

THREE PHASE WIRING FOR ASCO® 7000 SERIES AUTOMATIC TRANSFER & BYPASS-ISOLATION SWITCHES TYPE 7ATB RATED 1000-3000 AMPERES

FEATURES, SETTINGS, OPERATION, ACCESSORIES & NOTES

THE FOLLOWING FEATURES AND RELATED SETTINGS ARE PART OF THE GROUP 5 CONTROL PANEL'S USER CONFIGURABLE PARAMETERS. FOR DETAILED INFORMATION REGARDING THE CONFIGURATION OF THESE PARAMETERS AND OTHER FEATURES OF THE GROUP 5 CONTROL PANEL, REFER TO THE GROUP 5 CONTROL PANEL FOR ASCO® 7000 SERIES AUTOMATIC TRANSFER SWITCHES USER'S GUIDE (PART NO. 381333-126) PROVIDED WITH EVERY 7000 SERIES AUTOMATIC TRANSFER SWITCH.

THE NOMINAL OPERATING VOLTAGE & FREQUENCY IS PRE-PROGRAMMED AT THE FACTORY BASED ON THE NAMEPLATE DATA PRINTED ON THE TRANSFER SWITCH & CONTROL PANEL NAMEPLATES.

VOLTAGE & FREQUENCY SENSING

THE FOLLOWING SETTINGS ARE EXPRESSED AS A PERCENTAGE OF THE CONTROL PANEL'S NOMINAL VOLTAGE SETTING UNLESS STATED OTHERWISE. ALL SETTINGS ARE ADJUSTABLE IN INCREMENTS OF 1%.

A. RMS VOLTAGE SENSING ON ALL PHASES OF THE NORMAL & EMERGENCY SOURCES.

PARAMETER	RANGE OF SETTINGS	DEFAULT SETTING
NORMAL VOLTAGE DROPOUT	70-98%	85%
NORMAL VOLTAGE PICKUP	85-100%	90%
NORMAL OVER VOLTAGE TRIP	102-115%	OFF
NORMAL VOLTAGE UNBALANCE	YES/NO	NO
NORMAL VOLTAGE UNBALANCE DROPOUT	5-20% OF AVG. NORMAL VOLTAGE	20% (if ON)
NORMAL VOLTAGE UNBALANCE PICKUP	3-18% OF AVG. NORMAL VOLTAGE	10% (if ON)
EMERGENCY VOLTAGE DROPOUT	70-98%	75%
EMERGENCY VOLTAGE PICKUP	85-100%	90%
EMERGENCY OVER VOLTAGE TRIP	102-115%	OFF
EMERGENCY VOLTAGE UNBALANCE	YES/NO	NO
EMERGENCY VOLTAGE UNBALANCE DROPOUT	5-20% OF AVG. EMERGENCY VOLTAGE	20% (if ON)
EMERGENCY VOLTAGE UNBALANCE PICKUP	3-18% OF AVG. EMERGENCY VOLTAGE	10% (if ON)

B. FREQUENCY SENSING OF THE NORMAL & EMERGENCY SOURCES.

PARAMETER	RANGE OF SETTINGS	DEFAULT SETTING
NORMAL FREQUENCY DROPOUT	85-98%	90%
NORMAL FREQUENCY PICKUP	90-100%	95%
NORMAL OVER FREQUENCY TRIP	102-110%	OFF
EMERGENCY FREQUENCY DROPOUT	85-98%	90%
EMERGENCY FREQUENCY PICKUP	90-100%	95%
EMERGENCY OVER FREQUENCY TRIP	102-110%	OFF

TIME DELAYS

THE FOLLOWING TIME DELAY SETTINGS ALL HAVE AN ADJUSTABLE RANGE OF 0-60 min 59 sec UNLESS STATED OTHERWISE. ADJUSTABLE IN INCREMENTS OF 1 sec.

NOTE: SOME TIME DELAYS MAY BE EFFECTED BY CUSTOMER REQUESTED ACCESSORIES PROVIDED WITH THE UNIT. REFER TO THE DESCRIPTIONS PROVIDED UNDER THE "ACCESSORIES" NOTES ON THIS PAGE.

FEATURE	NAME	DEFAULT SETTING
1C	NORMAL SOURCE FAILURE TO ENGINE START	1 sec
2B	TRANSFER TO EMERGENCY ON AVAILABILITY OF EMERGENCY SOURCE	0 sec
1F	EMERGENCY SOURCE FAILURE RETRANSFER (NORMAL SOURCE AVAILABLE)	0 sec
2E	ENGINE COOLDOWN FOLLOWING RETRANSFER TO NORMAL	5 min
3A	RETRANSFER TO NORMAL (NORMAL FAILURE MODE)	30 min
3A	RETRANSFER TO NORMAL (TEST MODE)	30 sec
-	DELAYED TRANSFER (LOAD "OFF" TIME), [0-5 min 59 sec]	3 sec

DESCRIPTIONS OF TIME DELAYS:

- FEAT. 1C - DELAY ON NORMAL SOURCE OUTAGE. STARTS ON FAILURE OF NORMAL SOURCE. RESETS IF NORMAL SOURCE IS ACCEPTED BEFORE EXPIRATION. INHIBITS ENGINE STARTING AND AUTOMATIC TRANSFER UNTIL EXPIRATION.
- FEAT. 2B - DELAY PRIOR TO TRANSFER TO THE EMERGENCY SOURCE. DELAY STARTS ON EXPIRATION OF FEAT. 1C AND WHEN THE EMERGENCY SOURCE HAS BEEN ACCEPTED. DELAY RESETS IF THE EMERGENCY SOURCE FAILS PRIOR TO EXPIRATION. ON EXPIRATION, TRANSFER TO EMERGENCY IS INITIATED UNLESS THE NORMAL SOURCE HAS RECOVERED AND THE "COMMIT TO TRANSFER" FEATURE IS SET TO "NO" COMMIT. PROVIDES A PERIOD FOR EMERGENCY SOURCE STABILIZATION OR STAGING OF MULTIPLE TRANSFER SWITCH CONTROLLED LOADS TO THE EMERGENCY SOURCE.
- FEAT. 1F - DELAY ON RETRANSFER TO NORMAL IN THE EVENT OF EMERGENCY SOURCE FAILURE. DELAY BEGINS ON FAILURE OF THE EMERGENCY SOURCE IF THE NORMAL SOURCE IS ACCEPTABLE. ON EXPIRATION, RETRANSFER TO NORMAL WILL BE INITIATED.
- FEAT. 2E - DELAY ON ENGINE SHUTDOWN (ENGINE COOL DOWN PERIOD). DELAY STARTS FOLLOWING RETRANSFER TO THE NORMAL SOURCE. PROVIDES A PERIOD FOR THE ENGINE-GENERATOR SET TO RUN UNLOADED PRIOR TO SHUTDOWN.
- FEAT. 3A - RETRANSFER TO NORMAL DELAY (NORMAL FAILURE MODE) DELAY STARTS WHEN NORMAL SOURCE IS ACCEPTED (FOLLOWING IT'S FAILURE) AND WHILE THE LOAD IS CONNECTED TO EMERGENCY. RESETS IF NORMAL FAILS PRIOR TO EXPIRATION OR IF THE EMERGENCY SOURCE FAILS BEFORE EXPIRATION AND FEAT. 1F EXPIRES (AUTOMATIC BYPASS ON EMERGENCY SOURCE FAILURE). PROVIDES A PERIOD FOR THE NORMAL SOURCE TO STABILIZE PRIOR TO RETRANSFER.
- FEAT. 3A - RETRANSFER TO NORMAL DELAY (TEST MODE) DELAY STARTS WHEN THE "TRANSFER TEST" SWITCH IS RESET TO "AUTO" (FOLLOWING A USER INITIATED TRANSFER TEST) AND WHILE THE LOAD IS CONNECTED TO EMERGENCY. RESETS IF NORMAL FAILS PRIOR TO EXPIRATION OR IF THE EMERGENCY SOURCE FAILS BEFORE EXPIRATION AND FEAT. 1F EXPIRES (AUTOMATIC BYPASS ON EMERGENCY SOURCE FAILURE).

MOTOR LOAD TRANSFER FEATURE

- FEAT. 27 - INPHASE TRANSFER CONTROL LOGIC TO INITIATE AN INPHASE TRANSFER OF LOADS BETWEEN LIVE SOURCES. USED TO PREVENT NUISANCE TRIPPING OF CIRCUIT BREAKERS AND POSSIBLE DAMAGE TO MECHANICAL LOADS CAUSED BY OUT OF PHASE TRANSFER.
- ACTIVATED VIA THE GROUP 5 CONTROL PANEL USER INTERFACE (TRANSFER CONTROL CENTER) BY SELECTING "IN-PHASE MONITOR ENABLE" = YES. AN ADJUSTABLE DELAY (0.0-3.0 sec, FACTORY SET TO 1.5 sec, IN INCREMENTS OF 0.1 sec) DELAYS SENSING TO PERMIT STABILIZATION OF THE SOURCES PRIOR TO SENSING. FACTORY SETTING IS DISABLED UNLESS SPECIFIED TO BE FACTORY ACTIVATED AT THE TIME OF ORDER.

THE ENGINE EXERCISER FEATURE PROVIDES A MEANS TO PERFORM AUTOMATIC EXERCISING OF THE ENGINE-GENERATOR SET EITHER WITH OR WITHOUT LOAD TRANSFER. THE USER CAN PROGRAM UP TO SEVEN DIFFERENT EXERCISE ROUTINES. EACH ROUTINE INCLUDES:

- ENABLE OR DISABLE THE ROUTINE
- ENABLE OR DISABLE TRANSFER OF THE LOAD DURING THE ROUTINE
- SET START TIME OF ROUTINE -
 - TIME OF DAY
 - DAY OF WEEK
 - WEEK OF MONTH (1st, 2nd, 3rd, 4th, ALTERNATE OR ALL)
- SET THE DURATION OF THE ROUTINE

PARAMETER	RANGE OF SETTING	DEFAULT SETTING
MONTH (CLOCK SET)	JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC	CURRENT DATE
DAY	1-31	
YEAR	00-99	
HOUR	0-23	
MINUTE	0-59	
ENABLE ROUTINE (ROUTINE 1-7)	YES/NO	NO
TRANSFER LOAD	YES/NO	NO
START HOUR	0-23	0
START MINUTE	0-59	0
RUN WEEK	ALL, ALTERNATE, 1st, 2nd, 3rd, 4th, 5th	ALL
RUN DAY	SUN MON TUE WED THU FRI SAT	SUN
DURATION HOURS	0-23	0
DURATION MINUTES	0-59	0

SIGNALS & AUXILIARIES

- A. FEATURES 7 - ENGINE START SIGNAL
SIGNAL INITIATED BY DROPOUT OF CONTROL PANEL RELAY (NR) FOLLOWING EXPIRATION OF THE FEATURE 1C TIME DELAY (DELAY TO OVERRIDE MOMENTARY NORMAL SOURCE OUTAGES). FEATURE 7 CLOSURE TO SIGNAL ENGINE START. ENGINE STARTING SIGNAL RESETS FOLLOWING RETRANSFER TO THE NORMAL SOURCE AND EXPIRATION OF THE FEATURE 2E (ENGINE COOL DOWN) TIME DELAY.
- FEATURE 7 CONSISTS OF A FORM A CONTACT CONNECTED TO THE FIELD CONNECTIONS TERMINAL BLOCK (TB). CONTACTS RATED 5 AMPS AT 32VDC/120VAC RESISTIVE.
- B. FEATURES 14AG & 14BG - TRANSFER SWITCH AUXILIARY POSITION INDICATING CONTACTS. EIGHT (8) FORM C CONTACTS TO INDICATE CONNECTION OF THE TRANSFER SWITCH TO NORMAL (14A) AND EIGHT (8) FOR EMERGENCY (14B). CONTACTS CONNECTED TO THE FIELD CONNECTIONS TERMINAL BLOCK (TB). CONTACTS RATED 10 AMPS, 32 VDC, 250 VAC.
- C. FEATURE 17 - REMOTE TRANSFER TO EMERGENCY. REQUIRES A CUSTOMER SUPPLIED NORMALLY OPEN CONTACT. CLOSING OF THE CONTACT CAUSES ENGINE START AND TRANSFER TO THE EMERGENCY SOURCE. OPENING OF THE CONTACT ACTIVATES THE FEATURE 3A (RETRANSFER TO NORMAL) DELAY PRIOR TO RETRANSFER. IN THE EVENT THE EMERGENCY SOURCE FAILS WHILE THE TRANSFER SWITCH IS CONNECTED TO EMERGENCY AND THE REMOTE CONTACT IS CLOSED, THE TRANSFER SWITCH WILL RETRANSFER TO THE NORMAL SOURCE. CONNECTED TO THE FIELD CONNECTIONS TERMINAL BLOCK (TB).

