÉS À DISTANCE AVANT D'EFFECTIONNER L'ENTRETIEN.

FAUTE DE DECONNECTER LA SOURCE ELECTRIQUE AVANT D'EFFECTIONNER L'ENTRETIEN PEUT ENTRAINER DES BLESSURES CORPORELLES SEVERES OU LA MORT.

⚠️ CAUTION
USE COPPER CONDUCTORS ONLY. UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT.

Figure 7
CGA180B3
(208-230V/60/3) Schematic Diagram



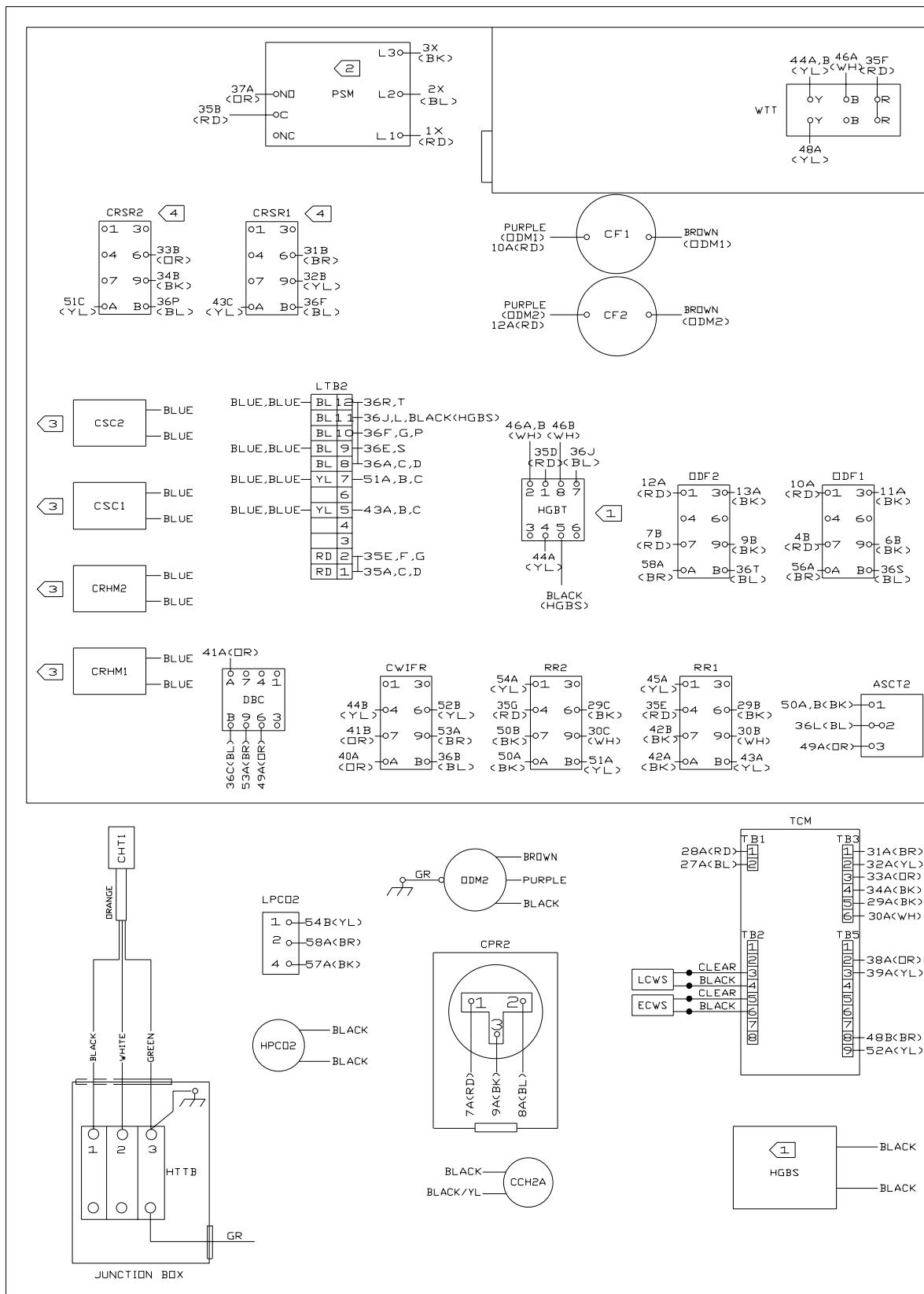


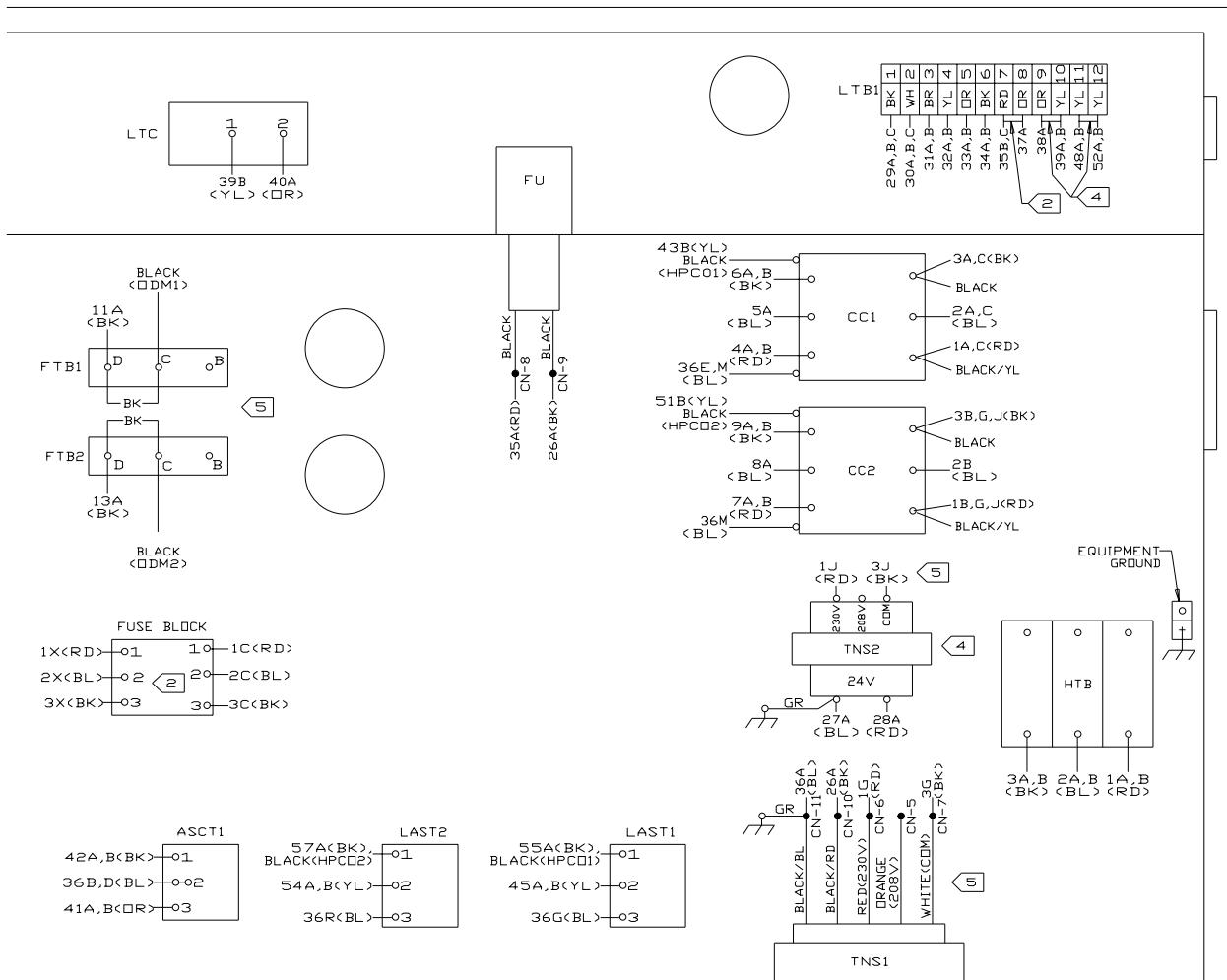
R DESIGNATION

ABBR	COLOR	ABBR	COLOR
BK	BLACK	DR	ORANGE
BL	BLUE	RD	RED
BR	BROWN	WH	WHITE
