

TABLE OF CONTENTS

DESCRIPTION: -----	SHEET REFERENCE: -----
LEGEND	02
ONE-LINE/CABLE DIAGRAM	03
SEL 451 CONTROL INTERCONNECT	04
SEL 451 CONTROL INTERCONNECT	05
SEL 451 CONTROL INTERCONNECT	06
SEL 451 CONTROL INTERCONNECT	07
SEL 451 CONTROL INTERCONNECT	08
LOADBREAK LOGIC CONNECTIONS (WAYS 1 & 2)	B13440053SK0
FAULT INTERRUPTER LOGIC CONNECTIONS (WAYS 3 & 4)	B13440053BL0
POTENTIAL TRANSFORMER CONNECTION	B13440052A00

SYMBOLS

	SPECIAL NOTE DESIGNATOR (WHERE # = NUMBER)
	CUSTOMER WIRED CONNECTION
	FIELD WIRED CONNECTION
	CONTACT AVAILABLE FOR CUSTOMER USE
	CURRENT TRANSFORMERS (CTS) ARE TO BE WIRED TO THE HINGE SIDE OF THE TEST SWITCH SO THAT THE CTS ARE SHORTED WHEN THE TEST SWITCH IS IN THE OPEN/SHORTED POSITION.
	CURRENT TRANSFORMERS (CTS) ARE TO BE WIRED TO THE EVEN-NUMBERED SIDE OF THE TEST SWITCH CTS ARE SHORTED WHEN THE DISCONNECT PINS ARE INSERTED INTO THE CENTER SLOTS OF THE TEST SWITCH.
	ARROW DESIGNATES WIRE LEAVES CURRENT SHEET
	WIRES CONNECT AT THIS JUNCTURE
	WIRES DO NOT CONNECT AT THIS JUNCTURE
	CAPACITOR
	CURRENT TRANSFORMER
	RELAY INPUT
	ANALOG VOLTAGE INPUT
	ANALOG CURRENT INPUT
	POTENTIAL TRANSFORMER
	FUSE
	MAGNETIC LATCH
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	LIGHT EMITTING DIODE
	DIODE
	GROUND
	RESISTOR

NOTES

POWER REQUIREMENT
2.0 A AT 120VAC STEADY STATE FOR CONTROL CABINET

SPECIAL NOTE REFERENCES

1 INTERNAL FEEDBACK STATUS FOR FUTURE MOTOR CONTROL

PRINT IDENTIFICATION

DATE _____ G&W NO. _____

CUSTOMER _____

ORDER NO. _____

☐ FOR RECORD


ITEM NO. _____

☐ FOR APPROVAL-NO MORE WORK TO BE DONE UNTIL APPROVAL IS RECEIVED

ALL DRAWING CHANGES MUST BE MADE ON CAD. ANY MANUAL CHANGES WILL VOID DRAWING.

CTRL 451-5 TRSV/ST 4 SS OC

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USED ON: DM80C LLFF AJ0

DRAWING NO. B1344 0085 DX0

REV A

ENG/DES: DRC DRC DATE: 02/14/23

APPR BY: AP DATE: 02/14/23

SCALE: SHEET: 1 OF 8

A	606758	DRC	DRC	4/18/23
REV.	ECO	ENG	DES	DATE
REVISIONS				

LEGEND

WIRE COLORS AND CABLE/HARNESS DESIGNATIONS:

WIRES LEAVING SHEET NOMENCLATURE:
SHEET NUMBER [ZONE X, ZONE Y] (DESTINATION POINT)
EXAMPLE: 10 [B, 4] (MIB1-J1-01)

BLK = BLACK
WHI = WHITE
RED = RED
GRN = GREEN
YEL = YELLOW

BLU = BLUE
ORG = ORANGE
BRN = BROWN
VLT = VIOLET
GRY = GRAY

JUMPERS FOR 24VDC PS1 ARE RED.
JUMPERS FOR 0VDC PS1 ARE BLACK.
JUMPERS FOR 24VDC PS2 ARE YELLOW.
JUMPERS FOR 0VDC PS2 ARE BLACK.
JUMPERS FOR 120VAC LINE ARE RED.
JUMPERS FOR 120VAC NEUTRAL ARE WHITE.

XXX/XXX = PRIMARY COLOR/SECONDARY COLOR TRACE
EXAMPLE: RED/BLK = RED WITH BLACK TRACE

XXX10 = 10 PIN HARNESS WITH XXX COLOR HEATSHRINK
XXX12 = 12 PIN HARNESS WITH XXX COLOR HEATSHRINK
EXAMPLE: BLK10 = 10 PIN HARNESS WITH BLACK HEATSHRINK

#CBL X = CABLE USED TO CONNECT COMPONENTS WITHIN CONTROL CABINET (WHERE # = NUMBER OF CONDUCTORS WITHIN CABLE, AND X = SEQUENTIAL CABLE NUMBER USED IN DESIGN).
#HRNSX = HARNESS USED TO CONNECT COMPONENTS WITHIN CONTROL CABINET (WHERE # = NUMBER OF CONDUCTORS, AND X = SEQUENTIAL HARNESS NUMBER USED IN DESIGN).

- AUX

AUX = AUXILIARY CONTACT CABLE (10/C)
- AUX-IF

AUX-IF = INTERNAL FEEDBACK AUXILIARY CONTACT CABLE FOR MOTOR CONTROL USE (10/C)
- AUX/VB

AUX/VB = AUXILIARY CONTACT AND VISIBLE BREAK CONTACT CABLE (10/C)
- AVS

AVS = ANALOG VOLTAGE SENSING CABLE (16/C)
- CNTL

CNTL = MAGNETIC ACTUATOR CONTROL CABLE (10/C)
- CT/MAG

CT/MAG = INTERNAL THREE PHASE CURRENT TRANSFORMER SECONDARY AND MAGNETIC LATCH CABLE (10/C)