OPERATION

IF THE NORMAL SOURCE FAILS, THE TRANSFER SWITCH INITIATES STARTING OF THE ENGINE-GENERATOR SET. WHEN PROPER VOLTAGE AND FREQUENCY HAVE BEEN ATTAINED, THE LOAD WILL BE TRANSFERRED TO THE EMERGENCY SOURCE.

WHEN THE NORMAL SOURCE IS RESTORED FOR THE DURATION OF THE FEATURE 3A (RETRANSFER TO NORMAL) TIME DELAY SETTING, THE LOAD WILL BE RETRANSFERRED TO THE NORMAL SOURCE.

THE ENGINE WILL CONTINUE TO RUN FOR THE ENGINE COOL DOWN PERIOD, FEATURE 2E.

USER CONTROLS AND INDICATIONS

- A. FEATURES 5 & 6B - TRANSFER TEST/RETRANSFER TIME DELAY BYPASS CONTROLS.
TRANSFER TEST:
OPERATION CAUSES A NORMAL SOURCE FAILURE SEQUENCE. ACTIVATE AND HOLD FOR AT LEAST 15 SECONDS TO ALLOW TIME FOR THE ENGINE-GENERATOR TO START.
- RETRANSFER TIME DELAY BYPASS:
OPERATION WILL BYPASS THE FEATURE 3A (RETRANSFER TO NORMAL DELAY).
- B. FEATURES 9A & 9B - TRANSFER SWITCH POSITION INDICATORS.
FEATURE 9A: TRANSFER SWITCH CLOSED ON NORMAL (GREEN LED)
FEATURE 9B: TRANSFER SWITCH CLOSED ON EMERGENCY (RED LED)
- C. FEATURES 9C & 9D - SOURCE ACCEPTANCE INDICATORS.
FEATURE 9C: NORMAL SOURCE ACCEPTED (GREEN LED)
FEATURE 9D: EMERGENCY SOURCE ACCEPTED (RED LED)
- BYPASS SWITCH USER CONTROLS & INDICATIONS
- A. SOURCE AVAILABILITY INDICATORS:
NORMAL SOURCE AVAILABLE: (GREEN LED)
EMERGENCY SOURCE AVAILABLE: (RED LED)
- B. UNIT NOT IN AUTOMATIC INDICATOR: (RED LED, FLASHING)
FLASHES WHEN THE TRANSFER SWITCH IS DISABLED FROM ANY TRANSFER FUNCTIONS DUE TO THE BYPASS SWITCH BEING CLOSED IN EITHER POSITION OR BECAUSE THE TRANSFER SWITCH IS NOT IN THE CONNECTED POSITION.
- C. MANUAL ENGINE START SWITCH:
FOR MANUAL STARTING OF ENGINE-GENERATOR SET WHEN ATS IS IN TEST OR ISOLATED MODE. TWO POSITION SELECTOR SWITCH.
ENGINE START - SIGNALS ENGINE-GENERATOR SET TO START.
AUTO - SIGNALS ENGINE-GENERATOR SET TO START FROM AUTOMATIC TRANSFER SWITCH SIGNAL.

BASE CATALOG NUMBER			CATALOG NUMBER SUFFIXES			EXPLANATION OF CATALOG NUMBER CODES								
CATALOG TYPE	NEUTRAL TYPE	PHASE POLES	AMPS	VOLT CODE	CONTROLLER	OPTIONAL ACCESSORY	ENCLOSURE CODE	NEUTRAL TYPE		ENCLOSURE CODES				
								CODE	DESCRIPTION	CODE	DESCRIPTION			
7ATB	A	3	1000	A	B	X	C	BLANK	NONE	A	115	BLANK		
					C			B	120	C	1			
					D			C	208	E	2			
					E			D	220	F	3R			
					F			E	230	G	4			
					G			F	240	H	4X			
					H			G	277	J	4X			
					J			H	380	K	7			
					K			J	400	L	12			
					L			K	415					
		M	L	440										
		N	M	460	M	3R								
		P	N	480	N	4								
		Q	P	550	P	4X								
		R	Q	575	Q	12								
				600										
		BLANK FOR NONE				BLANK FOR NONE		BLANK FOR OPEN TYPE						

- D. SOLENOID INTERLOCKS -
SL1: INTERLOCKS THE TRANSFER SWITCH ISOLATION CRANK WITH THE TRANSFER SWITCH AND BYPASS SWITCH TO INSURE THAT THE TRANSFER SWITCH CAN NEVER BE DISCONNECTED WITHOUT BEING BYPASSED AND THAT IT CAN NEVER BE RECONNECTED UNLESS IT IS IN THE SAME POSITION AS THE BYPASS SWITCH.
SL2: INTERLOCKS THE BYPASS SWITCH OPERATOR, WHILE IN THE CONNECTED POSITION, SO THAT THE BYPASS SWITCH CAN NEVER BE OPERATED TO THE SOURCE OPPOSITE OF WHICH THE TRANSFER SWITCH IS CONNECTED.

- E. OPTIONAL ACCESSORY INDICATOR MATRIX -
AN OPTIONAL ACCESSORY INDICATION MATRIX IS AVAILABLE TO SHOW, IN A ONE-LINE FORMAT, THE OPERATIONAL STATUS OF THE AUTOMATIC TRANSFER & BYPASS-ISOLATION SWITCH AT A SINGLE LOCATION ON THE UNIT.

GENERAL NOTES

- SWITCH SHOWN DE-ENERGIZED AND CONNECTED TO THE NORMAL SOURCE. THE BYPASS SWITCH OPERATOR IS IN THE "OFF" (AUTOMATIC) POSITION WITH THE ISOLATION CRANK (TS) IN THE FULLY CONNECTED POSITION.
- DEVICE SYMBOLS AND DESIGNATIONS ARE IN ACCORDANCE WITH NEMA PUBLICATION ICS 1-1983, PART 1-101A.
- ALL WIRING IS #16 AWG, TINNED, STRANDED COPPER UNLESS OTHERWISE INDICATED.
- ON TERMINAL BLOCKS INDICATES AVAILABLE FIELD CONNECTION POINT.
- ON TERMINAL BLOCKS INDICATES FACTORY CONNECTION POINT.
- CONTROL AND ACCESSORY WIRING IS ROUTED IN ACCORDANCE WITH ASCO ASSEMBLY PROCEDURE GS451261.
- AN OPERATOR'S MANUAL IS FURNISHED WITH EACH AUTOMATIC TRANSFER SWITCH. REFER TO THIS PUBLICATION PRIOR TO INSTALLATION AND OPERATION OF THE UNIT.

TECHNICAL DATA

BYPASS SWITCH AUXILIARY CONTACTS

BP AUXILIARY CONTACT	STATUS (*)	BP SWITCH POSITION (AUX3)		
		EMERG	OFF	NORMAL
81-82	●			
83-84	●			
85-86	●			
87-88	●			
89-90	●			
91-92	●			
93-94	●			
95-96	●			
97-98	●			
99-100	●			
101-102	●			
103-104	●			
105-106	●			
107-108	●			
109-110	●			
111-112	●			
113-114	●			
115-116	●			
117-118	●			
119-120	●			
121-122	●			
123-124	●			
125-126	●			
127-128	●			

BYPASS SWITCH OPERATOR AUXILIARY CONTACTS

BP AUXILIARY CONTACT	STATUS (*)	BP SWITCH POSITION (AUX4)		
		EMERG (PULL)	<>	NORMAL (PUSH)
137-138	●			
137-139	●			
140-141	●			
140-142	●			

BYPASS SWITCH OPERATOR AUXILIARY CONTACTS

BP AUXILIARY CONTACT	STATUS (*)	BP SWITCH HANDLE POSITION (AUX5)		
		OFF (90°)	<> (75°)	BYPASS (-90°)
143-144	●			
143-145	●			
146-147	●			
146-148	●			

ISOLATION (TRANSFER SWITCH CARRIAGE POSITION) AUXILIARY CONTACTS

IS AUXILIARY CONTACT	STATUS (*)	TRANSFER SWITCH CARRIAGE POSITION (AUX3)			
		CONNECT	>	TEST	<
1-2	●				
4-5	●				
7-8	●				
10-12	●				
13-14	●				
13-15	●				
16-17	●				
16-18	●				
19-21	●				
22-23	●				
22-24	●				
25-26	●				
28-29	●				
61-62	●				

(*) CONTACT AVAILABILITY STATUS:

● CONTACT PROVIDED & USED IN CIRCUITRY

"BLANK" CONTACT NOT USED, IF PHYSICALLY AVAILABLE, CONTACT IS FOR FACTORY USE ONLY!

CATALOG NUMBER _____

ASCO® CERTIFIED TO _____

S.O. _____

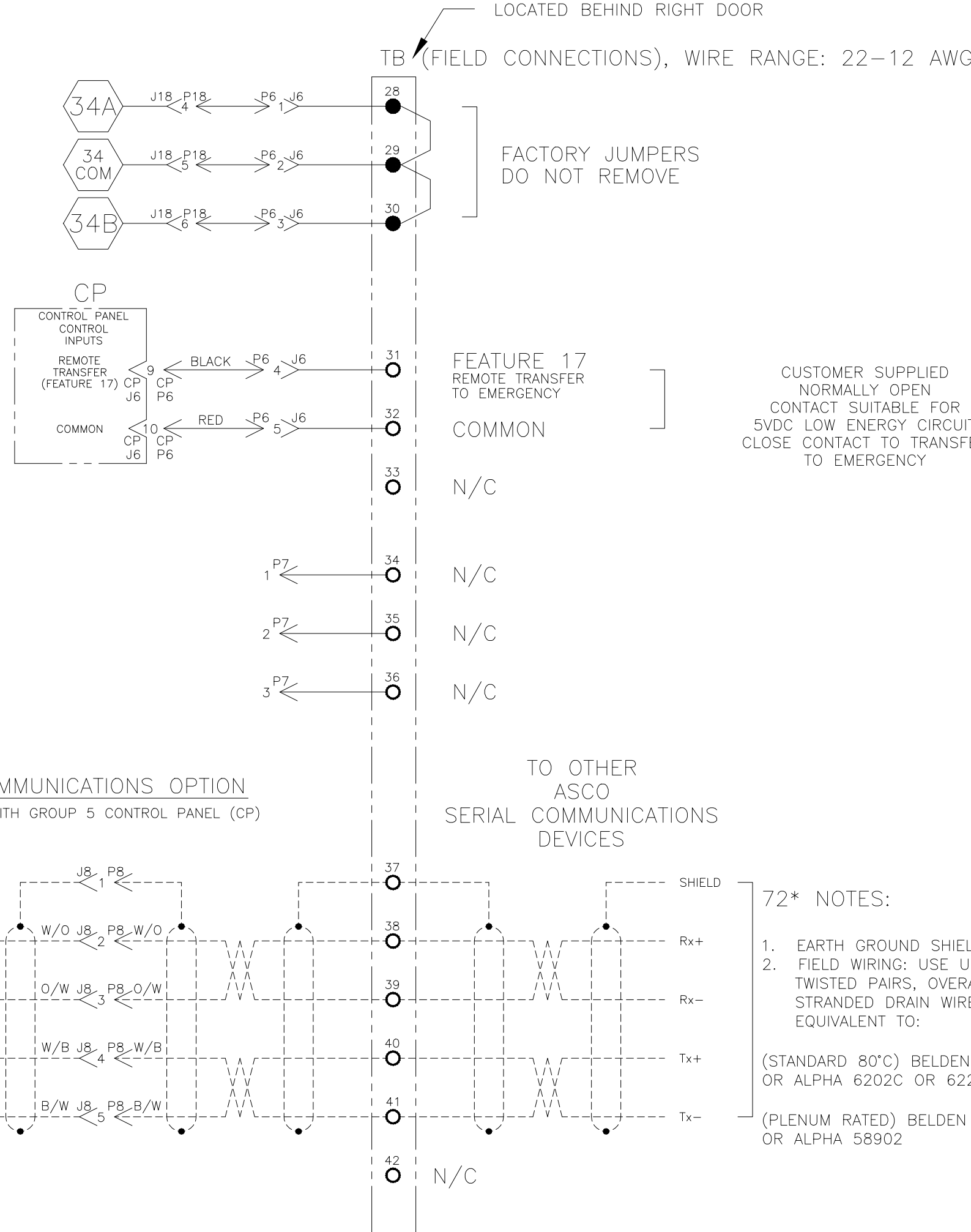
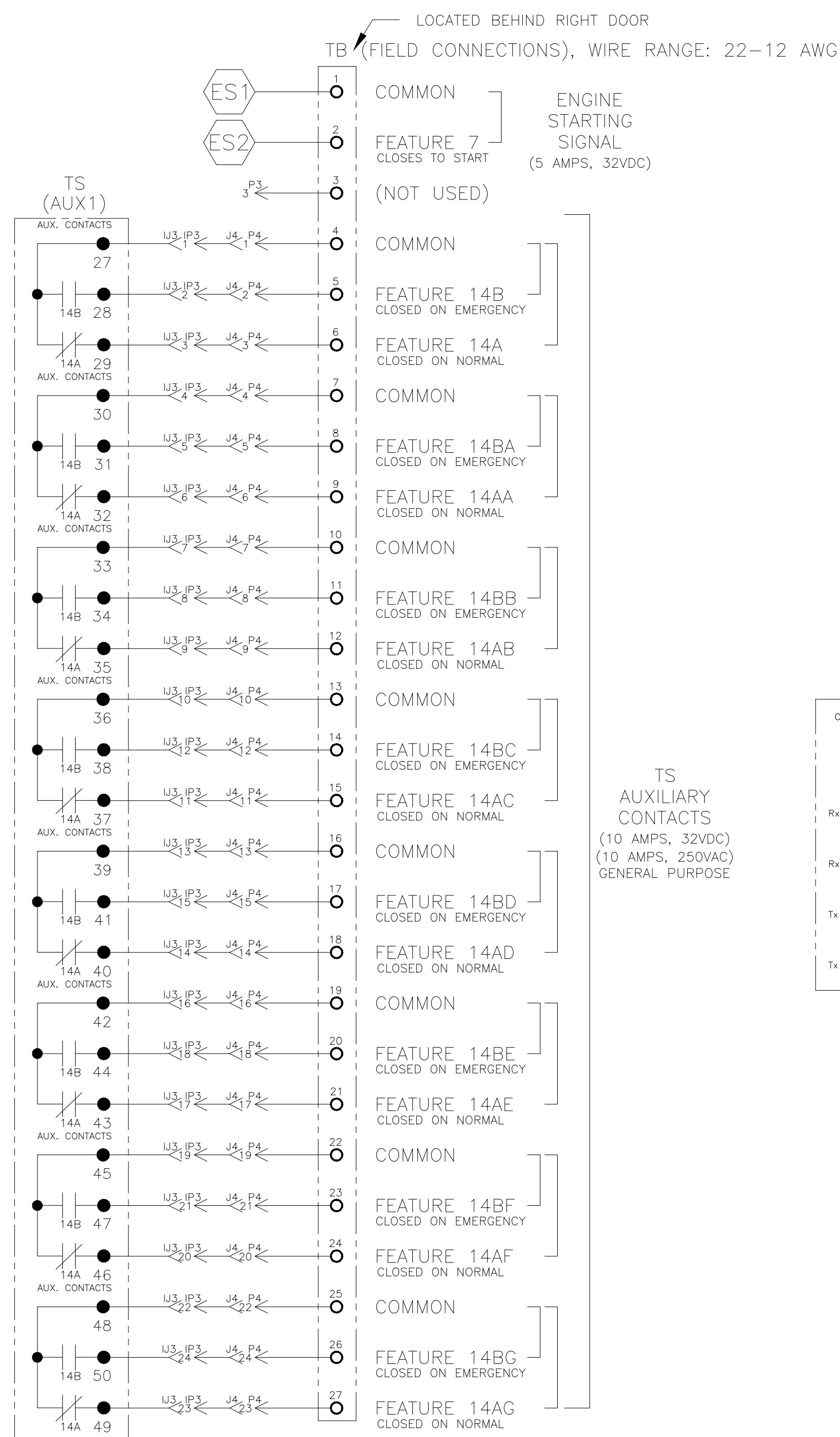
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DATE _____

