

SINGLE PHASE WIRING FOR ASCO® 7000 SERIES AUTOMATIC DELAYED TRANSITION TRANSFER & BYPASS-ISOLATION SWITCHES TYPE H7ADTB RATED 600 - 1200 AMPERES

FEATURES, SETTINGS, OPERATION & 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).

DELAYED TRANSFER (LOAD "OFF" TIME) - PROVIDES A USER DEFINABLE PERIOD DURING WHICH THE LOAD IS DISCONNECTED FROM BOTH THE NORMAL AND EMERGENCY SOURCES DURING TRANSFER IN EITHER DIRECTION. THE DELAY ("OFF" PERIOD) BEGINS FOLLOWING THE OPENING OF THE SOURCE CONTACTOR, CN OR CE, CONNECTED TO THE SOURCE FROM WHICH TRANSFER IS BEING MADE. UPON EXPIRATION, CLOSURE OF THE OPPOSITE SOURCE CONTACTOR IS INITIATED.

ENGINE EXERCISER

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

(CONTINUED) . . .

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	Eastern Standard Time
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. FEATURE 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 CLOSING 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 C CONTACT CONNECTED TO THE FIELD CONNECTIONS TERMINAL BLOCK (TB). CONTACTS RATED 5 AMPS AT 32VDC/120VAC RESISTIVE.
- B. FEATURES 14AE & 14BE - TRANSFER SWITCH AUXILIARY POSITION INDICATING CONTACTS.** SIX (6) FORM C CONTACTS TO INDICATE CONNECTION OF THE TRANSFER SWITCH TO NORMAL (14A) AND SIX (6) 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 BY MEANS OF A DELAYED TRANSITION, (PROGRAMMED LOAD DISCONNECT PERIOD).

DELAYED TRANSITION TRANSFER TO EMERGENCY WILL CAUSE THE NORMAL SOURCE CONTACTOR (CN) TO OPEN. AFTER THE LOAD DISCONNECT DELAY, AS SET VIA THE USER INTERFACE OF THE GROUP 5 CONTROL PANEL, THE EMERGENCY SOURCE CONTACTOR (CE) WILL CLOSE. DURING THE PERIOD THAT BOTH CONTACTORS ARE OPEN AND THE TIME DELAY IS ACTIVE, A "LOAD DISCONNECT ACTIVE" LED WILL BE LIT (AMBER LED).

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 IN A DELAYED TRANSITION MANNER.

DELAYED TRANSITION RETRANSFER TO NORMAL WILL CAUSE THE EMERGENCY SOURCE CONTACTOR (CE) TO OPEN. AFTER THE LOAD DISCONNECT TIME DELAY EXPIRES, THE NORMAL SOURCE CONTACTOR (CN) WILL CLOSE.

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

DELAYED TRANSITION TRANSFER WILL ALSO OCCUR DURING TRANSFER TO EMERGENCY BY OPERATING THE TEST SWITCH. RETRANSFER TO NORMAL WILL OCCUR AS PREVIOUSLY DESCRIBED.

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)
- D. LOAD DISCONNECT ACTIVE** - INDICATES THAT THE TRANSFER SWITCH IS IN THE LOAD DISCONNECTED POSITION (BOTH NORMAL (CN) AND EMERGENCY (CE) CONTACTORS OPEN) (AMBER LED).

BYPASS SWITCH & ISOLATION USER CONTROLS & INDICATIONS

A. BYPASS / ISOLATION DISPLAY INDICATORS - LED TYPE, COMMON LAMP TEST

NORMAL SOURCE AVAILABLE - GREEN
EMERGENCY SOURCE AVAILABLE - RED

TRANSFER SWITCH CONNECTED TO NORMAL - GREEN
TRANSFER SWITCH CONNECTED TO EMERGENCY - RED

BYPASS SWITCH CONNECTED TO NORMAL - GREEN
BYPASS SWITCH CONNECTED TO EMERGENCY - RED

LOAD CONNECTED - AMBER

TS IN CONNECTED POSITION - AMBER
TS IN TEST POSITION - AMBER
TS ISOLATED - AMBER

UNIT NOT IN AUTOMATIC - AMBER

B. BYPASS / ISOLATION DISPLAY ENGINE CONTROL SWITCH TWO (2) POSITION

"AUTO" - ENGINE STARTING CONTROLLED BY TRANSFER SWITCH CONTROL PANEL
"RUN" - SIGNALS ENGINE TO START

C. BYPASS / ISOLATION INTERLOCKS (SOLENOID ACTUATED)

SL1: INTERLOCKS THE TRANSFER SWITCH ISOLATION CRANK WITH THE TRANSFER AND BYPASS SWITCHES TO INSURE THAT:

THE TRANSFER SWITCH CANNOT BE DISCONNECTED WITHOUT BEING BYPASSED.

THE TRANSFER SWITCH CANNOT BE RECONNECTED UNLESS IT IS IN THE SAME POSITION AS THE BYPASS SWITCH.

SL2: INTERLOCKS THE BYPASS SWITCH OPERATOR WHEN THE TRANSFER SWITCH IS IN THE CONNECTED POSITION TO INSURE THAT THE BYPASS SWITCH CANNOT BE OPERATED TO A SOURCE OTHER THAN THAT WHICH THE TRANSFER SWITCH IS CONNECTED TO.

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.
- O 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.

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	NOMINAL VOLTAGE	CODE	TYPE	DESCRIPTION	
H7ADTB	A	2	600 800 1000 1200	G	5	X		BLANK	NONE	A	115	BLANK		OPEN TYPE (NO ENCLOSURE)	
	B			H				A	SOLID	B	120	C	1	GENERAL PURPOSE, INDOOR	
				I				B	SWITCHING	C	208	E	2	INDOOR, WATER & DUST RESISTANT	
				J				C		D	220	F	3R	OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT	
				K				D		E	230	G	4	INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT	
				L				E		F	240	H	4X	TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL)	
				M				F		G	277	J	4X	TYPE 4 PLUS CORROSION RESISTANCE (FIBERGLASS)	
				N				G		H	380	K	7	EXPLOSION PROOF	
				O				H		I	400	L	12	INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT	
				P				I		J	415			(SECURE ENCLOSURES)	
				Q				K		M	460	M	3R	OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT	
				R				L		N	480	N	4	INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT	
								M		P	550	P	4X	TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL)	
								N		Q	575	Q	12	INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT	
								O		R	600				
	BLANK FOR NONE					BLANK FOR NONE	BLANK FOR OPEN TYPE								