- CTX

CTX = EXTERNAL CURRENT TRANSFORMER CABLE (2/C) (WHERE X = PHASE)
- CT

CT = INTERNAL CURRENT TRANSFORMER CABLE (10/C)
- DS

DS = DENSITY SWITCH (2/C)
- DVS

DVS = DIGITAL VOLTAGE SENSING CABLE (4/C)
- EP/ET

EP/ET = EXTERNAL POWER / EXTERNAL TRIP (4/C)
- EVSX

EVSX =EXTERNAL VOLTAGE SENSOR CABLE (2/C) (WHERE X = PHASE)
- FCI

FCI = FAULTED CIRCUIT INDICATOR CABLE (2/C)
- LPWD

LPWD = LOW PRESSURE WARNING DEVICE CABLE (2/C)
- MAG

MAG = MAGNETIC LATCH CABLE (4/C)
- M

MOTOR = MOTOR CABLE (10/C)
- PT

PT# = POTENTIAL TRANSFORMER SECONDARY CABLE (2/C) (WHERE # = NUMBER)
- PWR

PWR = POWER CABLE (3/C)
- VB

VB = VISIBLE BREAK CONTACT CABLE (10/C)
- VS

VS = LOW ENERGY ANALOG VOLTAGE SENSING CABLE (4/C)
- VSB

VSB = VOLTAGE SENSING BUSHING CABLE (4/C)
- AUX

AUXILIARY CONTACTS (TRIDENT WITH SAFEVU)
- VB

VISIBLE BREAK CONTACTS (TRIDENT WITH SAFEVU)

SERIAL = SERIAL COMMUNICATION CABLE
FIBER = FIBER OPTIC COMMUNICATION CABLE
RJ45 = COPPER ETHERNET CABLE

DEVICES AND CONNECTIONS:

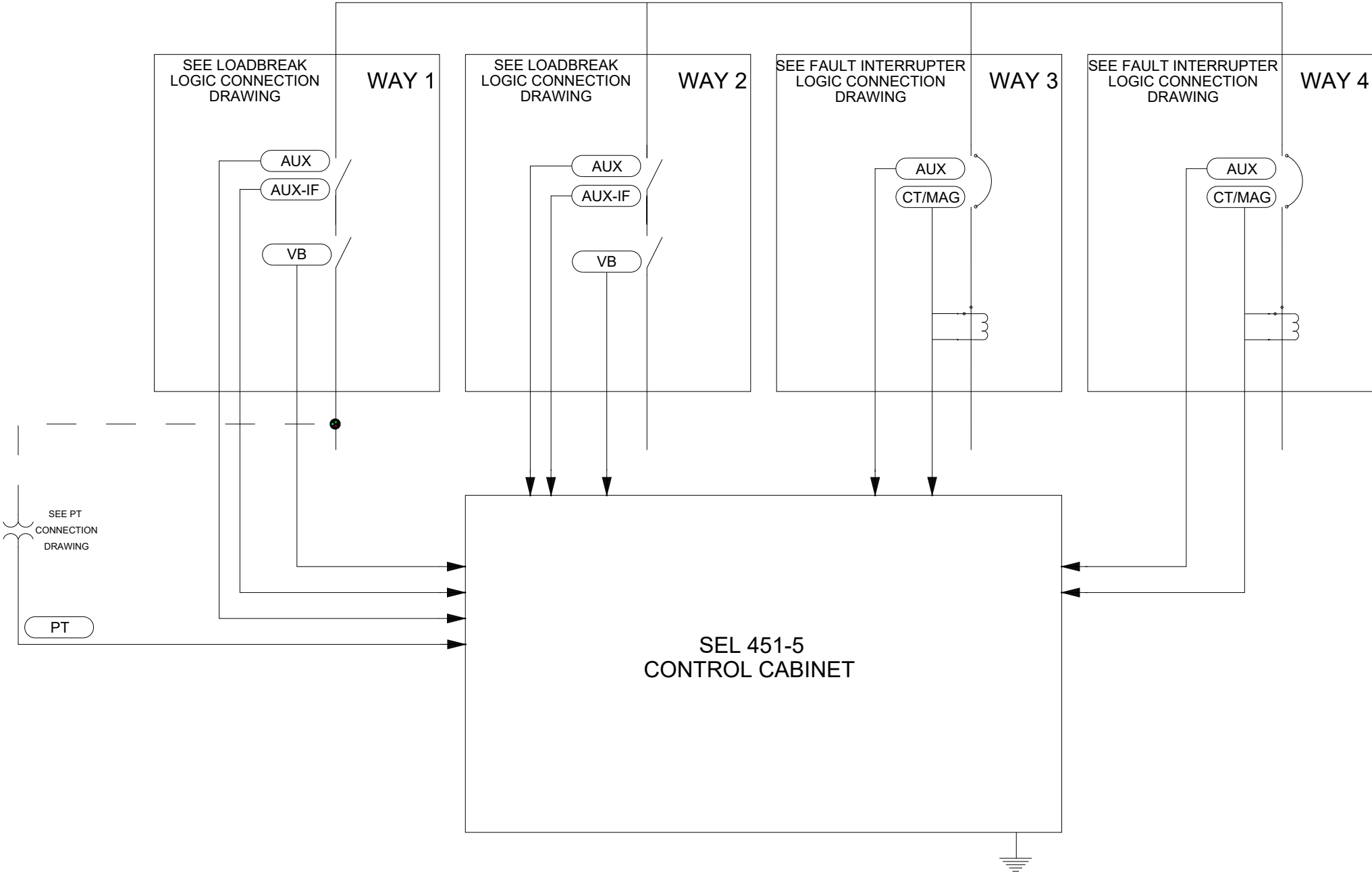
PS#-BATT = 600W POWER SUPPLY BATTERY CONNECTIONS (WHERE # = NUMBER OF POWER SUPPLY)
PS#-DC = 600W POWER SUPPLY DC CONNECTIONS (WHERE # = NUMBER OF POWER SUPPLY)
PS# ALT SOURCE = 600W POWER SUPPLY ALTERNATE 120VAC SOURCE (WHERE # = NUMBER OF POWER SUPPLY)
PS# PRI SOURCE = 600W POWER SUPPLY PRIMARY 120VAC SOURCE (WHERE # = NUMBER OF POWER SUPPLY)
PS#-F1 = 600W POWER SUPPLY PRIMARY SOURCE FUSE (WHERE # = NUMBER OF POWER SUPPLY)
PS#-F2 = 600W POWER SUPPLY ALTERNATE SOURCE FUSE (WHERE # = NUMBER OF POWER SUPPLY)
PS#-F3 = 600W POWER SUPPLY 24VDC SOURCE FUSE (WHERE # = NUMBER OF POWER SUPPLY)
PS#-SW1 = 600W POWER SUPPLY PUSH BUTTON TO PERFORM MANUAL BATTERY TEST (WHERE # = NUMBER OF POWER SUPPLY)
BATT#A = BATTERY A OF BATTERY BANK # (WHERE # = NUMBER OF BATTERY BANK)
BATT#B = BATTERY B OF BATTERY BANK # (WHERE # = NUMBER OF BATTERY BANK)
12V = 12V SEALED LEAD ACID BATTERY
CB# = CIRCUIT BREAKER (WHERE # = NUMBER OF CIRCUIT BREAKER)
DC-DC# = DC-TO-DC VOLTAGE CONVERTER (WHERE # = NUMBER OF DC CONVERTER)
FB# = FUSE BLOCK (WHERE # = NUMBER OF FUSE BLOCK)
HMI# = HUMAN MACHINE INTERFACE (WHERE # = NUMBER OF HUMAN MACHINE INTERFACE)
K# = ELECTROMECHANICAL INTERPOSING RELAY (WHERE # = NUMBER OF ELECTROMECHANICAL INTERPOSING RELAY)
LED# = LIGHT EMITTING DIODE (WHERE # = NUMBER OF LIGHT EMITTING DIODE)
LOR# = LOCK OUT RELAY (WHERE # = NUMBER OF LOCK OUT RELAY)
LRSS# = LOCAL REMOTE SELECTOR SWITCH (WHERE # = NUMBER OF LOCAL REMOTE SELECTOR SWITCH)
MIB# = MOTOR INTERFACE BOARD (WHERE # = NUMBER OF MOTOR INTERFACE BOARD)
PB# = PUSH BUTTON (WHERE # = NUMBER OF PUSH BUTTON)
SSW# = SELECTOR SWITCH (WHERE # = NUMBER OF SELECTOR SWITCH)
TB# = TERMINAL BLOCK # (WHERE # = NUMBER OF TERMINAL BLOCK)
TGPWR = CONTROL POWER TOGGLE SWITCH
TIB# = TRIP INTERFACE BOARD (WHERE # = NUMBER OF TRIP INTERFACE BOARD)
TS# = TEST SWITCH (WHERE # = NUMBER OF TEST SWITCH)
VSR = VOLTAGE SEEKING RELAY