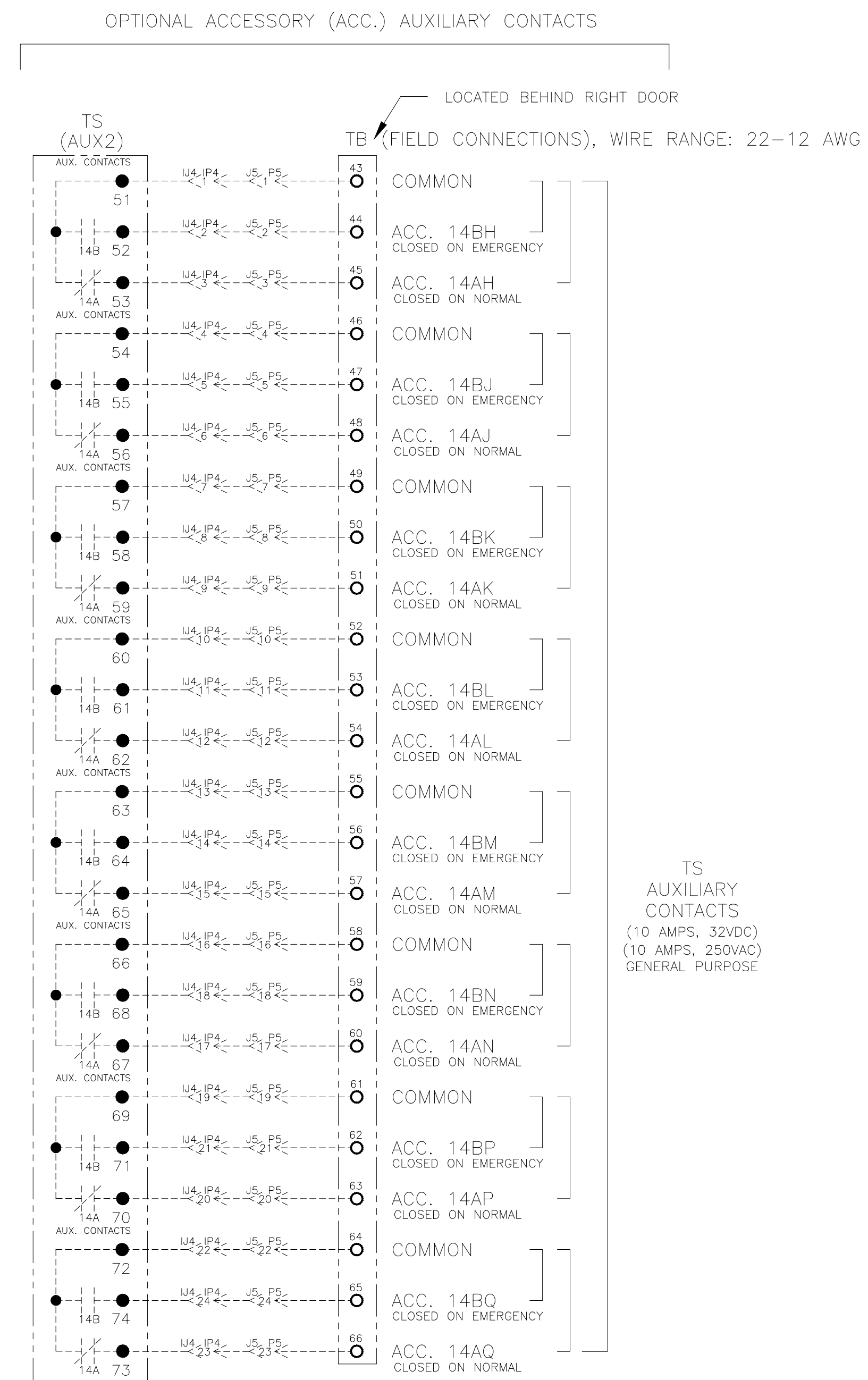
FORM REV L _____

PROJECT NAME:	REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING _____					
DIAGRAM _____					
7000 SERIES (G7ATB) 3PH 1000-3000 AMPS					
"G" FRAME, GROUP 5 CONTROLS					
BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005	ASSEM. REF. NO.	COMPUTER GENERATED DRAWING	
CHECKED		PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		SCALE	NONE
PROJECT APPROVAL				SIZE	DS
FINAL APPROVAL	SDH	2/98	ASCO® ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.	617421	
				DWG. NO.	
				DRIVING L	1 OF 8

FIELD CONNECTIONS



- 72* NOTES:**
- EARTH GROUND SHIELD AT HOST DEVICE ONLY.
 - FIELD WIRING: USE UL LISTED, STRANDED, TWISTED PAIRS, OVERALL FOIL SHIELD WITH STRANDED DRAIN WIRE SUITABLE FOR RS-422 EQUIVALENT TO:
 - (STANDARD 80°C) BELDEN 9842 OR 9829 OR ALPHA 6202C OR 6222C
 - (PLENUM RATED) BELDEN 89729 OR 82729 OR ALPHA 58902



L	283680	TR	BK	03/10/20
	SEE ECN			
K	220784	KK	WK	11/18/08
	SEE ECN			

PROJECT NAME:		DIAGRAM	
7000 SERIES (G7ATB) 3PH 1000-3000 AMPS "G" FRAME, GROUP 5 CONTROLS			
DRAWN BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005	ASSEM. REF. NO.
SDH	2/98	PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.	SCALE NONE SIZE DS
CHECKED			COMPUTER GENERATED DRAWING
PROJECT APPROVAL			DWG. NO. 617421
FINAL APPROVAL			DRAWING L ECN NO. 283680 SHEET 2 OF 8