CATALOG NUMBER _____

ASCO® CERTIFIED TO S.O. _____

BY _____

DATE _____

FORM REV G

PROJECT NAME: _____

WIRING DIAGRAM

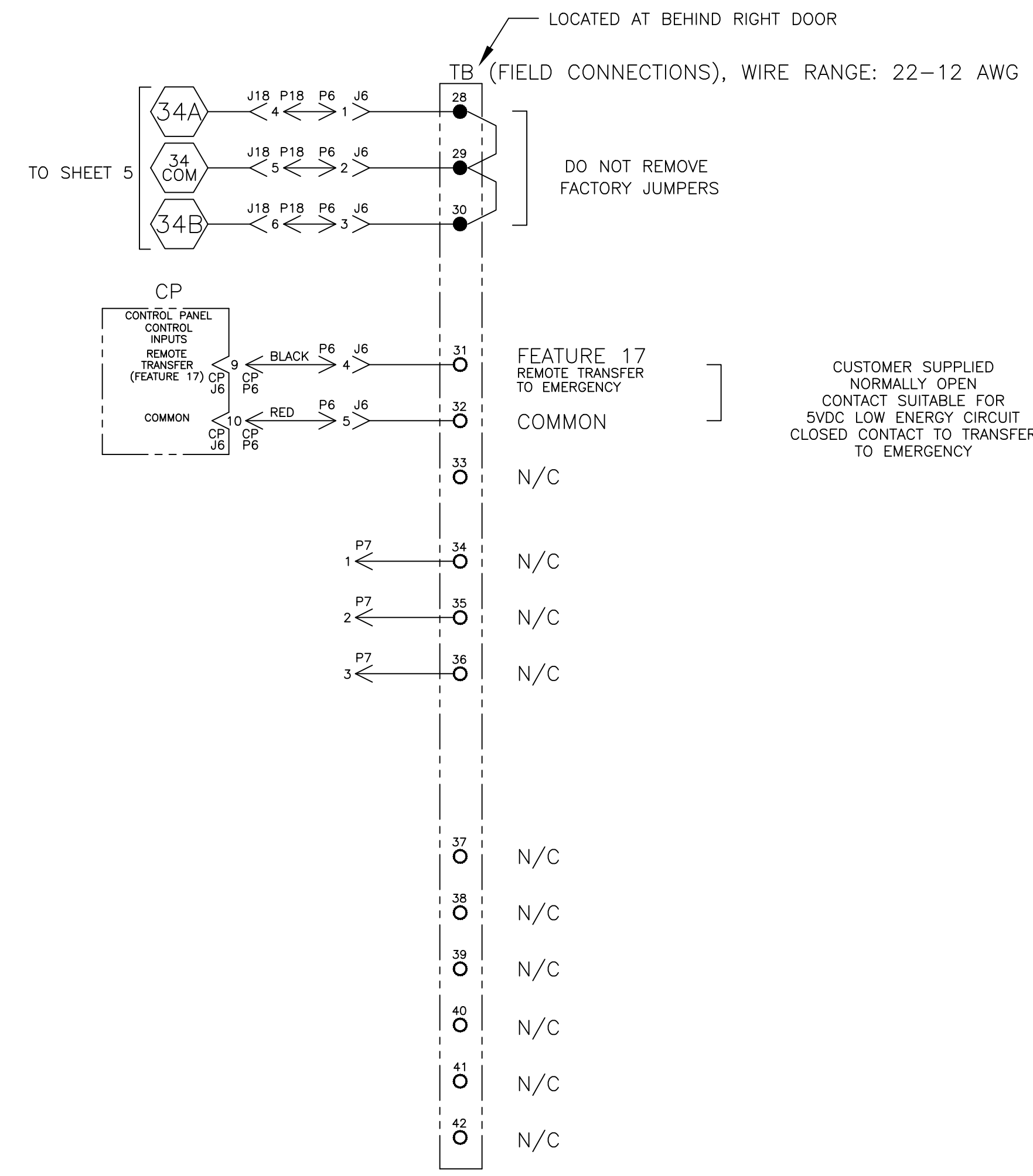
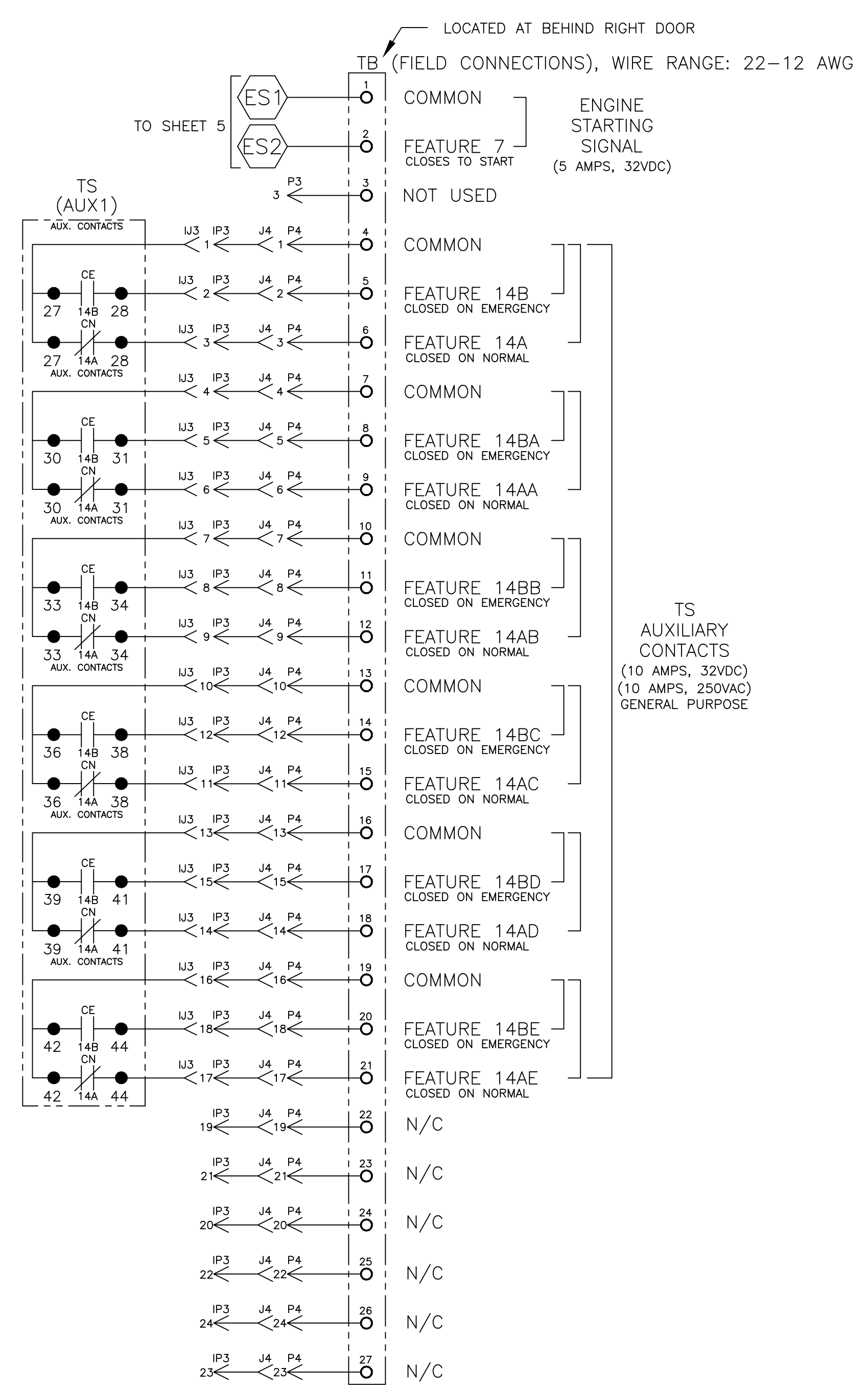
7000 SERIES (H7ADTB) 1PH 600-1200 AMPS

"H" FRAME, GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055	ASSEM. REF. NO.	COMPUTER GENERATED DRAWING
BWM	9/03			SCALE NONE SIZE DS
BK	9/03	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		DWG. NO. 736946
		ASCO ® ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.		DRAWING G ECN NO. 290996 SHEET 10 OF 10

FIELD CONNECTIONS



G	290996	VDS	HSL	08/25/21
F	231060	TR	BK	03/11/11
E	210450	BWM	BK	10/24/06

PROJECT NAME:		DIAGRAM		REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING		7000 SERIES (H7ADTB) 1PH 600-1200 AMPS		SCALE		NONE		SIZE
"H" FRAME, GROUP 5 CONTROLS		ASCO POWER TECHNOLOGIES, LP.		ASSEMBLY NO.		COMPUTER GENERATED DRAWING		DS
DRAWN BY	BWM	DATE	9/03	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		DWG. NO.		736946
CHECKED				ASCO POWER TECHNOLOGIES, LP.		DRAWING REV.		G
PROJECT APPROVAL				FLORHAM PARK, NEW JERSEY 07932 U.S.A.		ECN NO.		290996
FINAL APPROVAL	BK	DATE	9/03	ASCO		SHEET		3 OF 10