SEL451-5 = SEL 451-5 RELAY
DB## = 24VDC DISTRIBUTION BLOCK BLOCK (WHERE ## = NUMBER OF DISTRIBUTION BLOCK)

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CTRL 451-5 TRSV/ST 4 SS OC					<div><div>G&W</div><div>G&W ELECTRIC Co.</div></div>	
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ENG/DES:	DRC	DRC	DATE: 02/14/23	B1344 0085 DX0		
APPR BY: AP			DATE: 02/14/23	SCALE:	SHEET: 2 OF 8	


ONE-LINE/CABLE DIAGRAM

6	FINAL REVIEW



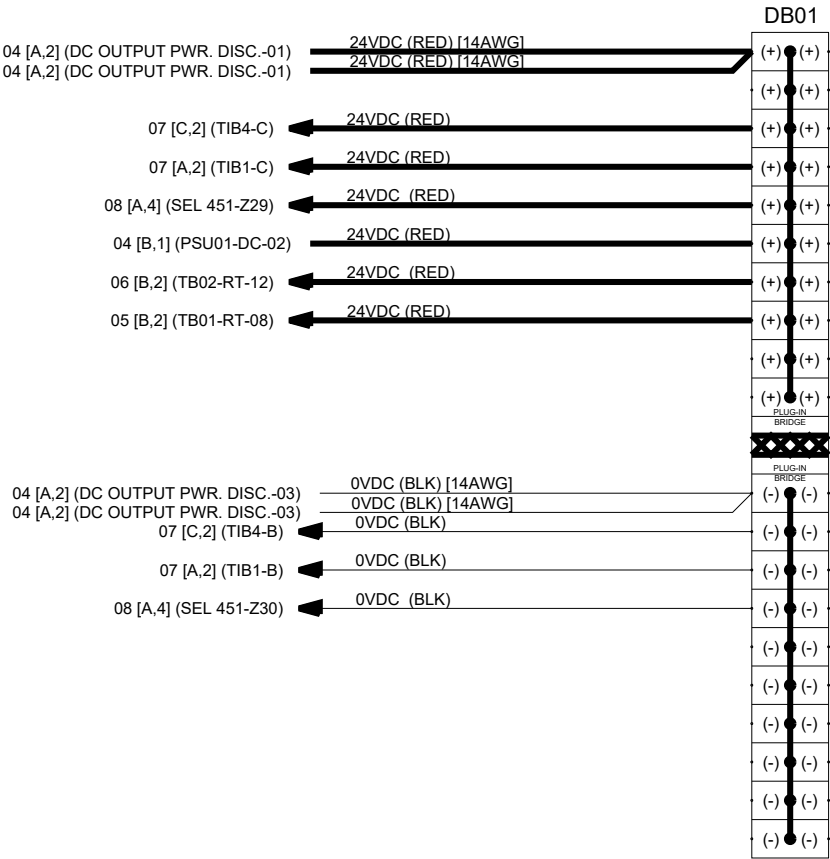