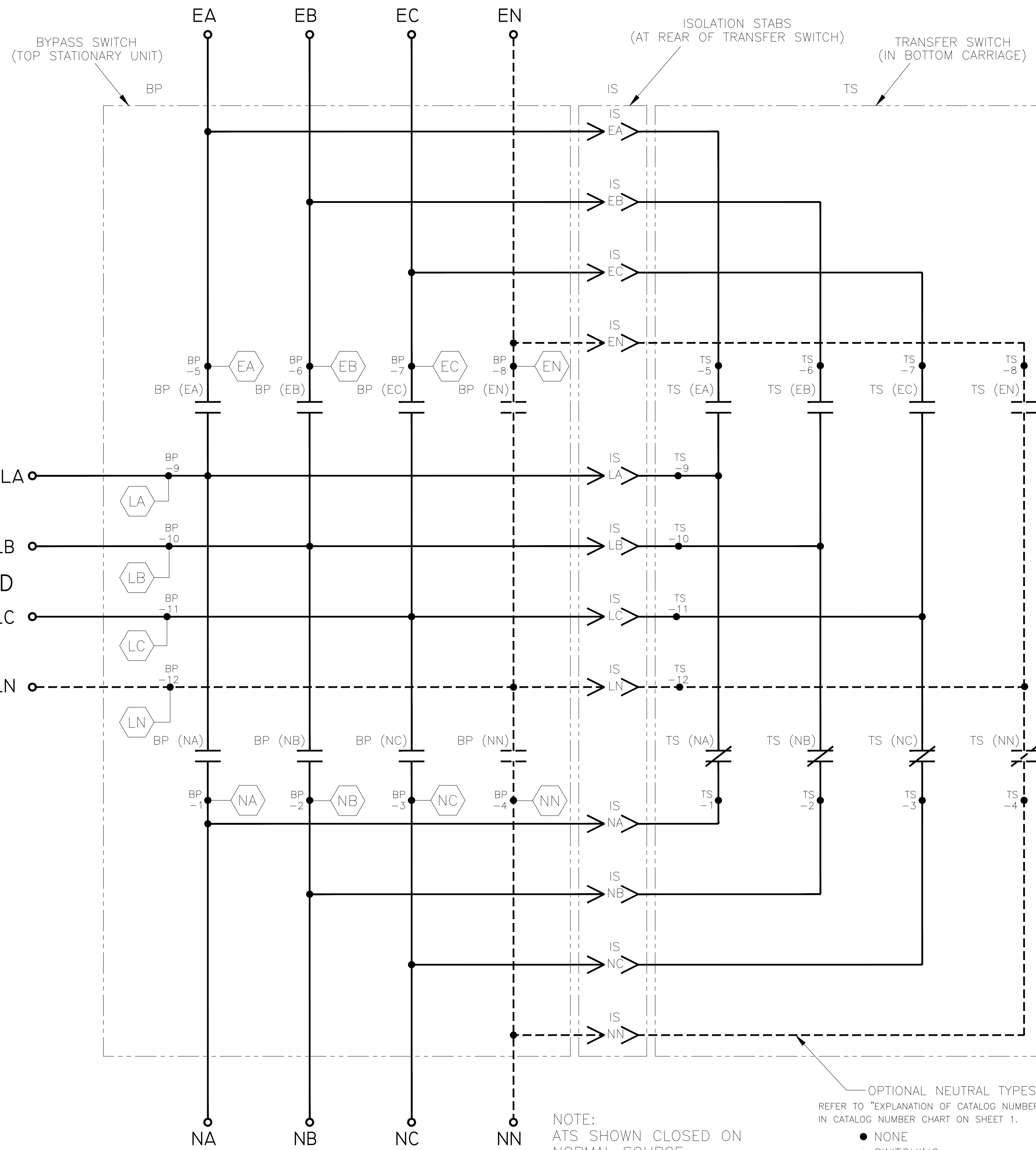


MAIN POWER POLES

TS OPERATOR CIRCUIT

EMERGENCY

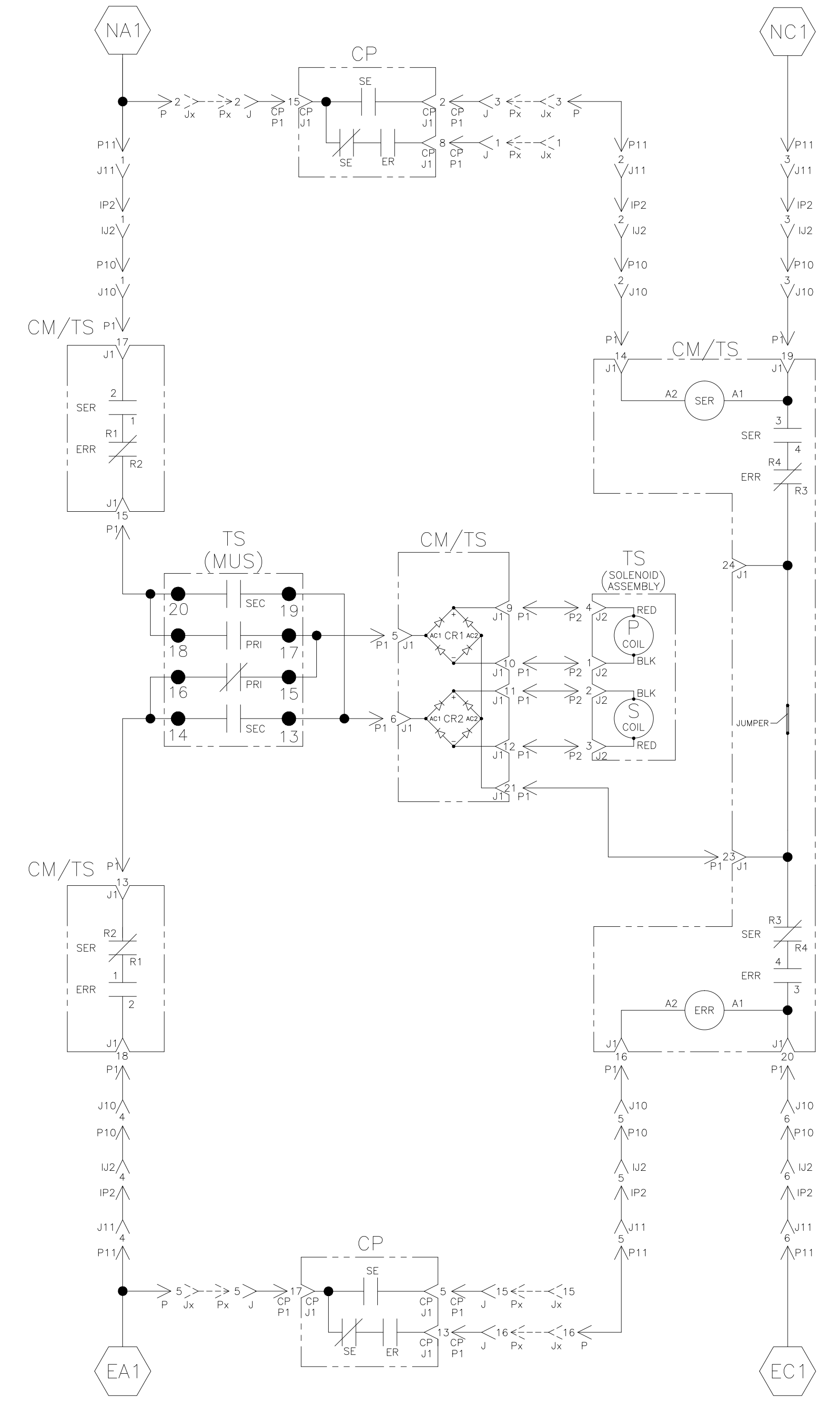
NORMAL



NOTE: ATs SHOWN CLOSED ON NORMAL SOURCE. BYPASS SWITCH IN (AUTOMATIC) POSITION.

OPTIONAL NEUTRAL TYPES REFER TO "EXPLANATION OF CATALOG NUMBER CODES" IN CATALOG NUMBER CHART ON SHEET 1.

- NONE
- SWITCHING
- OVERLAPPING CONTACTS
- SOLID BUS PLATE



TS (MUS) CONTACTS				
MUS	SOLENOID POSITION			
	NORM	>	AFTER TDC	<
13-14				
15-16				
17-18				
19-20				

* AFTER SOLENOID PASSES THROUGH TOP DEAD CENTER POSITION.

PROJECT NAME: **WIRING DIAGRAM**

7000 SERIES (G7ATB) 3PH 1000-3000 AMPS
"G" FRAME, GROUP 5 CONTROLS

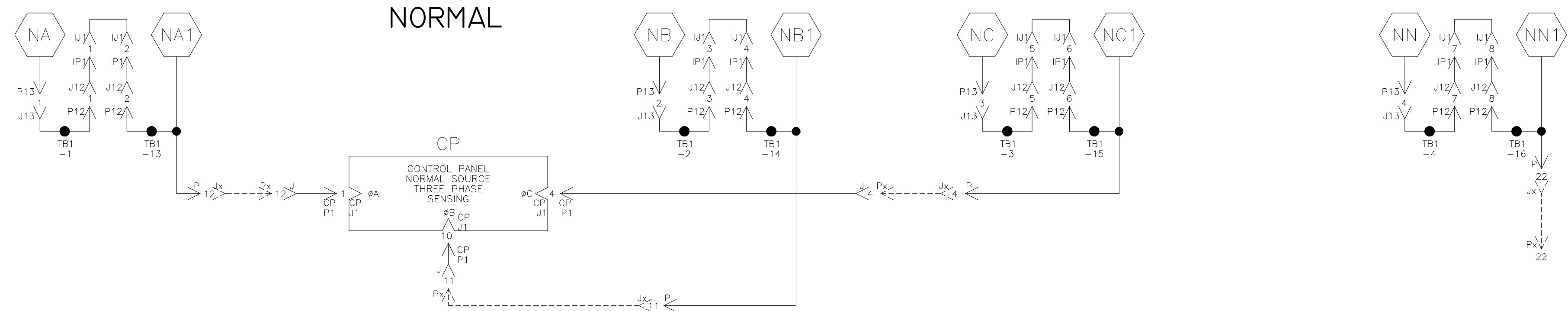
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FINAL APPROVAL: SDH	DATE: 2/98	FLORHAM PARK, NEW JERSEY 07932 U.S.A.	REV. L

REV. TO SHEET: L (283680 TR BK 03/10/20), K (220784 KK WK 11/18/08)

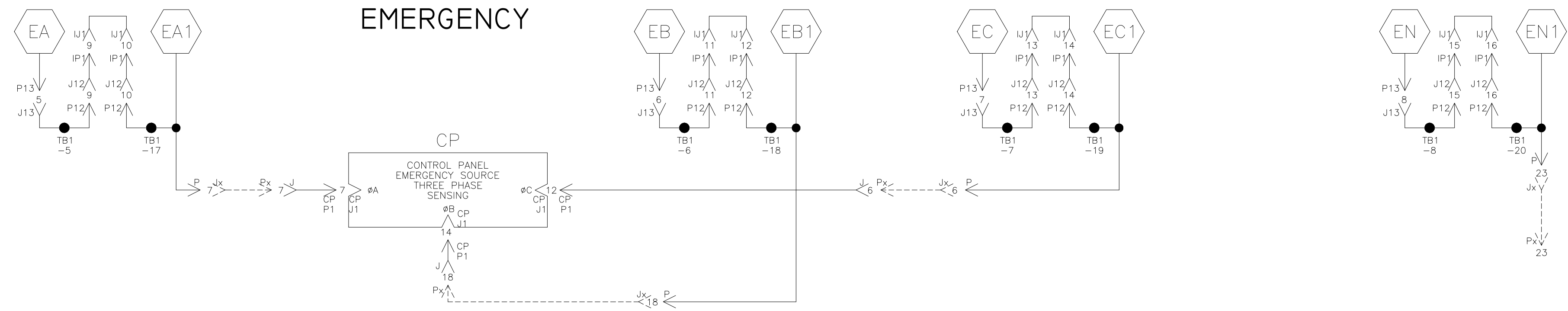
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REV. L ECN NO. 283680 SHEET 3 OF 8