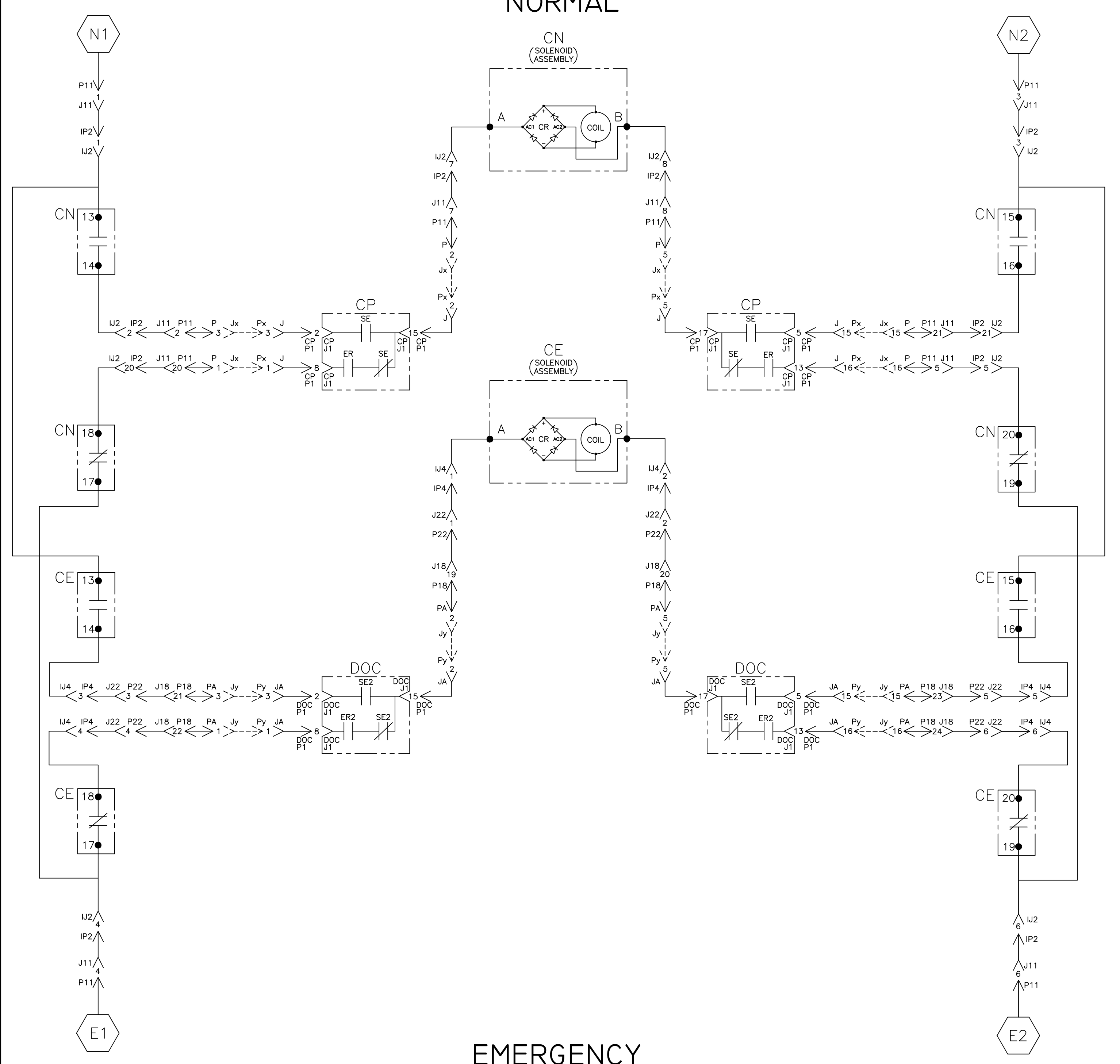
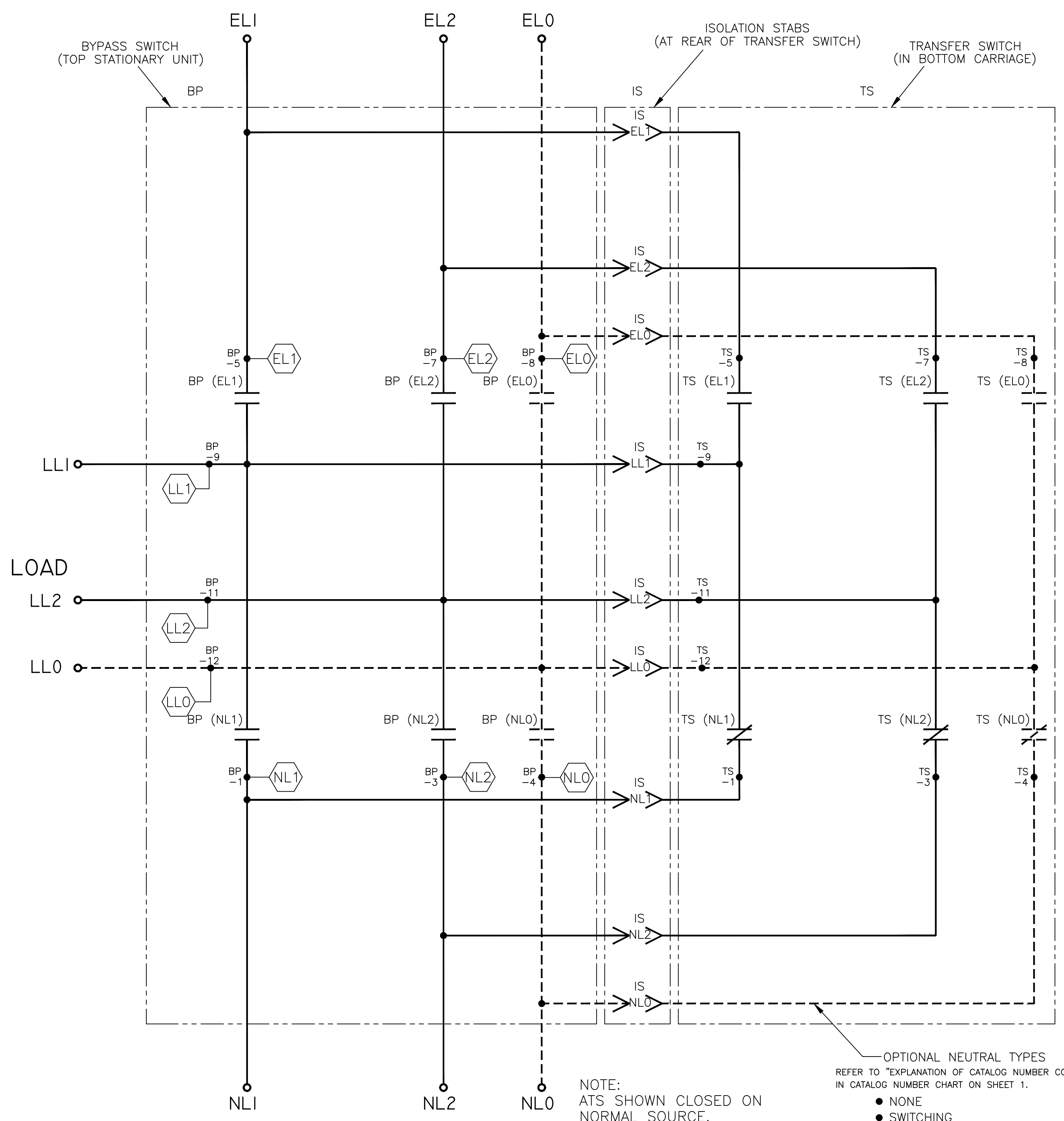
MAIN POWER POLES

TS OPERATOR CIRCUIT

EMERGENCY

NORMAL

EMERGENCY



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

CN	SOLENOID POSITION			
	CN CLOSED	BEFORE TDC	AFTER TDC	CN OPEN
13-14				
15-16				
17-18				
19-20				

TDC (TOP DEAD CENTER)
TRANSFER SWITCH TEST & ADJUSTMENT PROCEDURE
SPECIFIES CONTROL CUT-OFF (CONTACT OPENING)
SETTING.