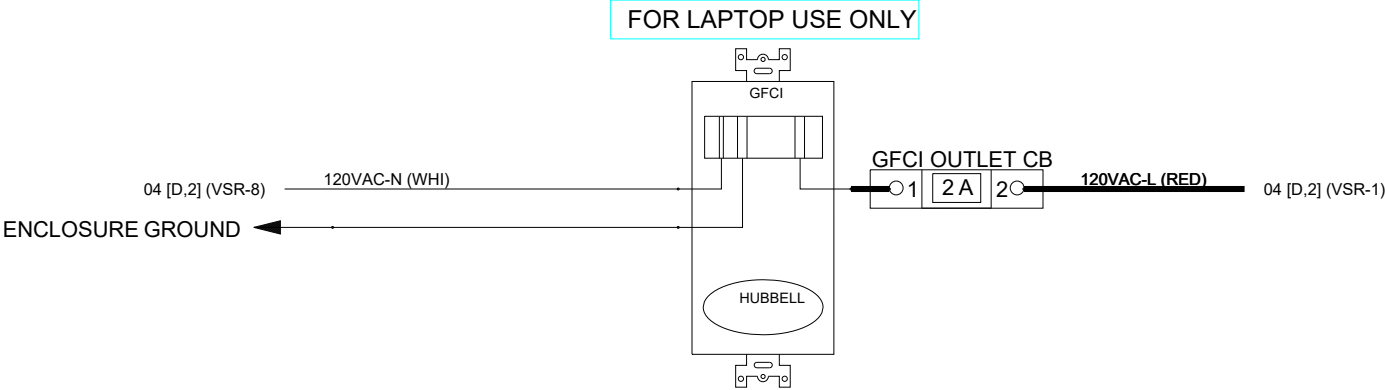
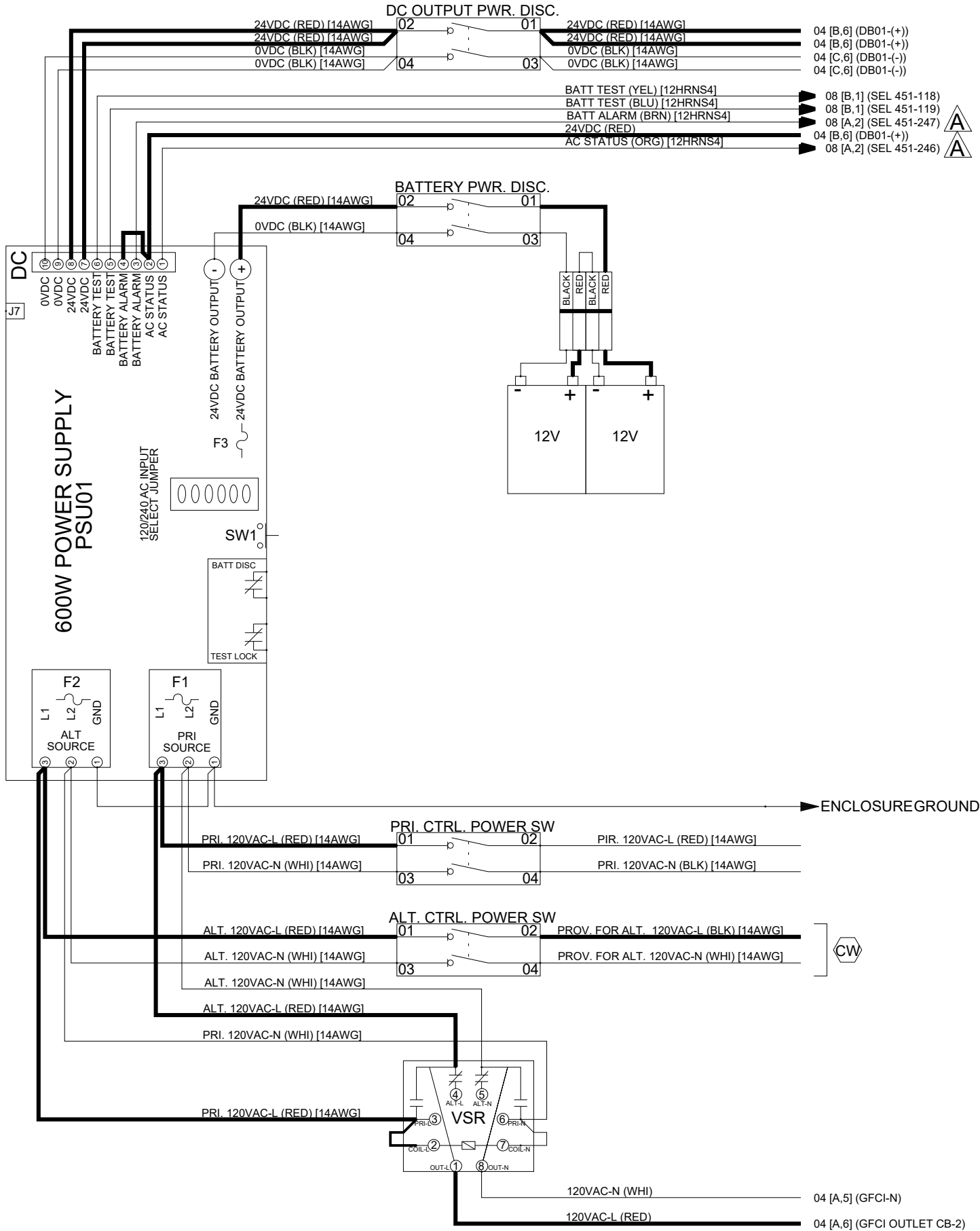
LEGEND:

	FAULT INTERRUPTER MECHANISM
	LOADBREAK MECHANISM
	G&W WIRED CONNECTION
	CUSTOMER WIRED CONNECTION
	CONNECTORIZED INTERFACE
	HARDWIRED INTERFACE
	FIELD WIRED CONNECTION

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APPR BY: AP			DATE: 02/14/23	SCALE:		SHEET: 3 OF 8

SEL 451 CONTROL INTERCONNECT

FINAL REVIEW



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ENG/DES:

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DRC

DATE: 02/14/23

B1344 0085 DX0

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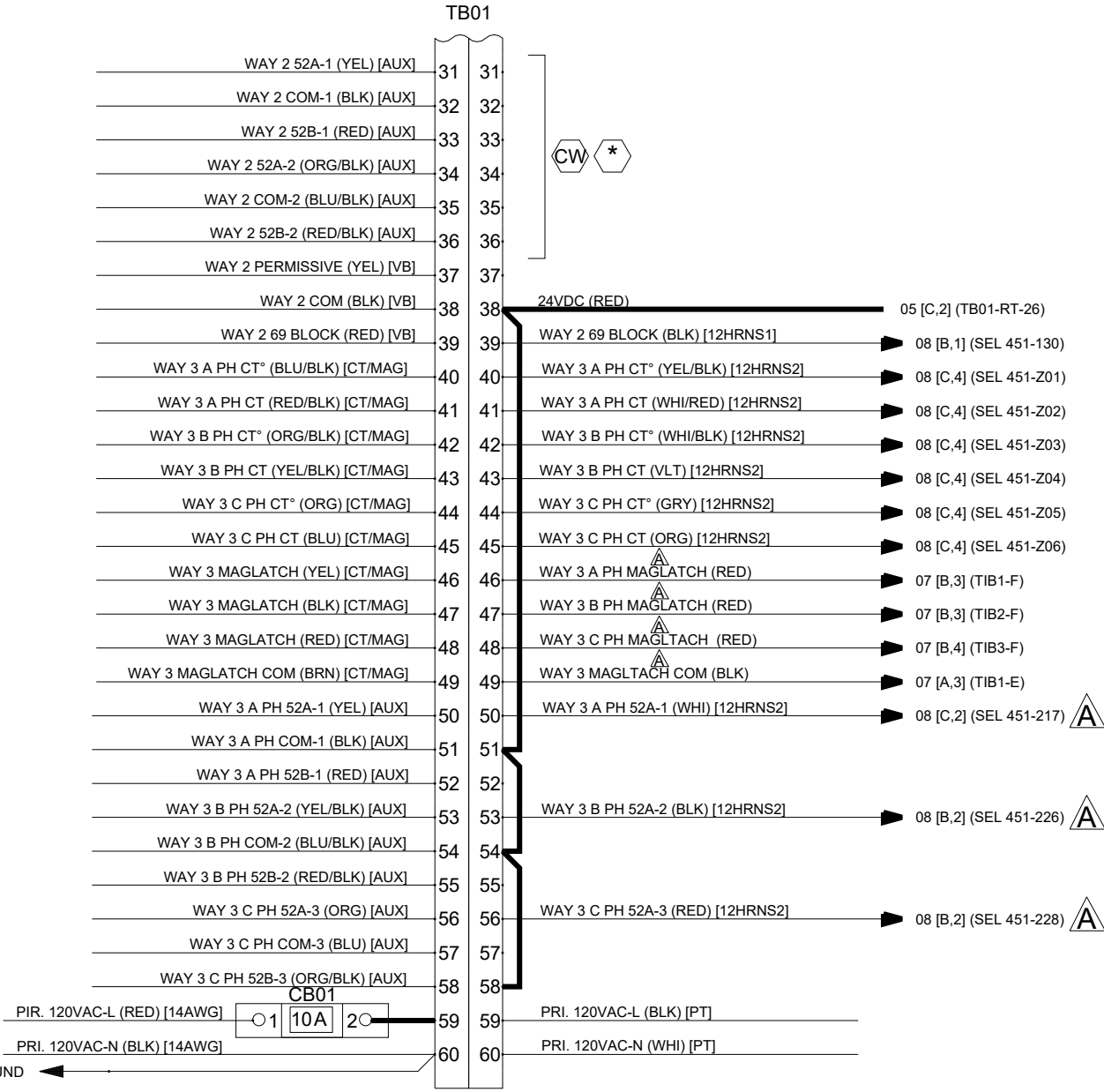
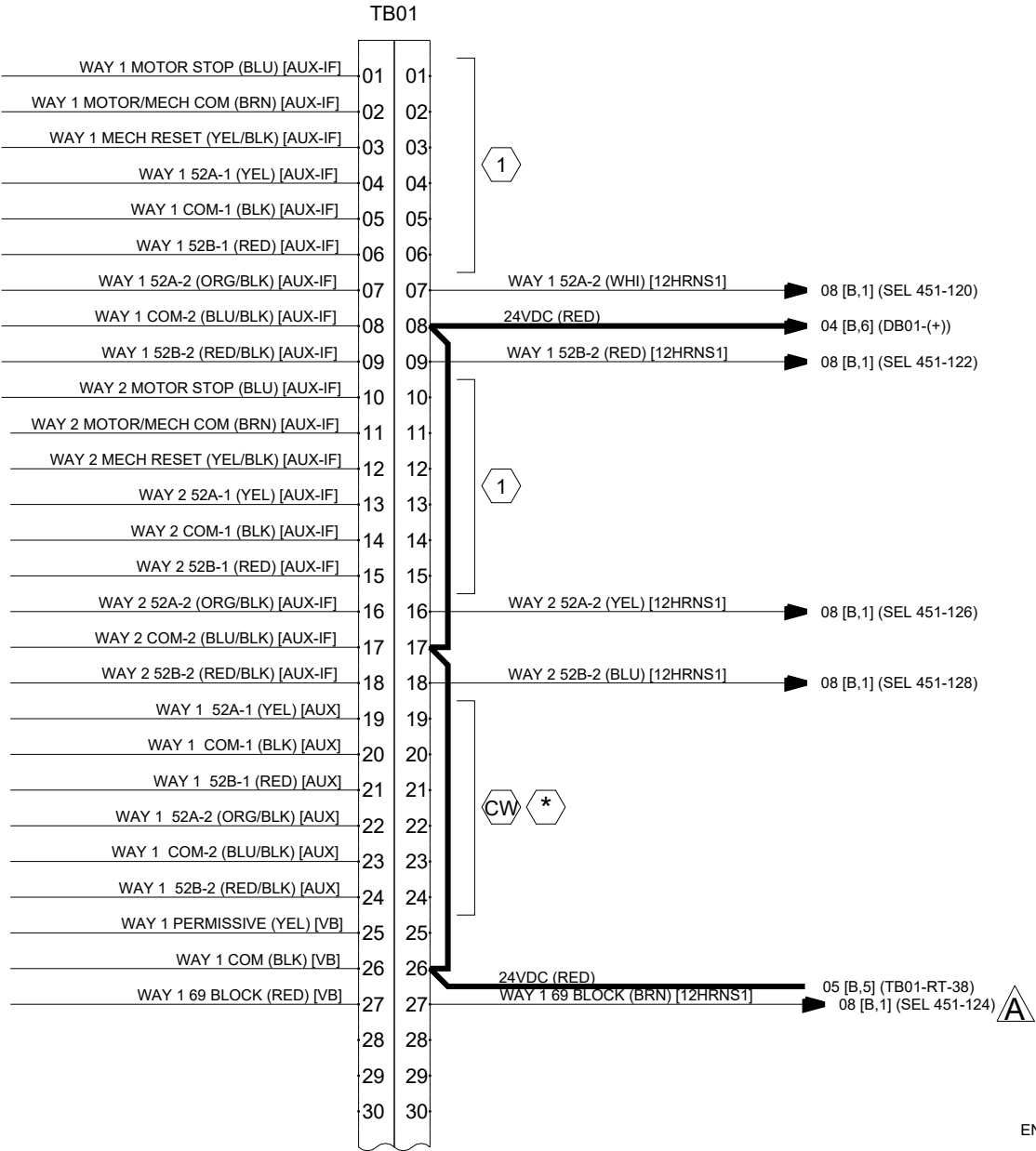
DATE: 02/14/23