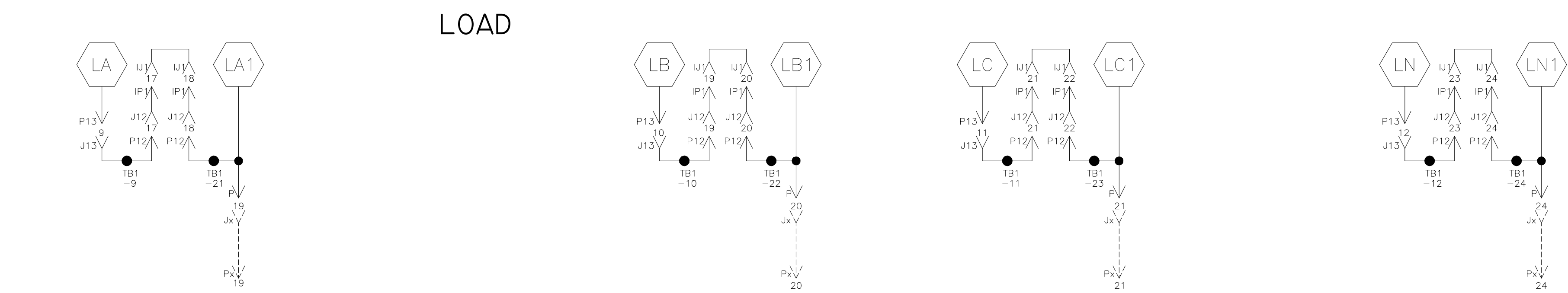
NORMAL SOURCE CIRCUITS



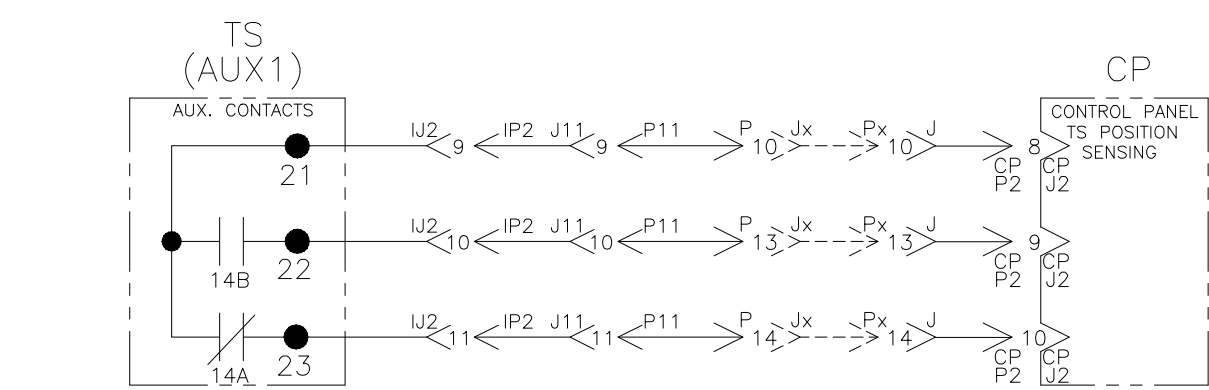
EMERGENCY SOURCE CIRCUITS



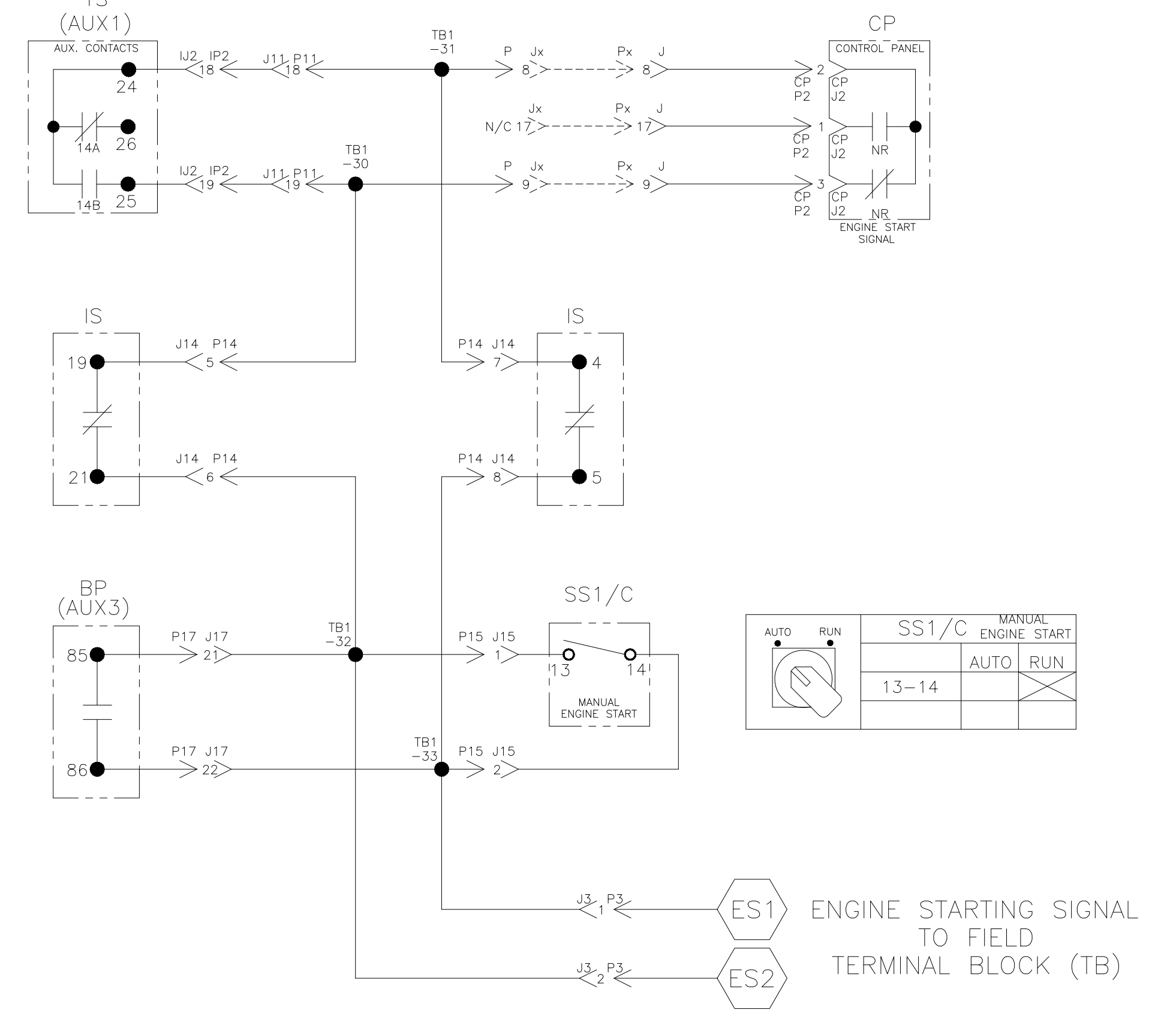
LOAD TERMINAL CIRCUITS



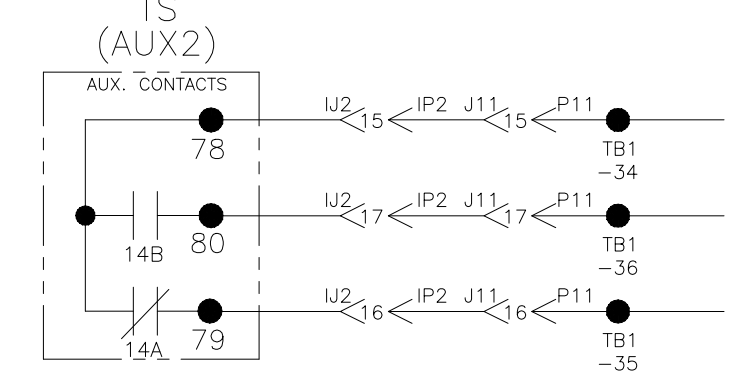
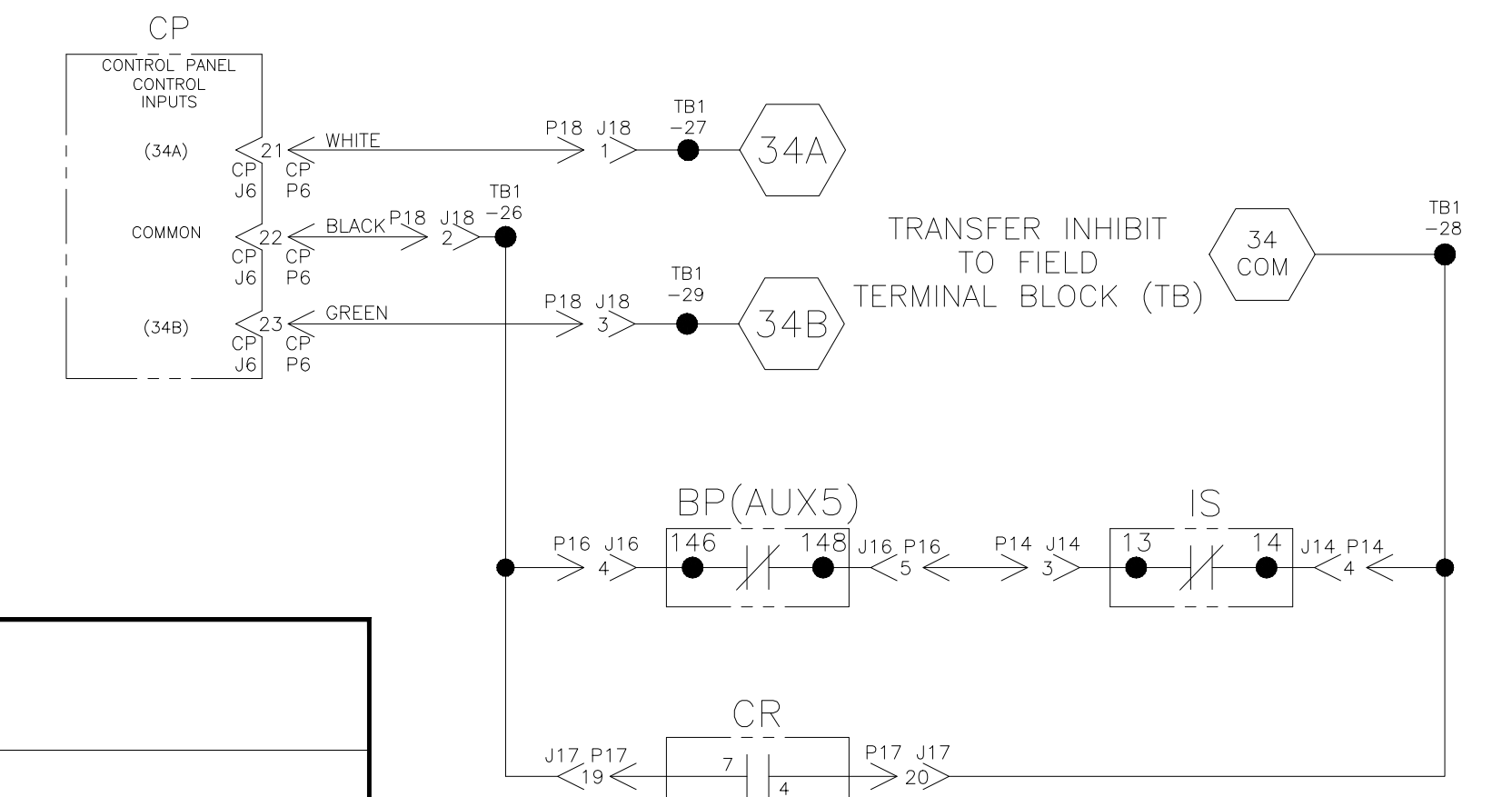
CONTROL SIGNALS & INDICATION



ENGINE START CIRCUIT



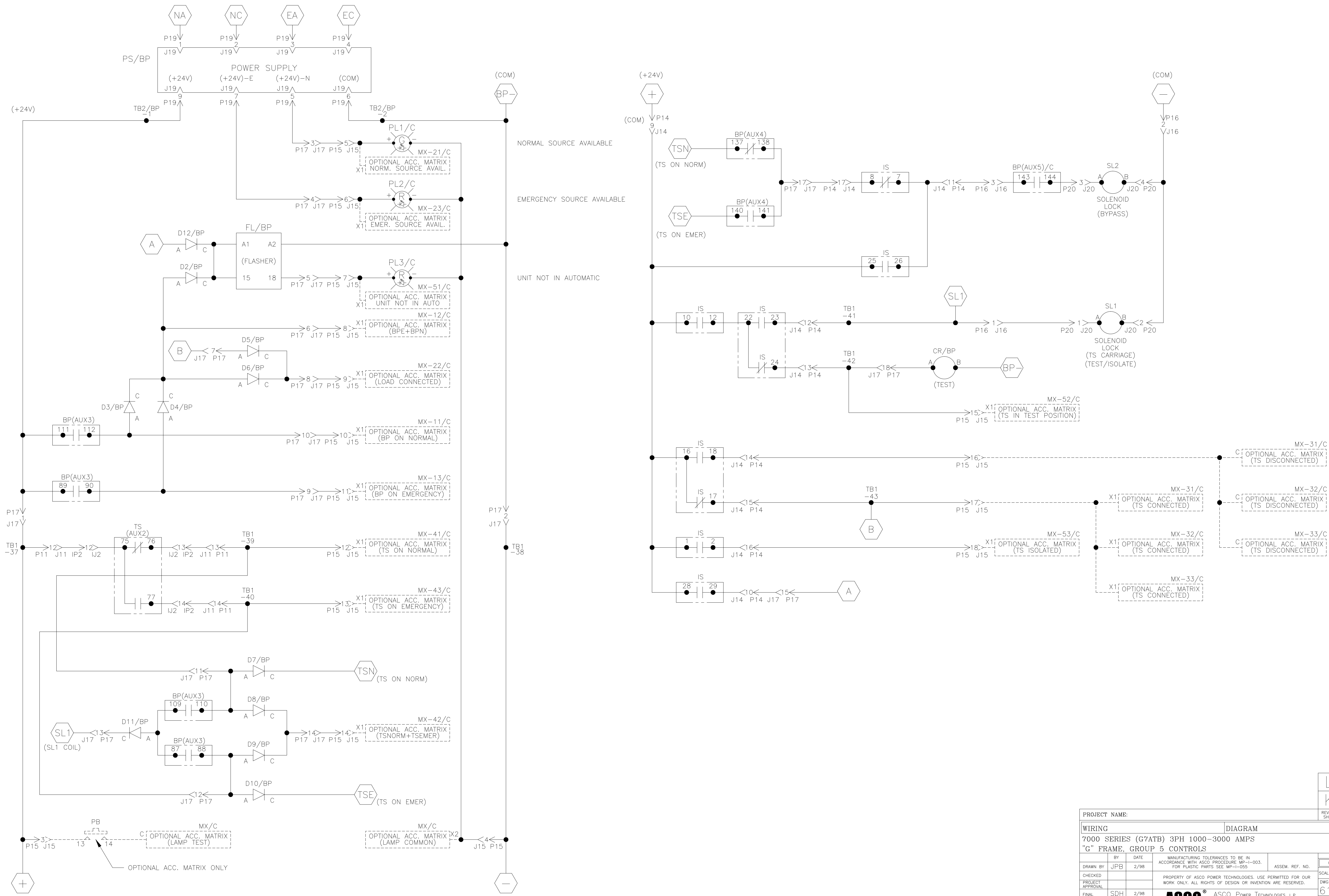
CONTROL PANEL/BYPASS-ISOLATION INTERLOCKS



SPARE FOR FACTORY USE

PROJECT NAME:		REV. TO SHEET		ECN NO.	BY	APP.	DATE
WIRING DIAGRAM		L		283680	TR	BK	03/10/20
7000 SERIES (G7ATB) 3PH 1000-3000 AMPS		K		220784	KK	WK	11/18/08
"G" FRAME, GROUP 5 CONTROLS		REV. TO SHEET		ECN NO.	BY	APP.	DATE
DRAWN BY: JPB		DATE: 2/98		MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005.		ASSEM. REF. NO.	
CHECKED:		PROJECT APPROVAL:		PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		SCALE: NONE SIZE: DS	
FINAL APPROVAL: SDH		DATE: 2/98		617421		DRAWING L ECN 283680 SHEET 4 OF 8	