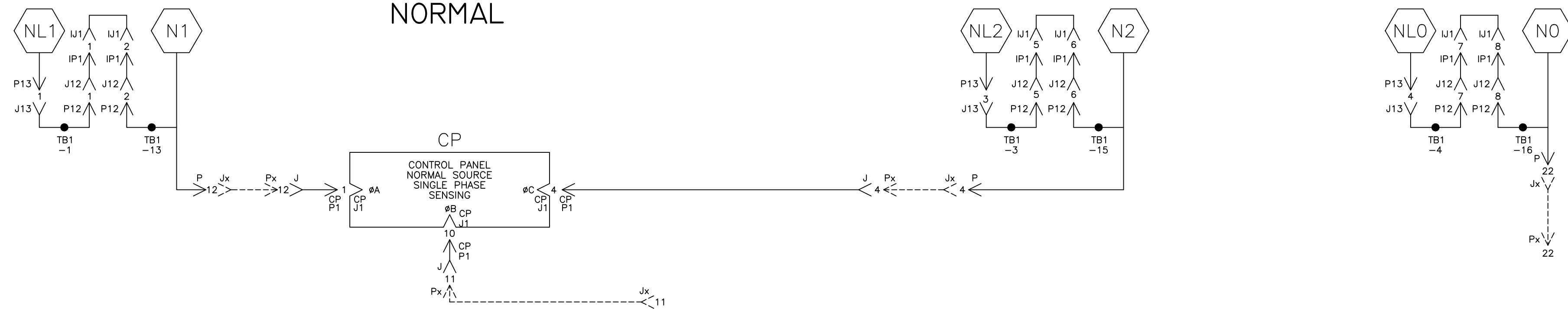
CE	SOLENOID POSITION			
	CE CLOSED	BEFORE TDC	AFTER TDC	CE OPEN
13-14				
15-16				
17-18				
19-20				

TDC (TOP DEAD CENTER)
TRANSFER SWITCH TEST & ADJUSTMENT PROCEDURE
SPECIFIES CONTROL CUT-OFF (CONTACT OPENING)
SETTING.

PROJECT NAME:	WIRING DIAGRAM		
7000 SERIES (H7ADTB) 1PH 600-1200 AMPS	"H" FRAME, GROUP 5 CONTROLS		
THIRD ANGLE PROJECTION			
REV. TO SHEET	ECN NO.	BY	APP. DATE
MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055.	ASSEM. REF. NO.	COMPUTER GENERATED DRAWING	
PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.	SCALE NONE	SIZE DS	
ASCO POWER TECHNOLOGIES, LP. FLORHAM PARK, NEW JERSEY 07932 U.S.A.	DWG. NO. 736946	SHEET 4 OF 10	