SCALE:

SHEET: 4 OF 8

SEL 451 CONTROL INTERCONNECT

FINAL REVIEW



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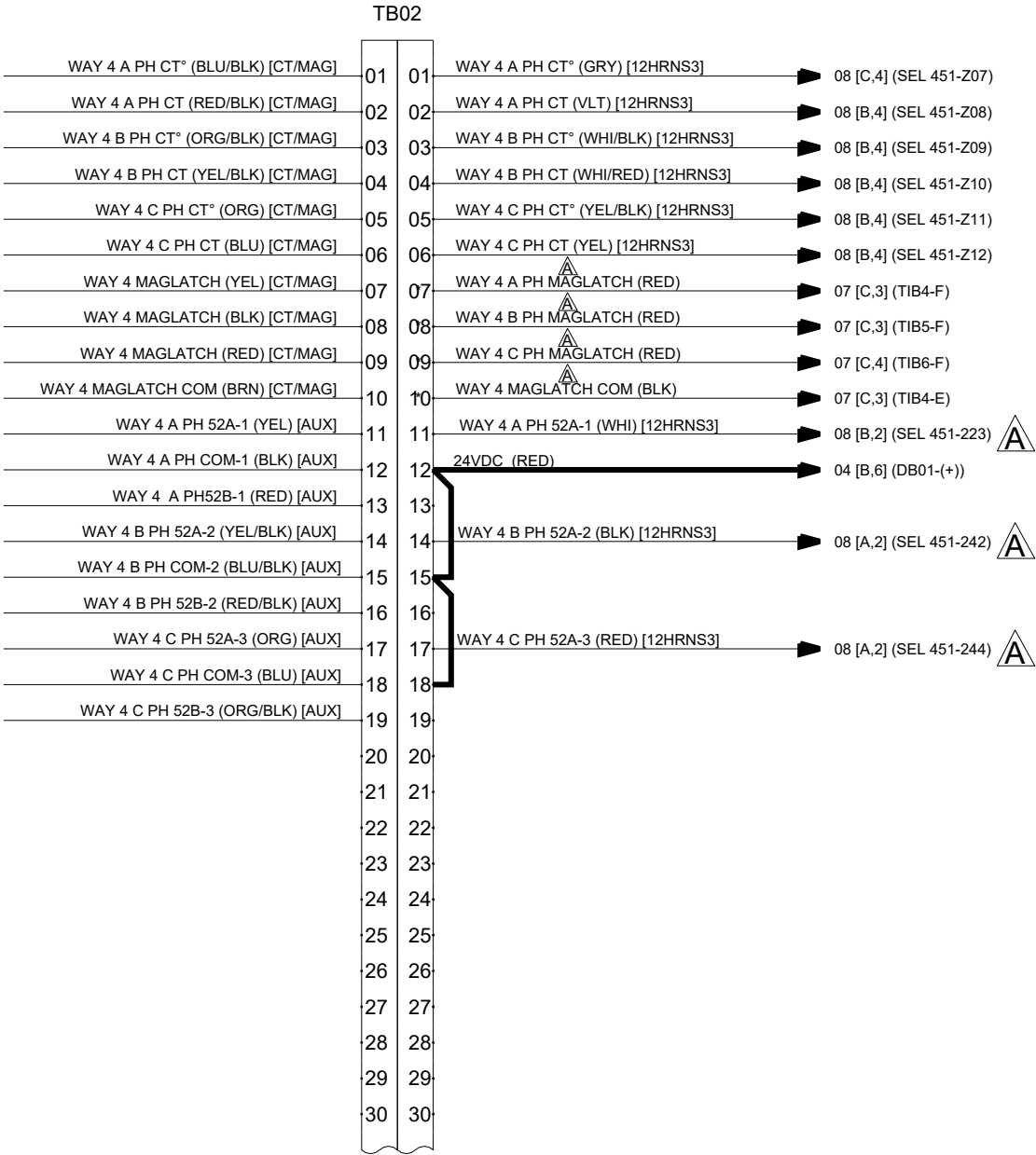
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SEL 451 CONTROL INTERCONNECT