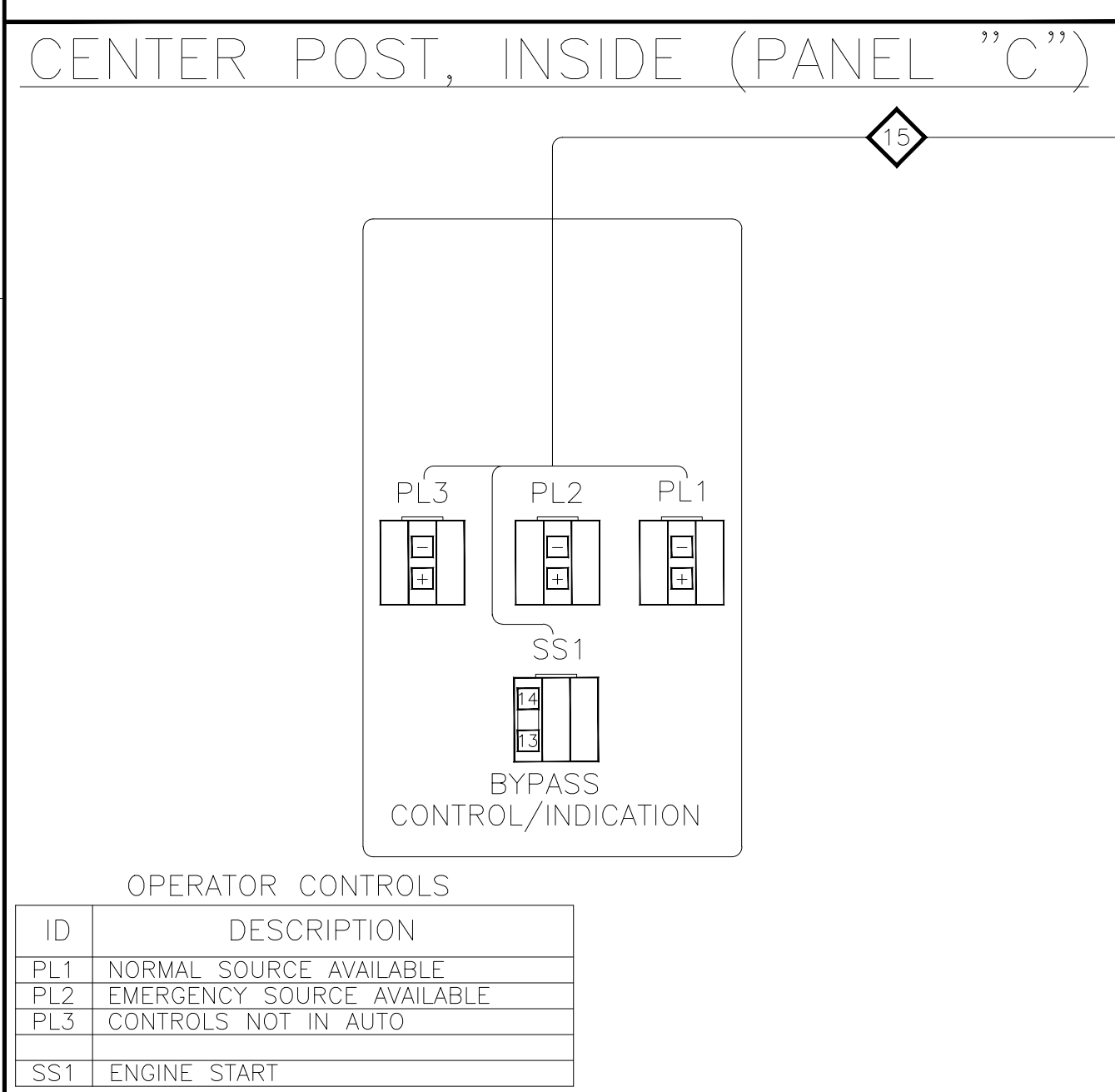
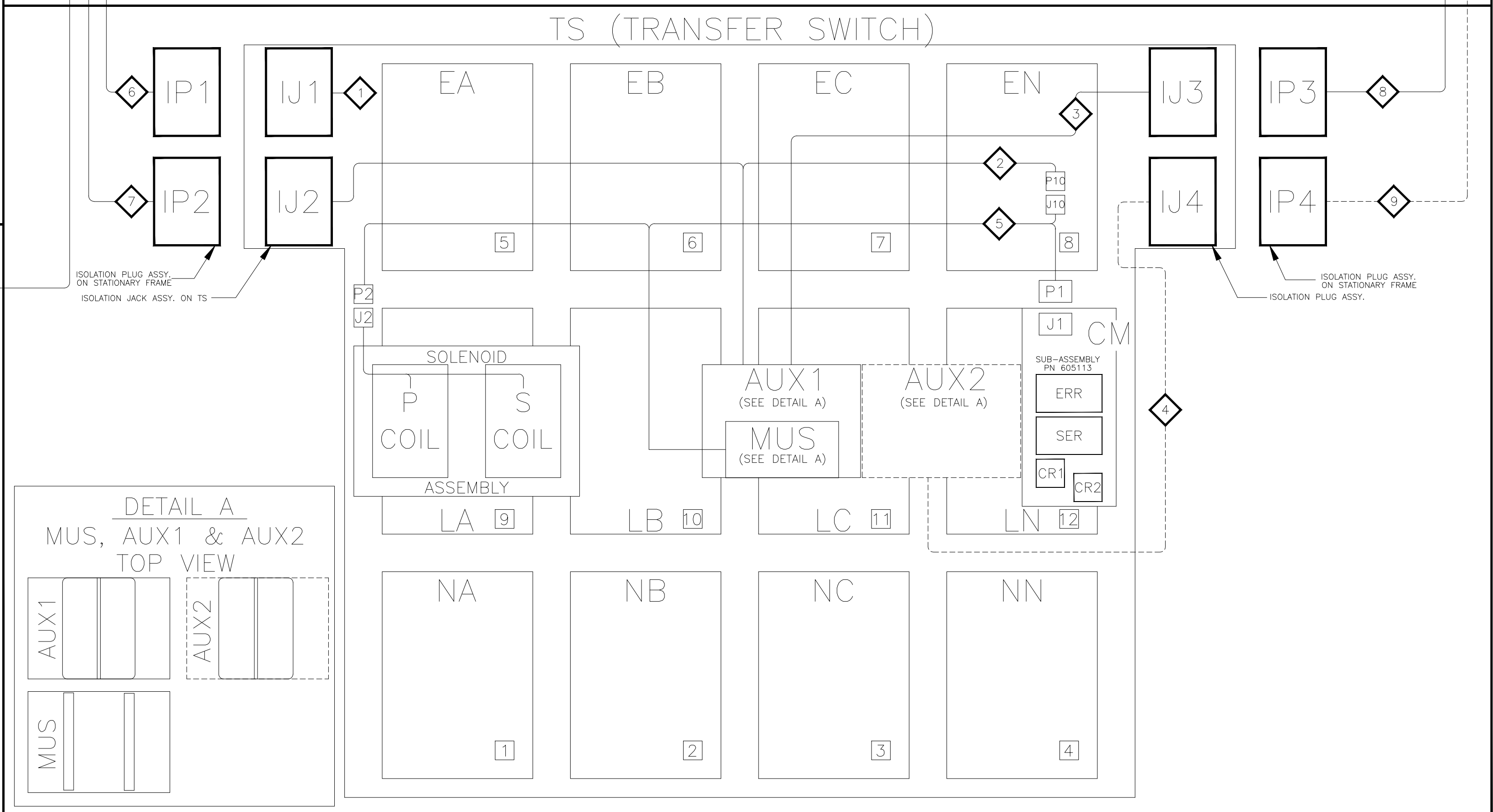
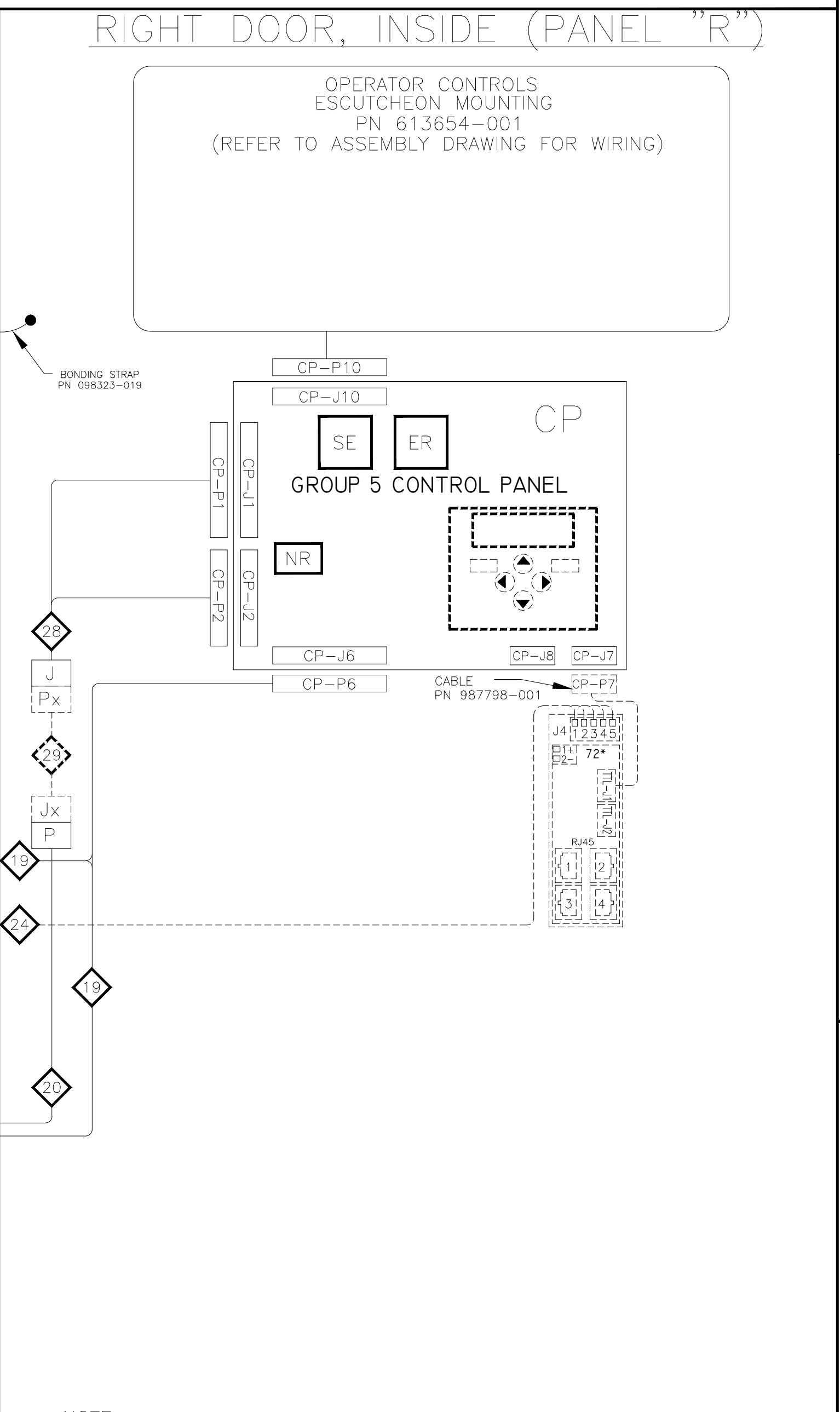
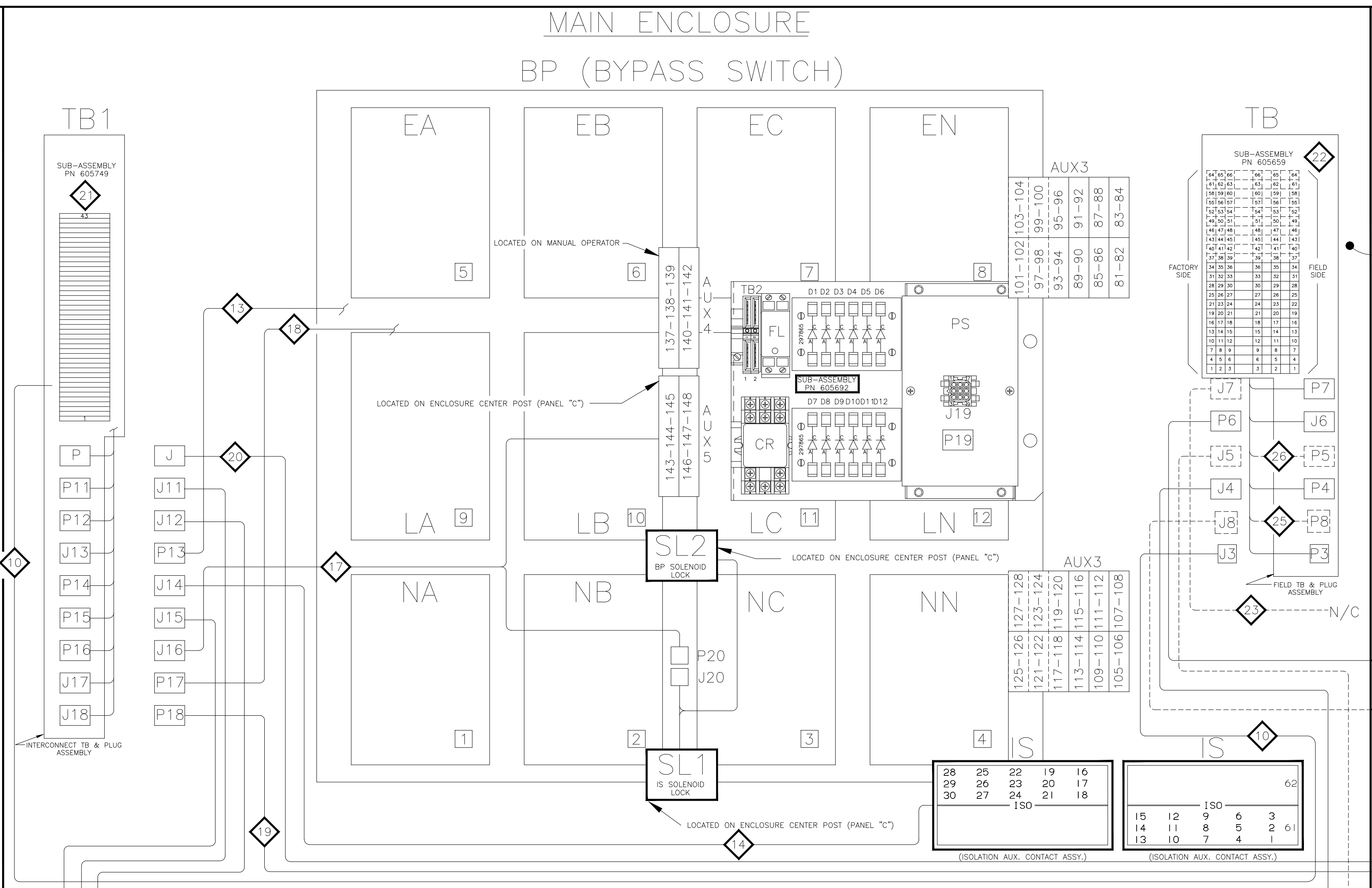
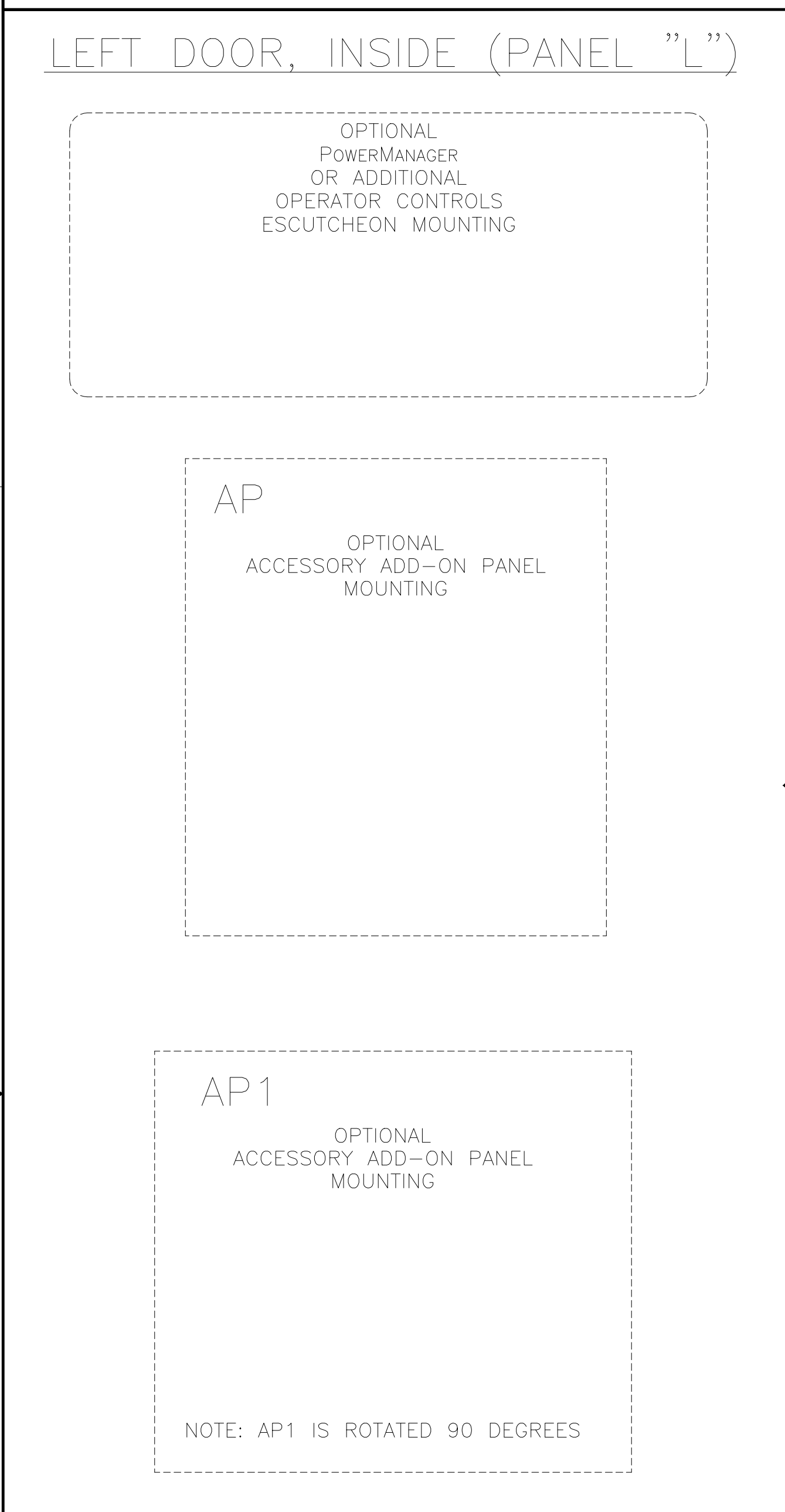
BYPASS / ISOLATION INTERLOCKING & INDICATION