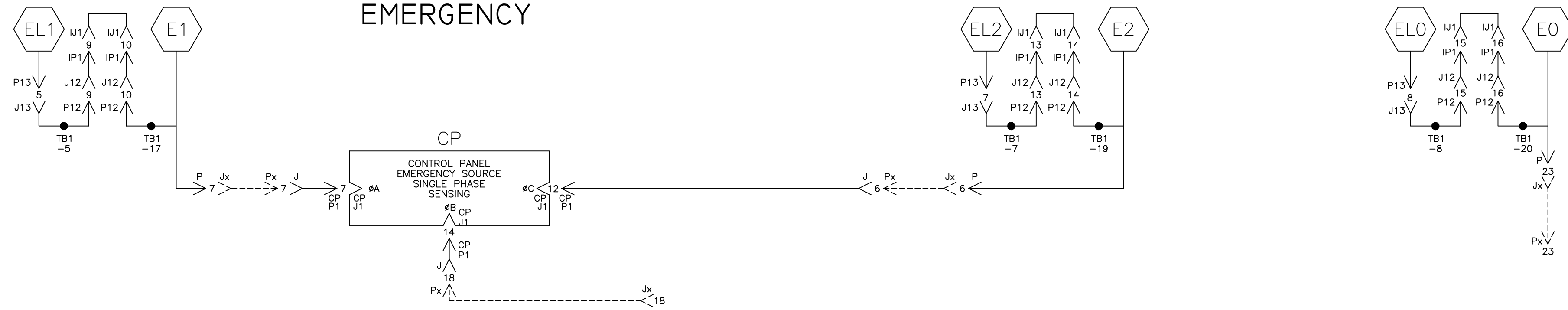
NORMAL SOURCE CIRCUITS

NORMAL



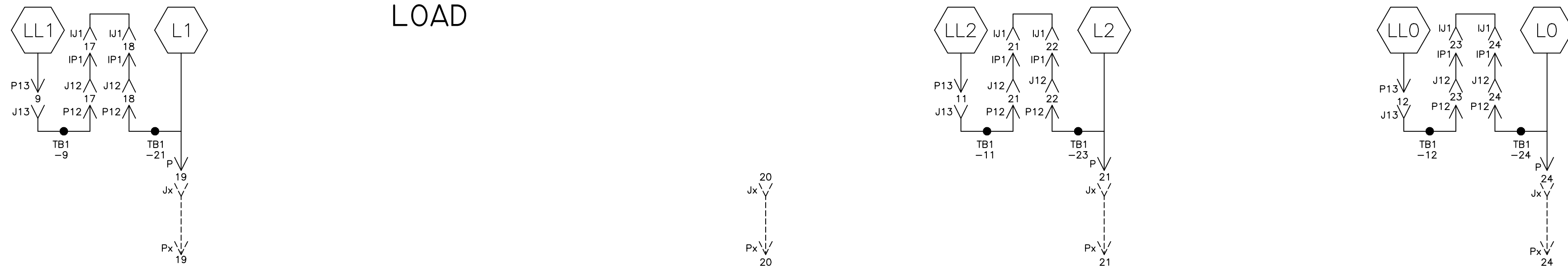
EMERGENCY SOURCE CIRCUITS

EMERGENCY



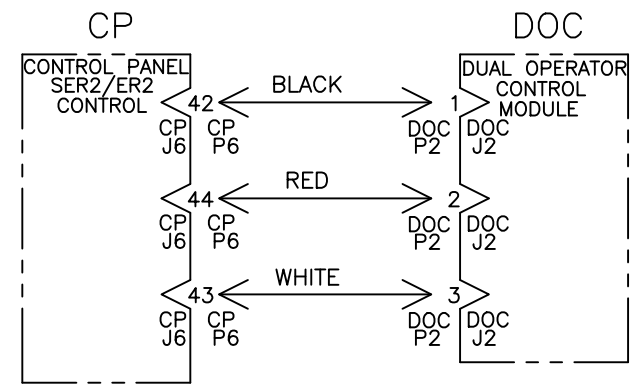
LOAD TERMINAL CIRCUITS

LOAD

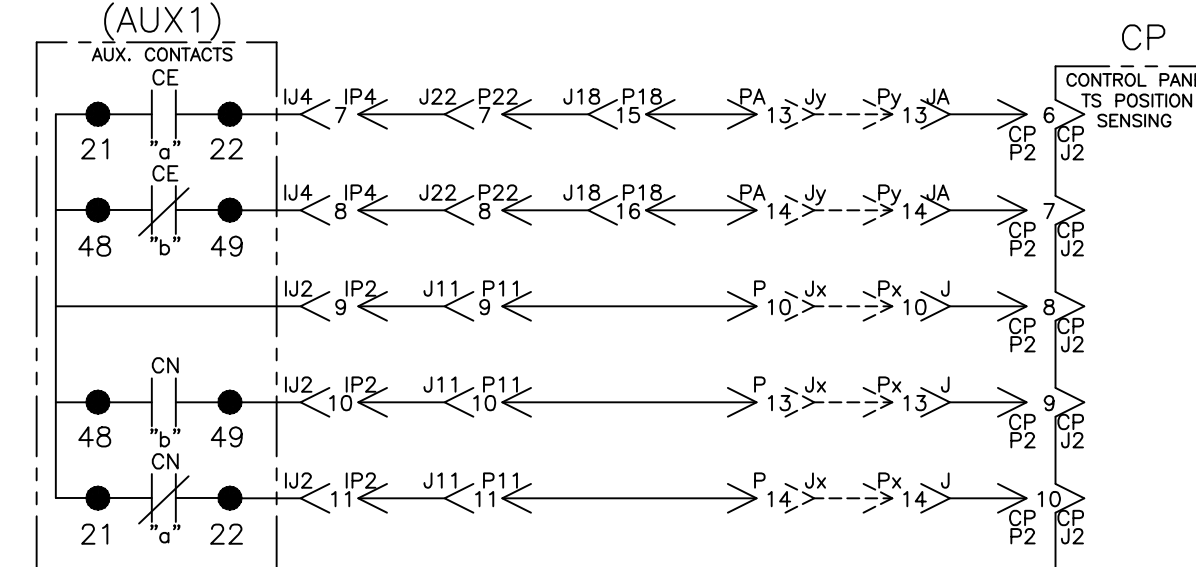


CONTROL SIGNALS & INDICATION

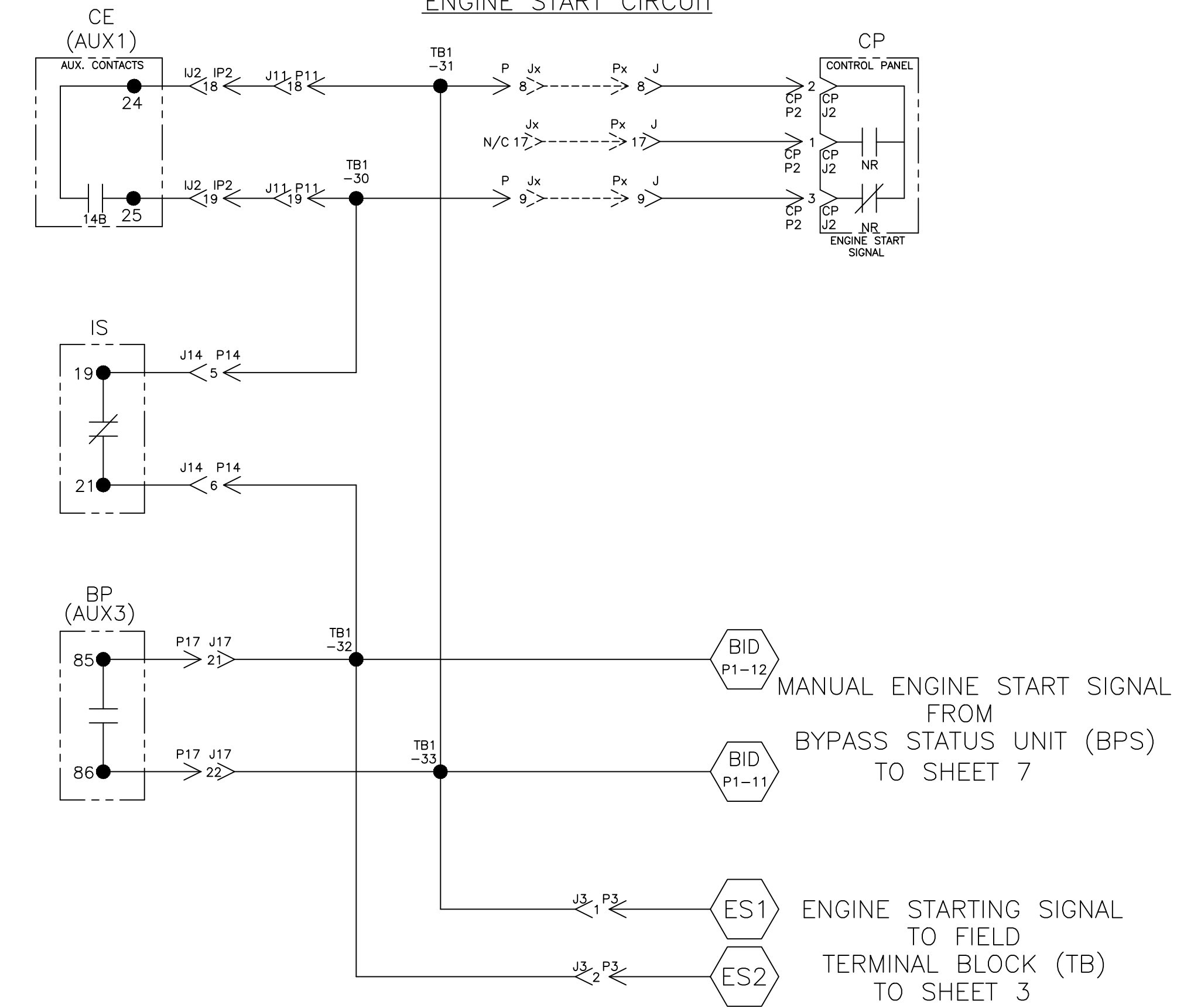
SER2/ER2 CONTROL



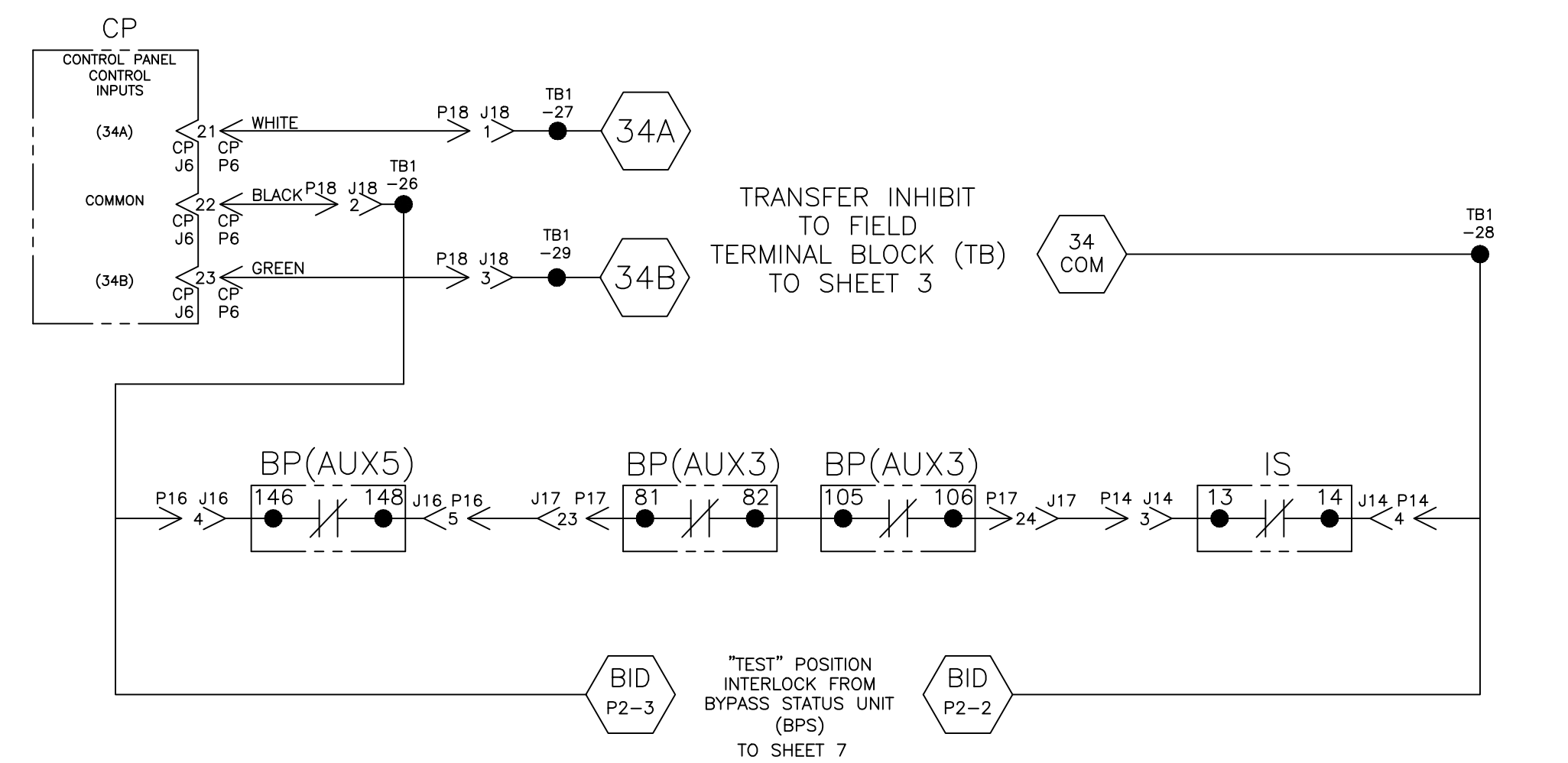
TS POSITION SENSING



ENGINE START CIRCUIT



CONTROL PANEL/BYPASS-ISOLATION INTERLOCKS



G	290996	VDS	HSL	08/25/21
	SEE ECN			
F	231060	TR	BK	03/11/11
	SEE ECN			
E	210450	BWM	BK	10/24/06
	SEE ECN			

PROJECT NAME:				REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING DIAGRAM								
7000 SERIES (H7ADTB) 1PH 600-1200 AMPS								
"H" FRAME, GROUP 5 CONTROLS								
DRAWN BY	BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055	ASSEM. REF. NO.	COMPUTER GENERATED DRAWING			SCALE