GR	GREEN	YL	YELLOW

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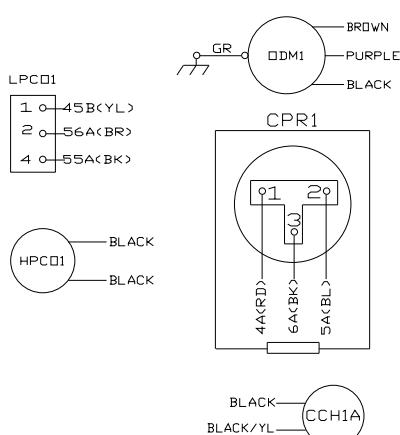
Figure 8
CGA180B3
(208-230V/60/3) Connection Diagram





NOTES:

- 1 HOT GAS BYPASS ALTERNATE CONSTRUCTION INCLUDES HGBT, HGBS AND ASSOCIATED WIRING. -FACTORY INSTALLED ONLY.
- 2 FIELD INSTALLED POWER SUPPLY MONITOR ACCESSORY. REMOVE JUMPER BETWEEN LTBI-7 AND LTBI-8 WHEN INSTALLED.
- 3 FIELD INSTALLED ELAPSED TIME METER/ START COUNTER ACCESSORY.
- 4 FIELD INSTALLED INTEGRATED COMFORT SYSTEM INTERFACE ACCESSORY. REMOVE JUMPERS BETWEEN LTBI-9 & LTBI-10 AND LTBI-11 & LTBI-12 WHEN INSTALLED.
- 5 CONNECTIONS SHOWN ARE FOR 230V OPERATION, WHEN 208V OPERATION IS REQUIRED REMOVE WIRE 11A(BK) FROM FTB1-D AND CONNECT TO FTB2-B. REMOVE WIRE 13A(BK) FROM FTB2-D AND CONNECT TO FTB2-B. AT TRANSFORMER TNS1, SWITCH RED AND ORANGE TRANSFORMER LEADS AROUND. INSULATE TNS1 RED WIRE LEAD TO AVOID ACCIDENTALLY SHORTING. AT TRANSFORMER TNS2, SWITCH WIRE 13(RD) FROM TERMINAL 230V TO TERMINAL 208V.