FINAL REVIEW



TB02

31	31
32	32
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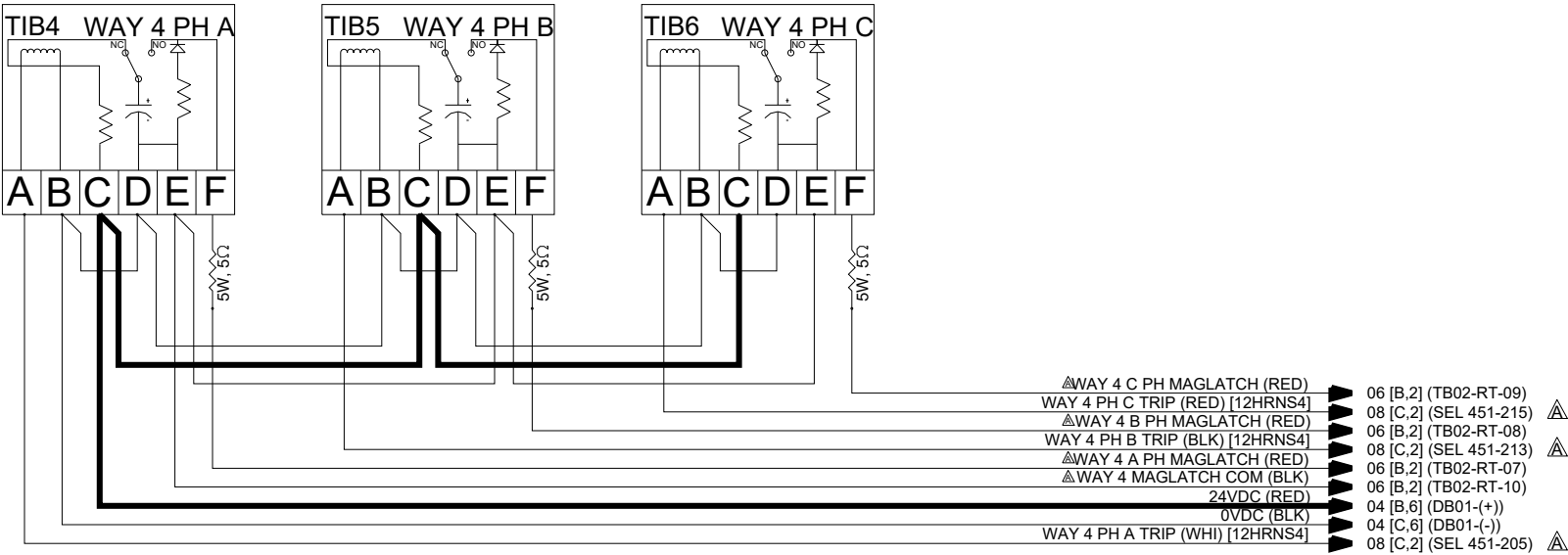
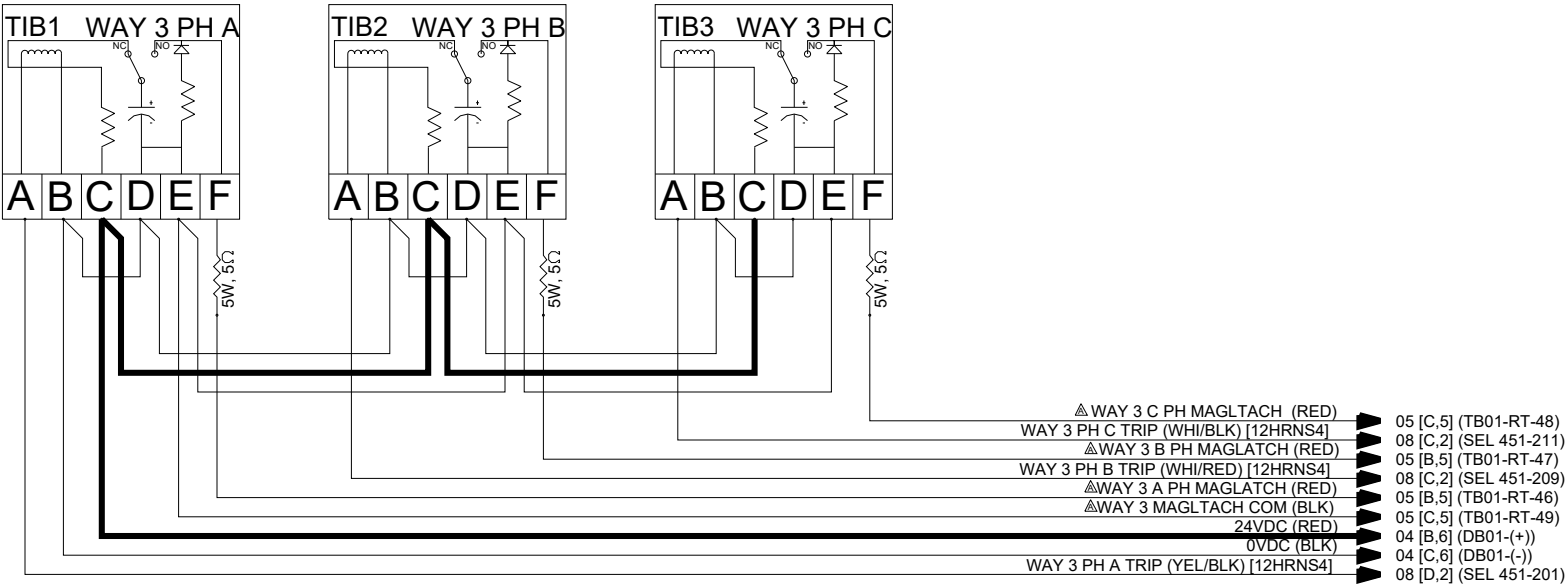
DATE: 02/14/23

SCALE:

SHEET: 6 OF 8

SEL 451 CONTROL INTERCONNECT

FINAL REVIEW



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DATE: 02/14/23

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DATE: 02/14/23

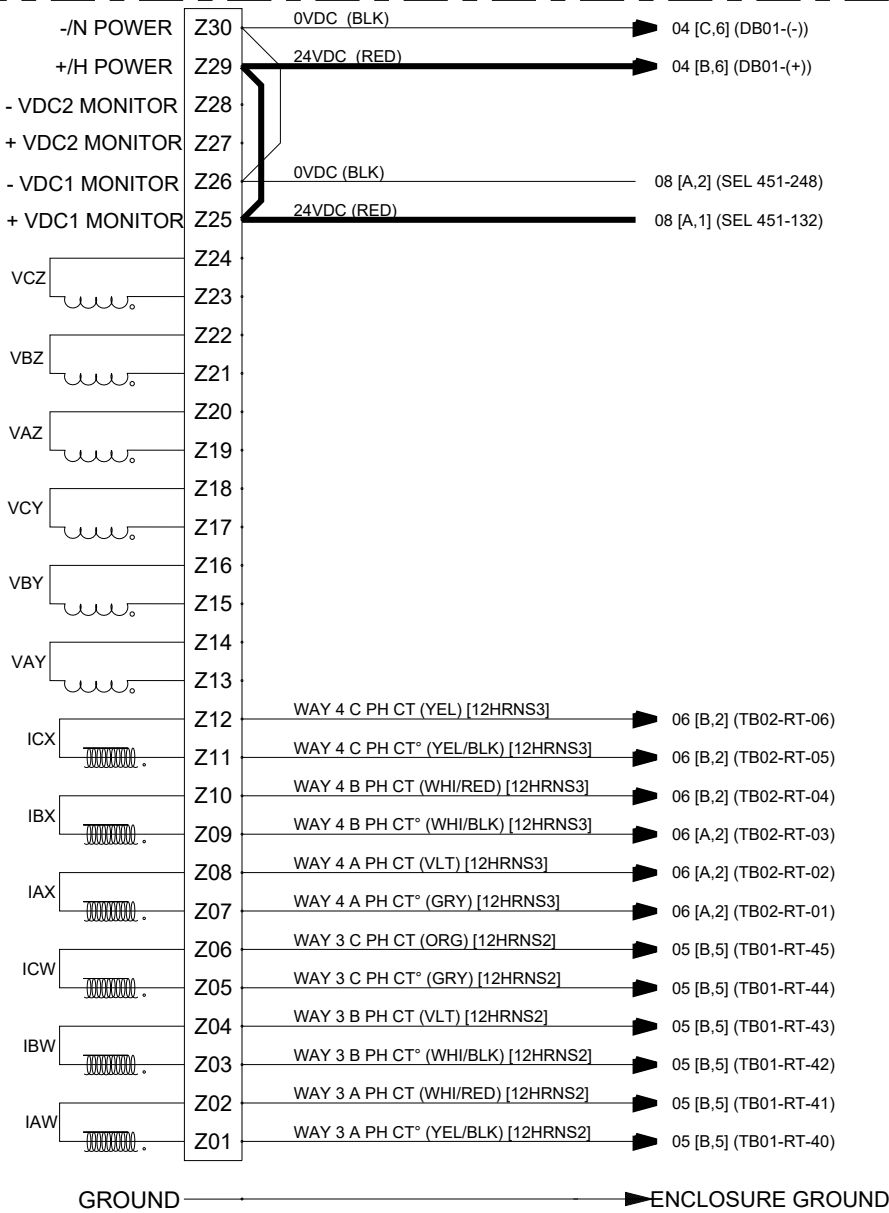
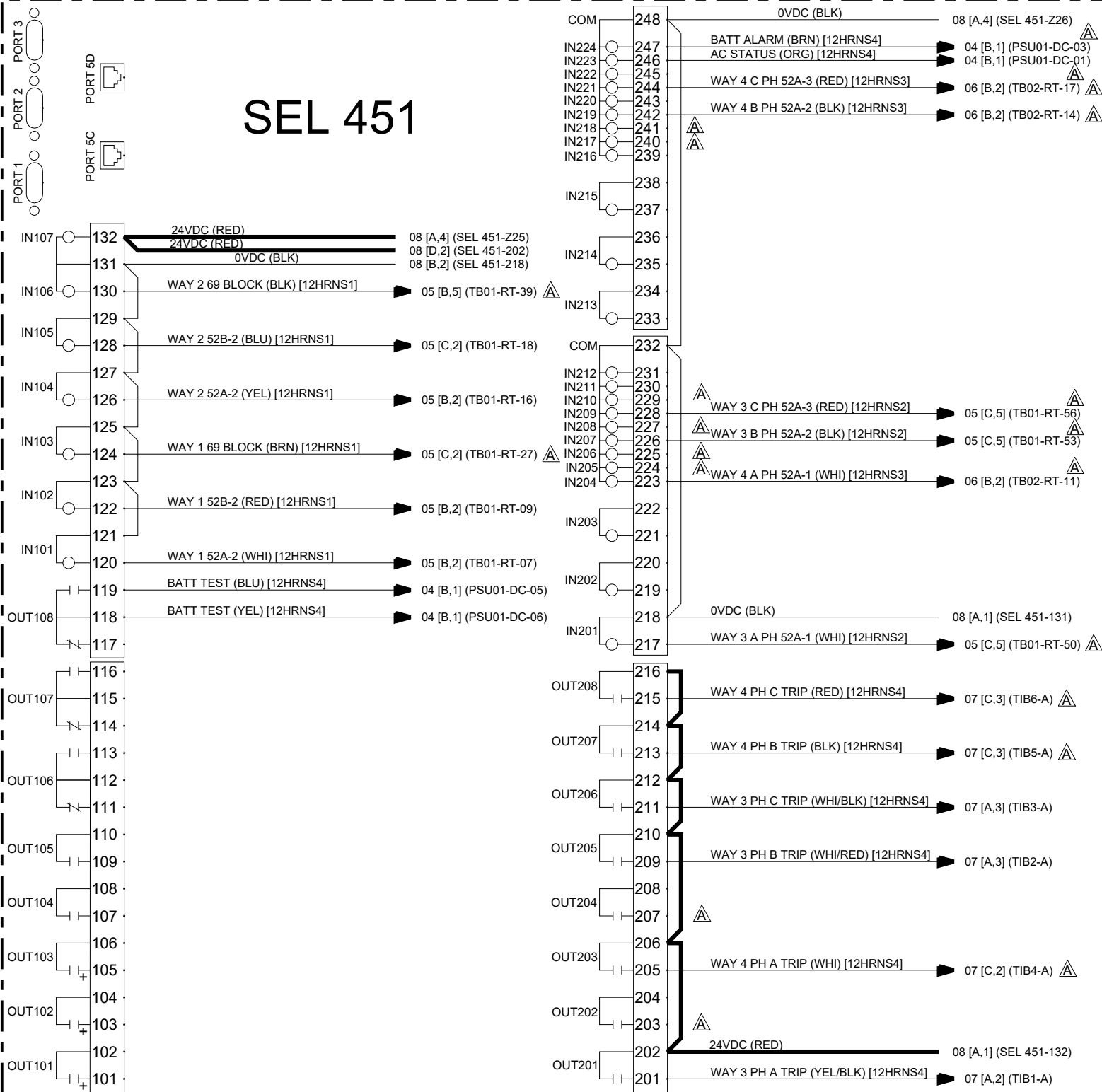
SCALE:

SHEET: 7 OF 8

SEL 451 CONTROL INTERCONNECT

FINAL REVIEW

SEL 451



PROGRAMMING NOTE:
FOR CUSTOMER SUPPLIED OR MODIFIED PROGRAMS, G&W RECOMMENDS A 0.5 CYCLE DEBOUNCE TIMER FOR POSITION INDICATION CONTACTS

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