CHECKED	BWM	9/03	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		SCALE	NONE	SIZE	DS
PROJECT APPROVAL					736946			
FINAL APPROVAL	BK	9/03	ASCO POWER TECHNOLOGIES, L.P.		DRAWING REV.	G	ECN NO.	290996
			FLOHAM PARK, NEW JERSEY 07932 U.S.A.					SHEET 5 OF 10

ADDITIONAL CIRCUITS

D

D

C

C

B

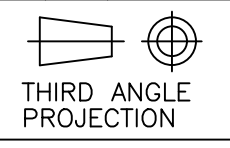
B

A

A

G	290996	VDS	HSL	08/25/21
F	231060	TR	BK	03/11/11
E	210450	BWM	BK	10/24/06

PROJECT NAME:		WIRING		DIAGRAM	
DRAWN BY		BWM		9/03	
CHECKED					
PROJECT APPROVAL					
FINAL APPROVAL		BK		9/03	
ASCO		ASCO POWER TECHNOLOGIES, LP.		FLORHAM PARK, NEW JERSEY 07932 U.S.A.	
DRAWING REV.		G		ECN NO. 290996	
SCALE		NONE		SIZE DS	
DWC. NO.		736946		SHEET 6 OF 10	



8

7

6

5

4

3

2

1

8

7

6

5

4

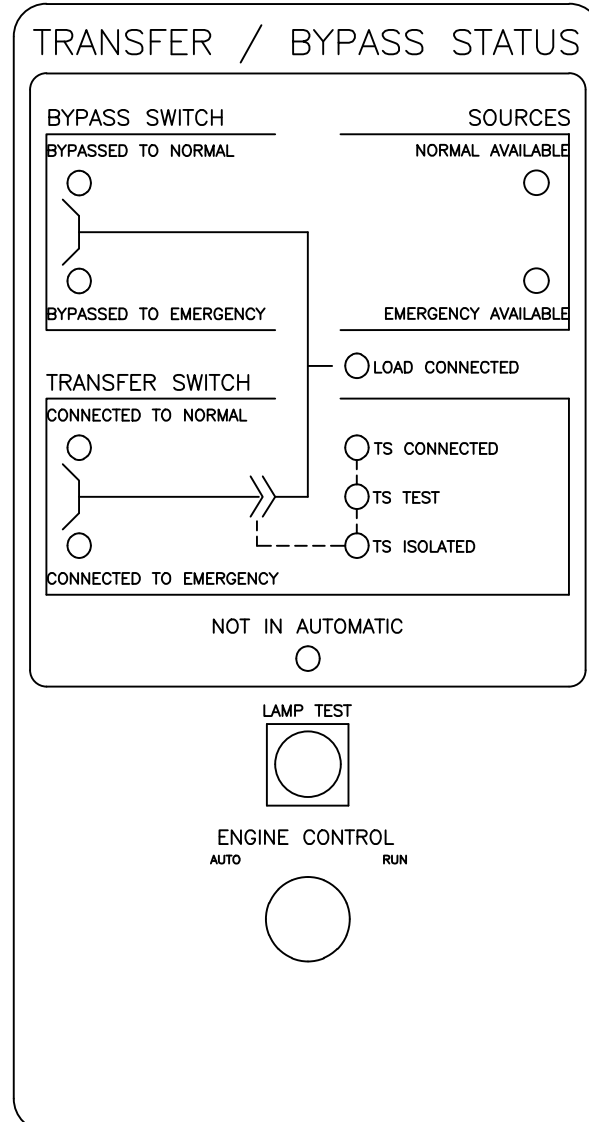
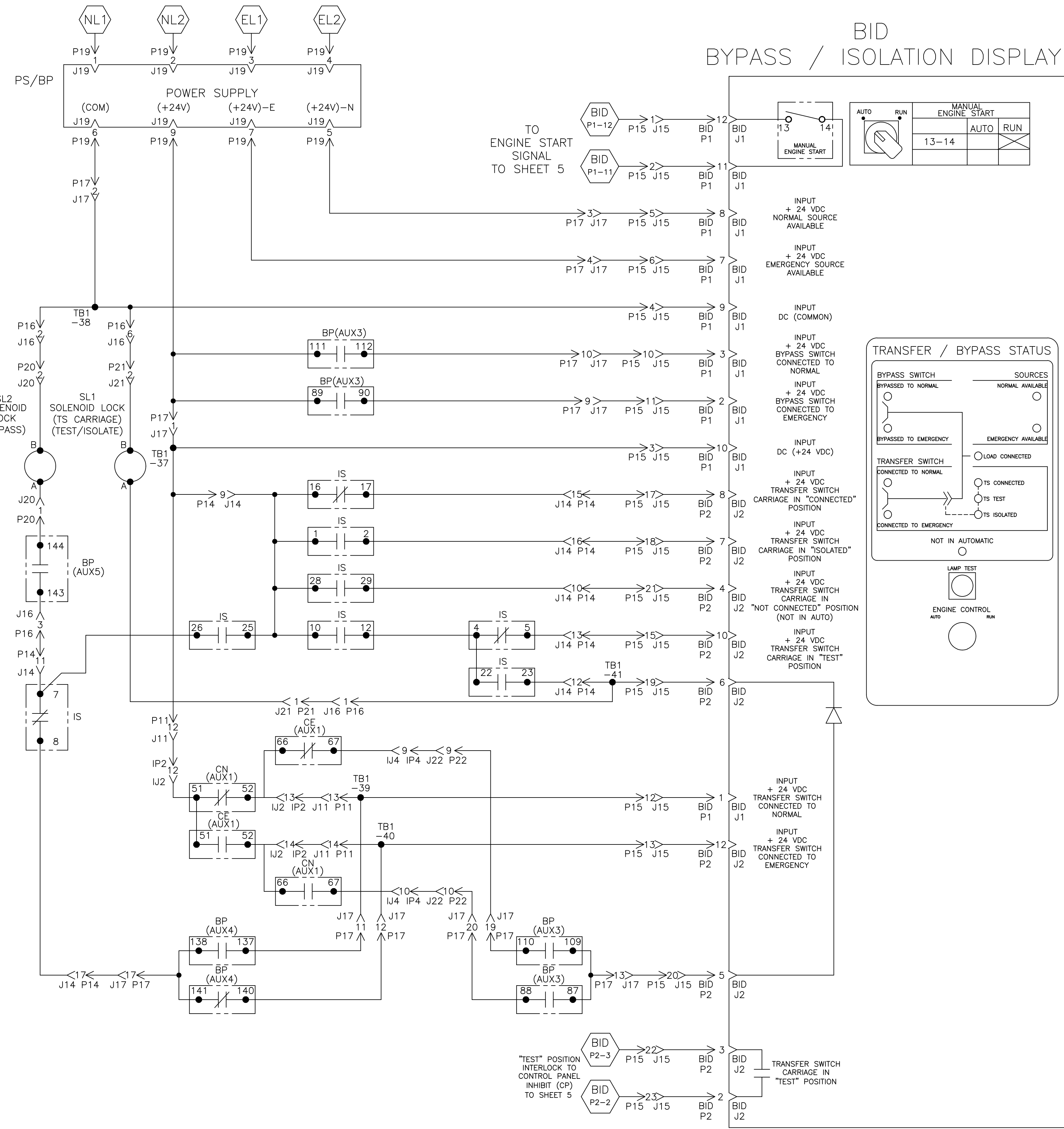
3