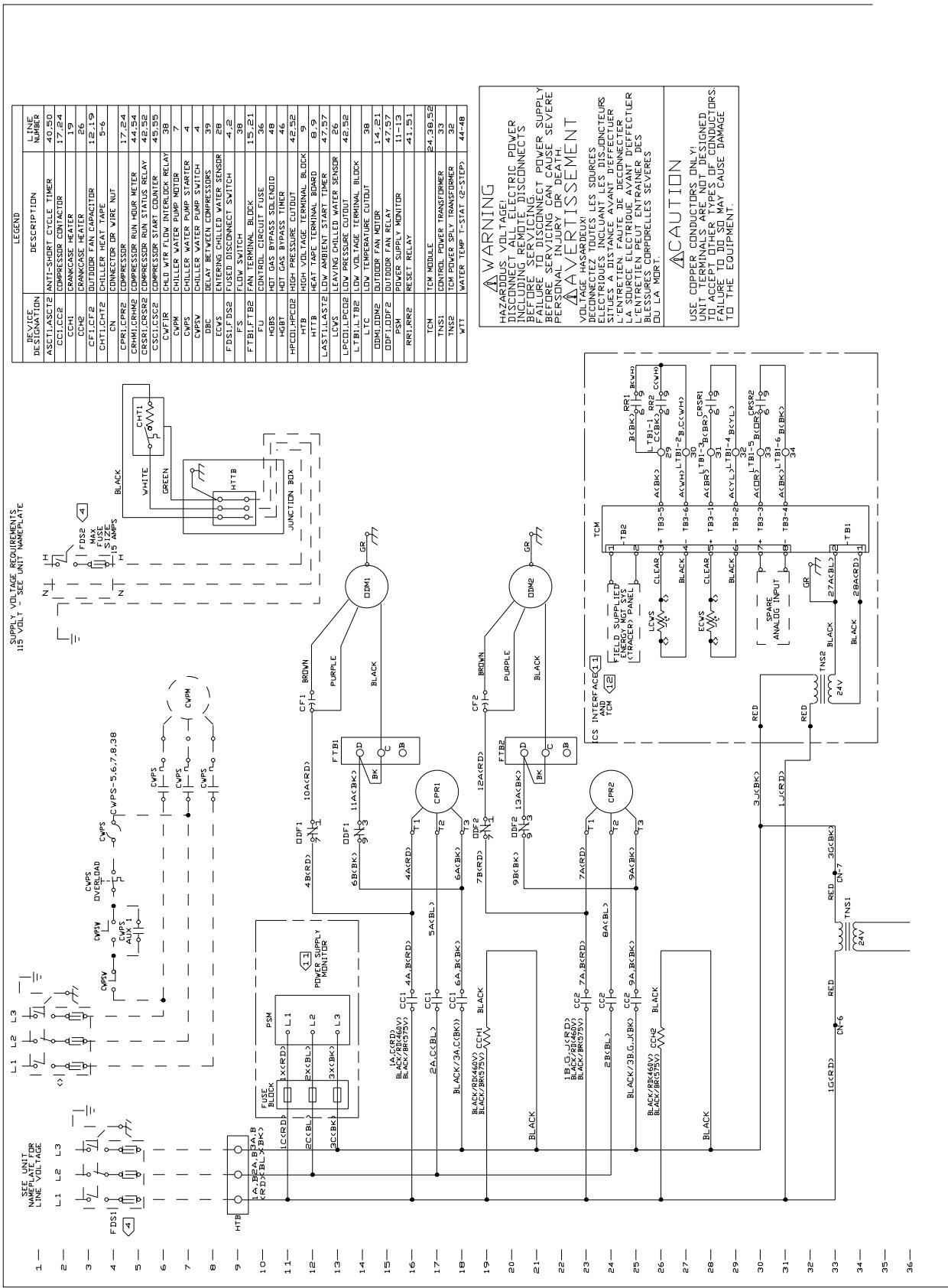


MODEL
CGA180B3

WARNING HAZARDOUS VOLTAGE ! DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING. FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.	AVERTISSEMENT VOLTAGE HASARDUEX ! DECONNECTEZ TOUTES LES SOURCES ELECTRIQUES INCLANT LES DISJONCTEURS SITES A FAIRE AVANT D'EFFECTUER L'ENTRETIEN. FAUTE DE DECONNECTER LA SOURCE ELECTRIQUE AVANT D'EFFECTUER L'ENTRETIEN PEUT ENTRAINER DES BLESSURES CORPORELLES SEVERES OU LA MORT.
CAUTION USE COPPER CONDUCTORS ONLY! UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT.	

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Figure 9
CGA150BD (380-415V/50/3)
CGA180B4 (460V/60/3)
CGA180BW (575V/60/3 Schematic Diagram)