PROJECT NAME:		REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING DIAGRAM		L	283680	TR	BK	03/10/20
7000 SERIES (G7ATB) 3PH 1000-3000 AMPS		SEE ECN				
"G" FRAME, GROUP 5 CONTROLS		K	220784	KK	WK	11/18/08
		SEE ECN				
MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005.		ASSEM. REF. NO.		COMPUTER GENERATED DRAWING		
PROPERTY OF ASCO POWER TECHNOLOGIES, L.P. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		SCALE		NONE		
DRAWN BY: JPB, DATE: 2/98		DWG. NO.		DS		
CHECKED:		617421		SHEET 5 OF 8		
PROJECT APPROVAL:		ASCO		ASC POWER TECHNOLOGIES, L.P.		
FINAL APPROVAL: SDH, DATE: 2/98		DRAWING L		ECN NO. 283680		

8 7 6 5 4 3 2 1

PHYSICAL DIAGRAM



PROJECT NAME: WIRING DIAGRAM

7000 SERIES (G7ATB) 3PH 1000-3000 AMPS "G" FRAME, GROUP 5 CONTROLS

REV. TO SHEET	ECN NO.	BY	APP.	DATE
L	283680	TR	BK	03/10/20
SEE ECN				
K	220784	KK	WK	11/18/08
SEE ECN				

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005.

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SCALE: NONE SIZE: DS

COMPUTER GENERATED DRAWING

617421

ASCO POWER TECHNOLOGIES, L.P.
FLORHAM PARK, NEW JERSEY 07932 U.S.A.

DRAWING L ECN NO. 283680 SHEET 6 OF 8

WIRE RUN LISTING

HARNESS LOCATOR 605674-001 (J1) TS. WIRE No. HARNESS 605674-001 (J1) TS. CLR AWG 16

HARNESS LOCATOR 605674-002 (J2,P10) TS. WIRE No. HARNESS 605674-002 (J2,P10) TS. CLR AWG 16

HARNESS LOCATOR 605674-003 (J3) TS STD. AUX. CONTACTS. WIRE No. HARNESS 605674-003 (J3) TS STD. AUX. CONTACTS. CLR AWG 16

HARNESS LOCATOR 605674-004 TS OPT. AUX. CONTACTS. WIRE No. HARNESS 605674-004 TS OPT. AUX. CONTACTS. CLR AWG 16

HARNESS LOCATOR 605674-005 (P1,P2,J10) TS CONTROL. WIRE No. HARNESS 605674-005 (P1,P2,J10) TS CONTROL. CLR AWG 16

HARNESS LOCATOR 605674-006 (IP3,J4) STATIONARY FRAME. WIRE No. HARNESS 605674-006 (IP3,J4) STATIONARY FRAME. CLR AWG 16

HARNESS LOCATOR 605674-006 (IP1,J12) STATIONARY FRAME (OPT.). WIRE No. HARNESS 605674-006 (IP1,J12) STATIONARY FRAME (OPT.). CLR AWG 16

HARNESS LOCATOR 605674-007 (J3,TB1) ENGINE START. WIRE No. HARNESS 605674-007 (J3,TB1) ENGINE START. CLR AWG 16

HARNESS LOCATOR 605674-007 (J3,TB1) ENGINE START. WIRE No. HARNESS 605674-007 (J3,TB1) ENGINE START. CLR AWG 16

HARNESS LOCATOR 605674-010 (P13,BP) BP HIGH VOLTAGE. WIRE No. HARNESS 605674-010 (P13,BP) BP HIGH VOLTAGE. CLR AWG 16

HARNESS LOCATOR 605674-013 (J15,MX,SS1,PE) OPT. BP CONTROL/INDICATION. WIRE No. HARNESS 605674-013 (J15,MX,SS1,PE) OPT. BP CONTROL/INDICATION. CLR AWG 16

HARNESS LOCATOR 605674-014 (J16,SL1,SL2,BP(AUX5)) BP/IS INTERLOCKS. WIRE No. HARNESS 605674-014 (J16,SL1,SL2,BP(AUX5)) BP/IS INTERLOCKS. CLR AWG 16

HARNESS LOCATOR 605674-015 (P17,BP) BP LOW VOLTAGE. WIRE No. HARNESS 605674-015 (P17,BP) BP LOW VOLTAGE. CLR AWG 16

HARNESS LOCATOR 605674-017 (P,J) CONTROL PANEL EXTENSION. WIRE No. HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION. CLR AWG 16

HARNESS LOCATOR 619510-038 (J15,PL1-PL3,SS1) STD. BP CONTROL/INDICATION. WIRE No. HARNESS 619510-038 (J15,PL1-PL3,SS1) STD. BP CONTROL/INDICATION. CLR AWG 22

HARNESS LOCATOR 605674-016 (P6,P18) INTERNAL CONTROL & FIELD INPUTS. WIRE No. HARNESS 605674-016 (P6,P18) INTERNAL CONTROL & FIELD INPUTS. CLR AWG 16

HARNESS LOCATOR 605674-016 (P6,P18) INTERNAL CONTROL & FIELD INPUTS. WIRE No. HARNESS 605674-016 (P6,P18) INTERNAL CONTROL & FIELD INPUTS. CLR AWG 16

HARNESS LOCATOR 605674-017 (P,J) CONTROL PANEL EXTENSION. WIRE No. HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION. CLR AWG 16

HARNESS LOCATOR 605674-017 (P,J) CONTROL PANEL EXTENSION. WIRE No. HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION. CLR AWG 16

HARNESS LOCATOR 605674-017 (P,J) CONTROL PANEL EXTENSION. WIRE No. HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION. CLR AWG 16

HARNESS LOCATOR 605674-017 (P,J) CONTROL PANEL EXTENSION. WIRE No. HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION. CLR AWG 16

HARNESS LOCATOR 605674-017 (P,J) CONTROL PANEL EXTENSION. WIRE No. HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION. CLR AWG 16

HARNESS LOCATOR 605674-017 (P,J) CONTROL PANEL EXTENSION. WIRE No. HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION. CLR AWG 16

HARNESS LOCATOR 605674-017 (P,J) CONTROL PANEL EXTENSION. WIRE No. HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION. CLR AWG 16

HARNESS LOCATOR 605674-017 (P,J) CONTROL PANEL EXTENSION. WIRE No. HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION. CLR AWG 16

HARNESS LOCATOR 605674-017 (P,J) CONTROL PANEL EXTENSION. WIRE No. HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION. CLR AWG 16

HARNESS LOCATOR 605674-017 (P,J) CONTROL PANEL EXTENSION. WIRE No. HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION. CLR AWG 16

HARNESS LOCATOR 605674-017 (P,J) CONTROL PANEL EXTENSION. WIRE No. HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION. CLR AWG 16

HARNESS LOCATOR 605674-017 (P,J) CONTROL PANEL EXTENSION. WIRE No. HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION. CLR AWG 16

HARNESS LOCATOR 605674-017 (P,J) CONTROL PANEL EXTENSION. WIRE No. HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION. CLR AWG 16

Table with columns: L, 283680, TR, BK, 03/10/20, SEE ECN; K, 220784, KK, WK, 11/18/08, SEE ECN

PROJECT NAME: WIRING DIAGRAM 7000 SERIES (G7ATB) 3PH 1000-3000 AMPS "G" FRAME, GROUP 5 CONTROLS. MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005. ASSEM. REF. NO. COMPUTER GENERATED DRAWING. SCALE: NONE SIZE DS. DWG. NO. 617421. DRAWING L. REV. 283680 SHEET 7 OF 8.