2

1

BYPASS / ISOLATION INTERLOCKING & INDICATION

BID
BYPASS / ISOLATION DISPLAY



G	290996	VDS	HSL	08/25/21
F	231060	TR	BK	03/11/11
E	210450	BWM	BK	10/24/06

PROJECT NAME:		DIAGRAM	
7000 SERIES (H7ADTB) 1PH 600-1200 AMPS			
"H" FRAME, GROUP 5 CONTROLS			
BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055	ASSEM. REF. NO.
BWM	9/03		
CHECKED		PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.	SCALE NONE SIZE DS
PROJECT APPROVAL			736946
FINAL APPROVAL	BK	9/03	ASCOS ASCO POWER TECHNOLOGIES, LP. FLORHAM PARK, NEW JERSEY 07932 U.S.A.

D

C

B

A

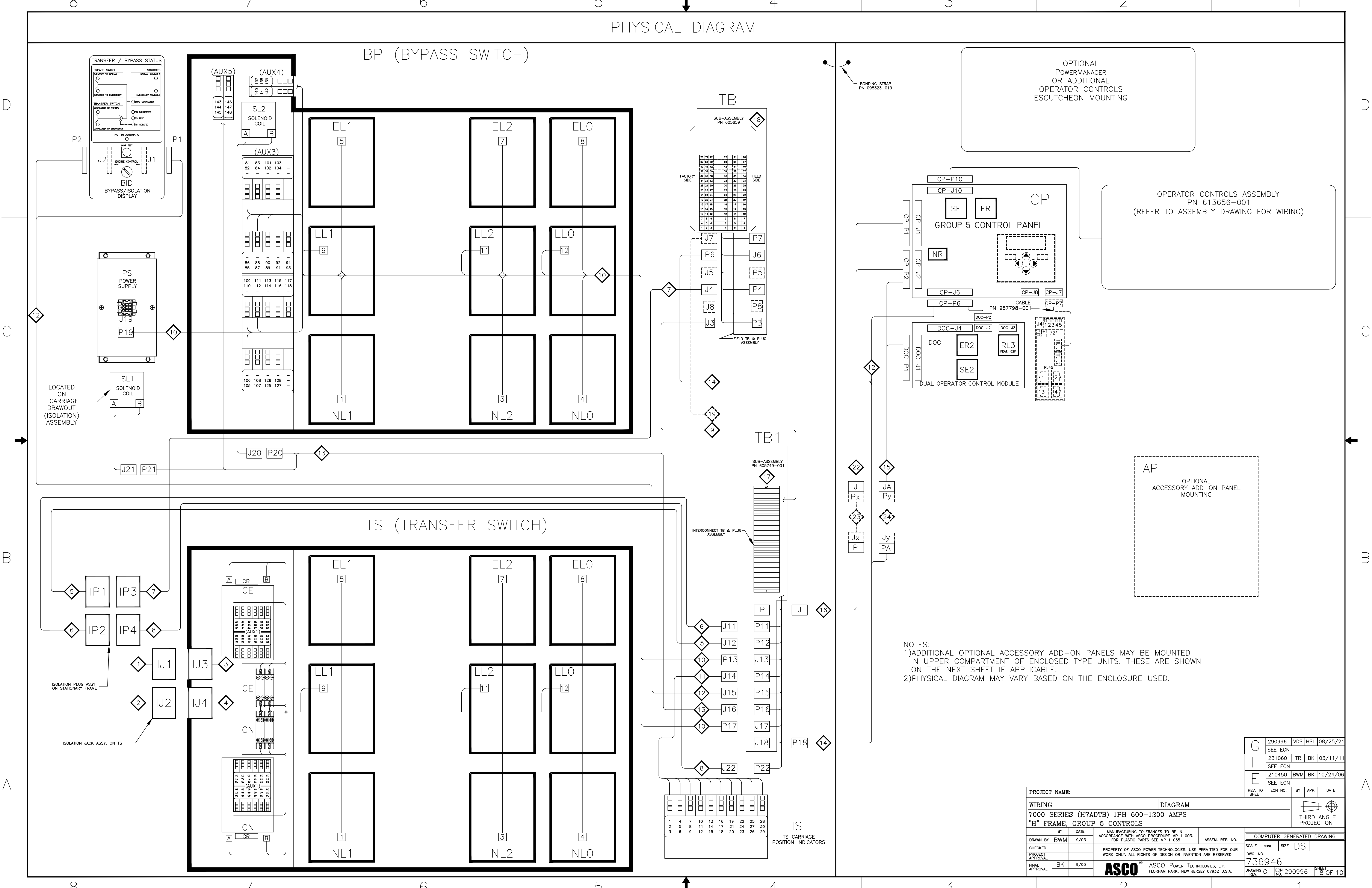
D

C

B

A

PHYSICAL DIAGRAM



NOTES:
 1) ADDITIONAL OPTIONAL ACCESSORY ADD-ON PANELS MAY BE MOUNTED IN UPPER COMPARTMENT OF ENCLOSED TYPE UNITS. THESE ARE SHOWN ON THE NEXT SHEET IF APPLICABLE.
 2) PHYSICAL DIAGRAM MAY VARY BASED ON THE ENCLOSURE USED.

REV. TO SHEET	ECN NO.	BY	APP.	DATE
G	290996	VDS	HSL	08/25/21
F	231060	TR	BK	03/11/11
E	210450	BWM	BK	10/24/06

PROJECT NAME:		DIAGRAM	
7000 SERIES (H7ADTB) 1PH 600-1200 AMPS			
"H" FRAME, GROUP 5 CONTROLS			
DRAWN BY	BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055
CHECKED	BWM	9/03	ASSEM. REF. NO.
PROJECT APPROVAL			PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.
FINAL APPROVAL	BK	9/03	COMPUTER GENERATED DRAWING
			SCALE NONE SIZE DS
			DWG. NO. 736946
			ASCO POWER TECHNOLOGIES, LP. FLORHAM PARK, NEW JERSEY 07932 U.S.A.
			DRAWING G ECN NO. 290996 SHEET 8 OF 10

WIRE RUN LISTING

Table 1: HARNESS LOCATOR 2 (J1) TS. WIRE No. 1-12, HARNESS 605674-001, CLR, AWG 16.