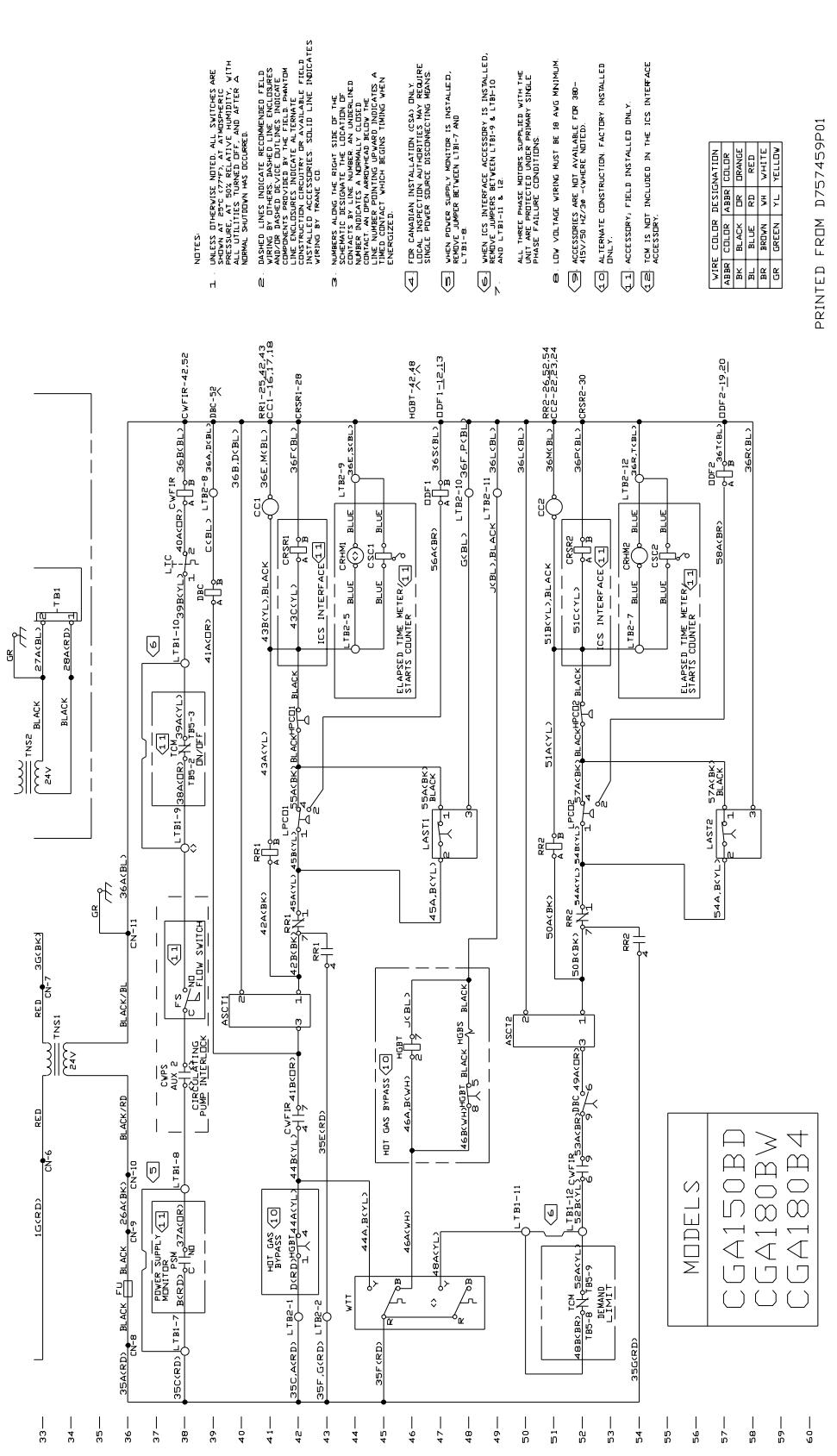
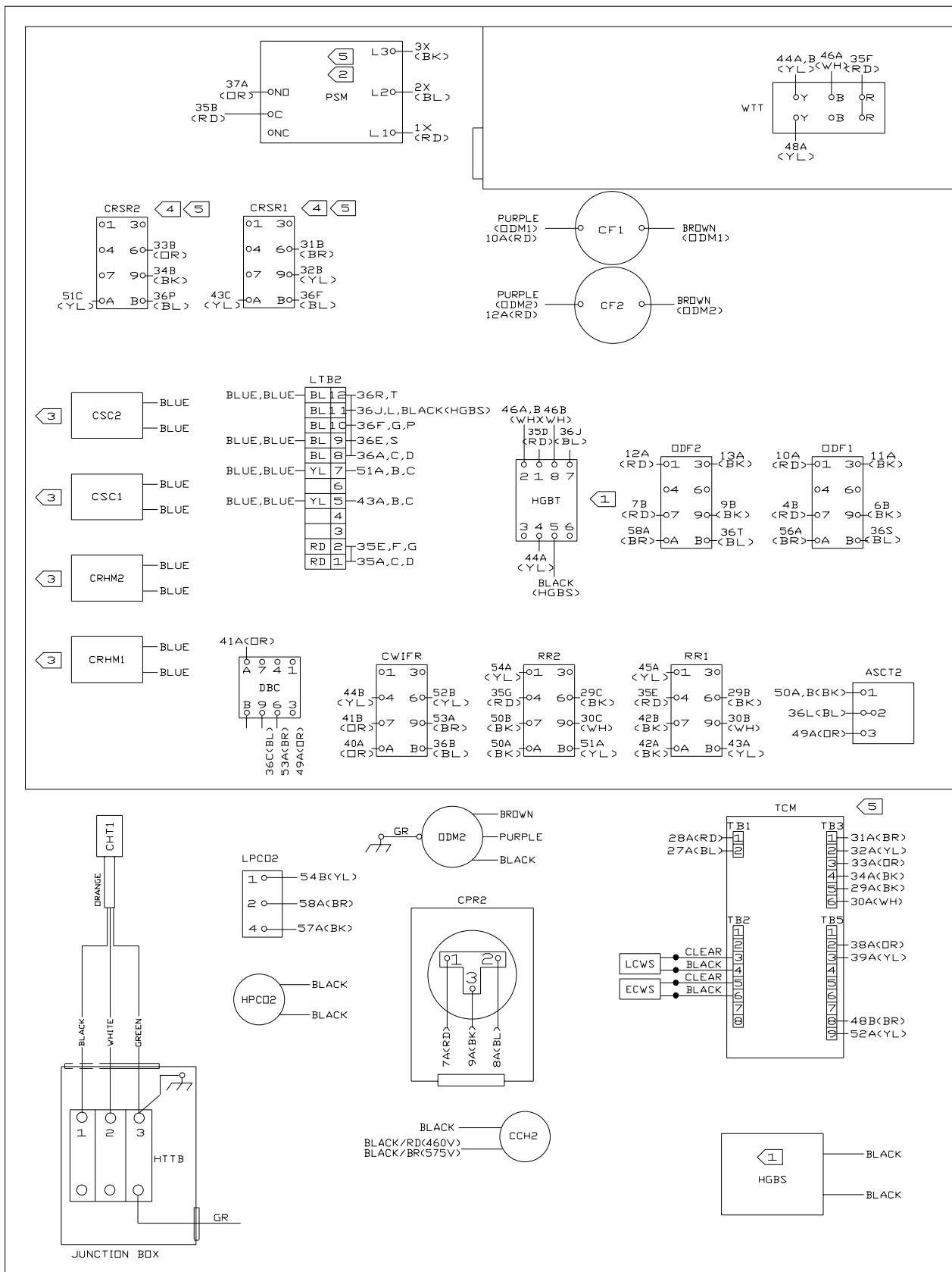
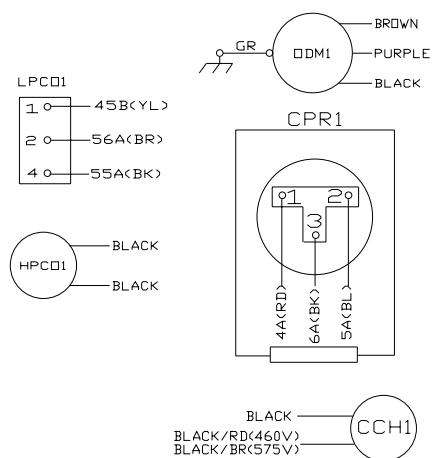
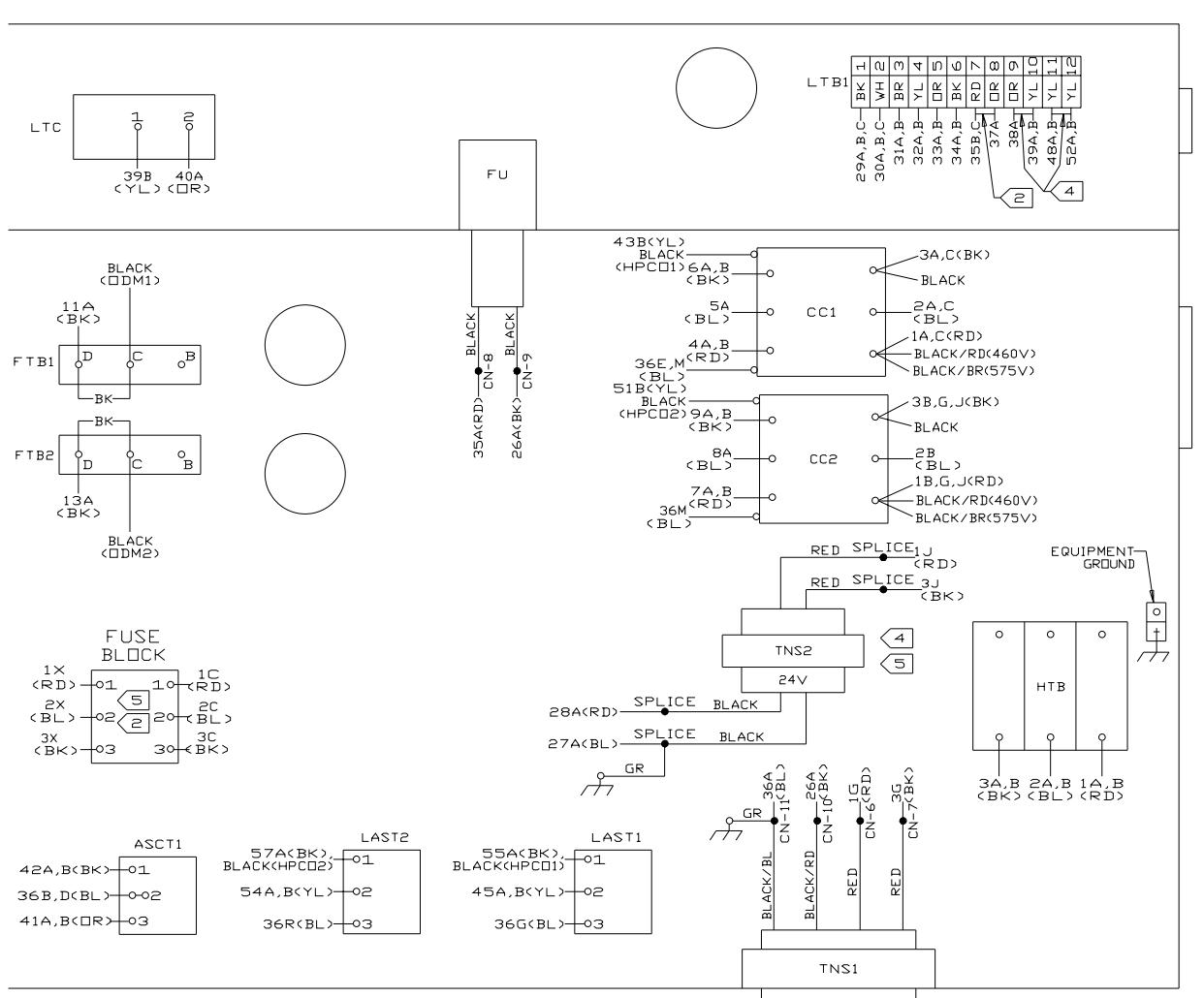


Figure 10
CGA150BD (380-415V/50/3)
CGA180B4 (460V/60/3)
CGA180BW (575V/60/3) Connection Diagram





MODELS
CGA150BD
CGA180BW
CGA180B4

<p>WARNING</p> <p>HAZARDOUS VOLTAGE !</p> <p>DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.</p> <p>FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.</p>	<p>AVERTISSEMENT</p> <p>VOLTAGE HASARDÉX !</p> <p>DÉCONNECTEZ TOUTES LES SOURCES ÉLECTRIQUES INCLANT LES DISJONCTEURS SITUÉS À DISTANCE AVANT D'EFFECTUER L'ENTRETIEN.</p> <p>FAUTE DE DÉCONNECTER LA SOURCE ÉLECTRIQUE AVANT D'EFFECTUER L'ENTRETIEN PEUT ENTRAINER DES BLESSURES CORPORELLES SEVERES OU LA MORT.</p>
<p>CAUTION</p>	

USE COPPER CONDUCTORS ONLY! UNIT TERMINALS ARE
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