WIRE RUN LISTING

Table 21: HARNESS LOCATOR SUB-ASSEMBLY 605749. Columns: WIRE No., SUB-ASSEMBLY, CLR, AWG. Lists wires 1-191 for TB1, TB2, TB3, TB4, TB5, TB6, TB7, TB8, TB9, TB10, TB11, TB12, TB13, TB14, TB15, TB16, TB17, TB18, TB19, TB20, TB21, TB22, TB23, TB24, TB25, TB26, TB27, TB28, TB29, TB30, TB31, TB32, TB33, TB34, TB35, TB36, TB37, TB38, TB39, TB40, TB41, TB42, TB43, TB44, TB45, TB46, TB47, TB48, TB49, TB50, TB51, TB52, TB53, TB54, TB55, TB56, TB57, TB58, TB59, TB60, TB61, TB62, TB63, TB64, TB65, TB66, TB67, TB68, TB69, TB70, TB71, TB72, TB73, TB74, TB75, TB76, TB77, TB78, TB79, TB80, TB81, TB82, TB83, TB84, TB85, TB86, TB87, TB88, TB89, TB90, TB91, TB92, TB93, TB94, TB95, TB96, TB97, TB98, TB99, TB100, TB101, TB102, TB103, TB104, TB105, TB106, TB107, TB108, TB109, TB110, TB111, TB112, TB113, TB114, TB115, TB116, TB117, TB118, TB119, TB120, TB121, TB122, TB123, TB124, TB125, TB126, TB127, TB128, TB129, TB130, TB131, TB132, TB133, TB134, TB135, TB136, TB137, TB138, TB139, TB140, TB141, TB142, TB143, TB144, TB145, TB146, TB147, TB148, TB149, TB150, TB151, TB152, TB153, TB154, TB155, TB156, TB157, TB158, TB159, TB160, TB161, TB162, TB163, TB164, TB165, TB166, TB167, TB168, TB169, TB170, TB171, TB172, TB173, TB174, TB175, TB176, TB177, TB178, TB179, TB180, TB181, TB182, TB183, TB184, TB185, TB186, TB187, TB188, TB189, TB190, TB191.

Table 22: HARNESS LOCATOR SUB-ASSEMBLY 605749 MAIN INTERCONNECT ASSEMBLY (CONTINUED). Columns: WIRE No., SUB-ASSEMBLY, CLR, AWG. Lists wires 31-211 for TB1, TB2, TB3, TB4, TB5, TB6, TB7, TB8, TB9, TB10, TB11, TB12, TB13, TB14, TB15, TB16, TB17, TB18, TB19, TB20, TB21, TB22, TB23, TB24, TB25, TB26, TB27, TB28, TB29, TB30, TB31, TB32, TB33, TB34, TB35, TB36, TB37, TB38, TB39, TB40, TB41, TB42, TB43, TB44, TB45, TB46, TB47, TB48, TB49, TB50, TB51, TB52, TB53, TB54, TB55, TB56, TB57, TB58, TB59, TB60, TB61, TB62, TB63, TB64, TB65, TB66, TB67, TB68, TB69, TB70, TB71, TB72, TB73, TB74, TB75, TB76, TB77, TB78, TB79, TB80, TB81, TB82, TB83, TB84, TB85, TB86, TB87, TB88, TB89, TB90, TB91, TB92, TB93, TB94, TB95, TB96, TB97, TB98, TB99, TB100, TB101, TB102, TB103, TB104, TB105, TB106, TB107, TB108, TB109, TB110, TB111, TB112, TB113, TB114, TB115, TB116, TB117, TB118, TB119, TB120, TB121, TB122, TB123, TB124, TB125, TB126, TB127, TB128, TB129, TB130, TB131, TB132, TB133, TB134, TB135, TB136, TB137, TB138, TB139, TB140, TB141, TB142, TB143, TB144, TB145, TB146, TB147, TB148, TB149, TB150, TB151, TB152, TB153, TB154, TB155, TB156, TB157, TB158, TB159, TB160, TB161, TB162, TB163, TB164, TB165, TB166, TB167, TB168, TB169, TB170, TB171, TB172, TB173, TB174, TB175, TB176, TB177, TB178, TB179, TB180, TB181, TB182, TB183, TB184, TB185, TB186, TB187, TB188, TB189, TB190, TB191, TB192, TB193, TB194, TB195, TB196, TB197, TB198, TB199, TB200, TB201, TB202, TB203, TB204, TB205, TB206, TB207, TB208, TB209, TB210, TB211.

Table 23: HARNESS LOCATOR SUB-ASSEMBLY 605659. Columns: WIRE No., SUB-ASSEMBLY, CLR, AWG. Lists wires 120-272 for TB1, TB2, TB3, TB4, TB5, TB6, TB7, TB8, TB9, TB10, TB11, TB12, TB13, TB14, TB15, TB16, TB17, TB18, TB19, TB20, TB21, TB22, TB23, TB24, TB25, TB26, TB27, TB28, TB29, TB30, TB31, TB32, TB33, TB34, TB35, TB36, TB37, TB38, TB39, TB40, TB41, TB42, TB43, TB44, TB45, TB46, TB47, TB48, TB49, TB50, TB51, TB52, TB53, TB54, TB55, TB56, TB57, TB58, TB59, TB60, TB61, TB62, TB63, TB64, TB65, TB66, TB67, TB68, TB69, TB70, TB71, TB72, TB73, TB74, TB75, TB76, TB77, TB78, TB79, TB80, TB81, TB82, TB83, TB84, TB85, TB86, TB87, TB88, TB89, TB90, TB91, TB92, TB93, TB94, TB95, TB96, TB97, TB98, TB99, TB100, TB101, TB102, TB103, TB104, TB105, TB106, TB107, TB108, TB109, TB110, TB111, TB112, TB113, TB114, TB115, TB116, TB117, TB118, TB119, TB120, TB121, TB122, TB123, TB124, TB125, TB126, TB127, TB128, TB129, TB130, TB131, TB132, TB133, TB134, TB135, TB136, TB137, TB138, TB139, TB140, TB141, TB142, TB143, TB144, TB145, TB146, TB147, TB148, TB149, TB150, TB151, TB152, TB153, TB154, TB155, TB156, TB157, TB158, TB159, TB160, TB161, TB162, TB163, TB164, TB165, TB166, TB167, TB168, TB169, TB170, TB171, TB172, TB173, TB174, TB175, TB176, TB177, TB178, TB179, TB180, TB181, TB182, TB183, TB184, TB185, TB186, TB187, TB188, TB189, TB190, TB191, TB192, TB193, TB194, TB195, TB196, TB197, TB198, TB199, TB200, TB201, TB202, TB203, TB204, TB205, TB206, TB207, TB208, TB209, TB210, TB211, TB212, TB213, TB214, TB215, TB216, TB217, TB218, TB219, TB220, TB221, TB222, TB223, TB224, TB225, TB226, TB227, TB228, TB229, TB230, TB231, TB232, TB233, TB234, TB235, TB236, TB237, TB238, TB239, TB240, TB241, TB242, TB243, TB244, TB245, TB246, TB247, TB248, TB249, TB250, TB251, TB252, TB253, TB254, TB255, TB256, TB257, TB258, TB259, TB260, TB261, TB262, TB263, TB264, TB265, TB266, TB267, TB268, TB269, TB270, TB271, TB272.

Table 24: HARNESS LOCATOR HARNESS (J7) OPTIONAL FIELD OUTPUTS. Columns: WIRE No., HARNESS, CLR, AWG. Lists wires 120-293 for J7-1, J7-2, J7-3, J7-4, J7-5, J7-6, J7-7, J7-8, J7-9, J7-10, J7-11, J7-12, J7-13, J7-14, J7-15, J7-16, J7-17, J7-18, J7-19, J7-20, J7-21, J7-22, J7-23, J7-24.

Table 25: HARNESS LOCATOR HARNESS 483763 (J,CP-P1,CP-P2) CONTROL PANEL. Columns: WIRE No., HARNESS, CLR, AWG. Lists wires 310-6 for J-1,CP-P1-8, J-2,CP-P1-15, J-3,CP-P1-2, J-4,CP-P1-4, J-5,CP-P1-17, J-6,CP-P1-12, J-7,CP-P1-7, J-8,CP-P2-2, J-9,CP-P2-3, J-10,CP-P2-8, J-11,CP-P1-10, J-12,CP-P1-1, J-13,CP-P2-9, J-14,CP-P2-10, J-15,CP-P1-5, J-16,CP-P1-13, J-17,CP-P2-1, J-18,CP-P1-14.

Table 26: HARNESS LOCATOR HARNESS 309320-005 OPTIONAL 8 IN. EXTENSION HARNESS. Columns: WIRE No., HARNESS, CLR, AWG. Lists wires 1-38 for Jx-1,Px-1, Jx-2,Px-2, Jx-3,Px-3, Jx-4,Px-4, Jx-5,Px-5, Jx-6,Px-6, Jx-7,Px-7, Jx-8,Px-8, Jx-9,Px-9, Jx-10,Px-10, Jx-11,Px-11, Jx-12,Px-12, Jx-13,Px-13, Jx-14,Px-14, Jx-15,Px-15, Jx-16,Px-16, Jx-17,Px-17, Jx-18,Px-18, Jx-19,Px-19, Jx-20,Px-20, Jx-21,Px-21, Jx-22,Px-22, Jx-23,Px-23, Jx-24,Px-24.

Table 27: HARNESS LOCATOR HARNESS 605454-005 (J8) OPTIONAL SERIAL I/O. Columns: WIRE No., HARNESS, CLR, AWG. Lists wires 300-308 for J8-1,72*-5, J8-2,72*-1, J8-3,72*-2, J8-4,72*-3, J8-5,72*-4, J8-6, J8-7, J8-8, J8-9.

Table 28: HARNESS LOCATOR HARNESS 605454-007 (P8,TB) OPTIONAL SERIAL I/O. Columns: WIRE No., HARNESS, CLR, AWG. Lists wires 300-308 for P8-1,TB-37, P8-2,TB-38, P8-3,TB-39, P8-4,TB-40, P8-5,TB-41, P8-6, P8-7, P8-8, P8-9.

Table 29: HARNESS LOCATOR HARNESS 605454-008 (P5,TB) OPT. AUX. CONTACTS. Columns: WIRE No., HARNESS, CLR, AWG. Lists wires 80-102 for TB-43,P5-1, TB-44,P5-2, TB-45,P5-3, TB-46,P5-4, TB-47,P5-5, TB-48,P5-6, TB-49,P5-7, TB-50,P5-8, TB-51,P5-9, TB-52,P5-10, TB-53,P5-11, TB-54,P5-12, TB-55,P5-13, TB-56,P5-14, TB-57,P5-15, TB-58,P5-16, TB-59,P5-17, TB-60,P5-18, TB-61,P5-19, TB-62,P5-20, TB-63,P5-21, TB-64,P5-22, TB-65,P5-23, TB-66,P5-24.

PROJECT NAME: 220784 KK WK 11/18/08
WIRING DIAGRAM
7000 SERIES (G7ATB) 3PH 1000-3000 AMPS
"G" FRAME, GROUP 5 CONTROLS
DRAWN BY: JPB 2/98
CHECKED: SDH 2/98
DATE: 2/98
MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005.
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DWG. NO.: 617421
REV. L: 283680 SHEET: 8 OF 8