Table 2: HARNESS LOCATOR 4 (J4) TS. WIRE No. 228-421, HARNESS 736828-003-A, CLR, AWG 16.

Table 3: HARNESS LOCATOR 4 (IP3,J4) STATIONARY FRAME. WIRE No. 50-120, HARNESS 605674-006, CLR, AWG 16.

Table 4: HARNESS LOCATOR 2 (P13, P17, P19, BP) BP. WIRE No. 1-31, HARNESS 736828-003, CLR, AWG 16.

Table 5: HARNESS LOCATOR 2 (J15, BID-P1, BID-P2) BYPASS ISOLATION DISPLAY. WIRE No. 121-151, HARNESS 736883, CLR, AWG 22.

Table 6: HARNESS LOCATOR 5 (JA,CP-P2,DOC-P1) DOC. WIRE No. 228-325, HARNESS 619385, CLR, AWG 16.

Table 7: HARNESS LOCATOR 2 (J2) TS. WIRE No. 1-28, HARNESS 736828-001-A, CLR, AWG 16.

Table 8: HARNESS LOCATOR 5. WIRE No. 326-339, HARNESS 605674-006-A (IP1,J12) STATIONARY FRAME, CLR, AWG 16.

Table 9: HARNESS LOCATOR 8. WIRE No. 326-421, HARNESS 605674-006-B (IP4,J22) STATIONARY FRAME, CLR, AWG 16.

Table 10: HARNESS LOCATOR 2 (J16, P20, P21) BP/IS INTERLOCKS. WIRE No. 154-192, HARNESS 736828-005, CLR, AWG 16.

Table 11: HARNESS LOCATOR 4. WIRE No. 210-317, HARNESS 736828-004-A (PA,P6,P18,CP-P6,DOC-P2,TFR) INTERNAL CONTROL & FIELD INPUTS, CLR, AWG 22.

Table 12: HARNESS LOCATOR 6. WIRE No. 310-317, HARNESS 309320-006 (P,J) CONTROL PANEL EXTENSION, CLR, AWG 16.

Table 13: HARNESS LOCATOR 3. WIRE No. 50-67, HARNESS 736828-002-A (J3) TS, CLR, AWG 16.

Table 14: HARNESS LOCATOR 6. WIRE No. 1-43, HARNESS 605674-006-A (IP2,J11) STATIONARY FRAME, CLR, AWG 16.

Table 15: HARNESS LOCATOR 9. WIRE No. 120-123, HARNESS 605674-007-A (J3,TB1) ENGINE START, CLR, AWG 16.

Table 16: HARNESS LOCATOR 1. WIRE No. 150-167, HARNESS 736828-006 (J14,IS) ISOLATION AUX. CONTACTS, CLR, AWG 16.

Table 17: HARNESS LOCATOR 4. WIRE No. 215-263, HARNESS 736828-004-A (PA,P6,P18,CP-P6,DOC-P2,TFR) INTERNAL CONTROL & FIELD INPUTS, CLR, AWG 22.

Table 18: HARNESS LOCATOR 4. WIRE No. 316-317, HARNESS 736828-005 (J16, P20, P21) BP/IS INTERLOCKS, CLR, AWG 16.

Table 19: HARNESS LOCATOR 3. WIRE No. 68-73, HARNESS 736828-002-A (J3) TS, CLR, AWG 16.

Table 20: HARNESS LOCATOR 6. WIRE No. 1-43, HARNESS 605674-006-A (IP2,J11) STATIONARY FRAME, CLR, AWG 16.

Table 21: HARNESS LOCATOR 9. WIRE No. 122-123, HARNESS 605674-007-A (J3,TB1) ENGINE START, CLR, AWG 16.

Table 22: HARNESS LOCATOR 1. WIRE No. 159-167, HARNESS 736828-006 (J14,IS) ISOLATION AUX. CONTACTS, CLR, AWG 16.

Table 23: HARNESS LOCATOR 4. WIRE No. 215-263, HARNESS 736828-004-A (PA,P6,P18,CP-P6,DOC-P2,TFR) INTERNAL CONTROL & FIELD INPUTS, CLR, AWG 22.

Table 24: HARNESS LOCATOR 4. WIRE No. 316-317, HARNESS 736828-005 (J16, P20, P21) BP/IS INTERLOCKS, CLR, AWG 16.

Table 25: HARNESS LOCATOR 3. WIRE No. 68-73, HARNESS 736828-002-A (J3) TS, CLR, AWG 16.

Table 26: HARNESS LOCATOR 6. WIRE No. 1-43, HARNESS 605674-006-A (IP2,J11) STATIONARY FRAME, CLR, AWG 16.

Table 27: HARNESS LOCATOR 9. WIRE No. 122-123, HARNESS 605674-007-A (J3,TB1) ENGINE START, CLR, AWG 16.

Table 28: HARNESS LOCATOR 1. WIRE No. 159-167, HARNESS 736828-006 (J14,IS) ISOLATION AUX. CONTACTS, CLR, AWG 16.

Table 29: HARNESS LOCATOR 4. WIRE No. 215-263, HARNESS 736828-004-A (PA,P6,P18,CP-P6,DOC-P2,TFR) INTERNAL CONTROL & FIELD INPUTS, CLR, AWG 22.

Table 30: HARNESS LOCATOR 4. WIRE No. 316-317, HARNESS 736828-005 (J16, P20, P21) BP/IS INTERLOCKS, CLR, AWG 16.

Table 31: HARNESS LOCATOR 3. WIRE No. 68-73, HARNESS 736828-002-A (J3) TS, CLR, AWG 16.

Table 32: HARNESS LOCATOR 6. WIRE No. 1-43, HARNESS 605674-006-A (IP2,J11) STATIONARY FRAME, CLR, AWG 16.

Table 33: HARNESS LOCATOR 9. WIRE No. 122-123, HARNESS 605674-007-A (J3,TB1) ENGINE START, CLR, AWG 16.

Table 34: HARNESS LOCATOR 1. WIRE No. 159-167, HARNESS 736828-006 (J14,IS) ISOLATION AUX. CONTACTS, CLR, AWG 16.

Table 35: HARNESS LOCATOR 4. WIRE No. 215-263, HARNESS 736828-004-A (PA,P6,P18,CP-P6,DOC-P2,TFR) INTERNAL CONTROL & FIELD INPUTS, CLR, AWG 22.

Table 36: HARNESS LOCATOR 4. WIRE No. 316-317, HARNESS 736828-005 (J16, P20, P21) BP/IS INTERLOCKS, CLR, AWG 16.

Table 37: HARNESS LOCATOR 3. WIRE No. 68-73, HARNESS 736828-002-A (J3) TS, CLR, AWG 16.

Table 38: HARNESS LOCATOR 6. WIRE No. 1-43, HARNESS 605674-006-A (IP2,J11) STATIONARY FRAME, CLR, AWG 16.

Table 39: HARNESS LOCATOR 9. WIRE No. 122-123, HARNESS 605674-007-A (J3,TB1) ENGINE START, CLR, AWG 16.

Table 40: HARNESS LOCATOR 1. WIRE No. 159-167, HARNESS 736828-006 (J14,IS) ISOLATION AUX. CONTACTS, CLR, AWG 16.

Table 41: HARNESS LOCATOR 4. WIRE No. 215-263, HARNESS 736828-004-A (PA,P6,P18,CP-P6,DOC-P2,TFR) INTERNAL CONTROL & FIELD INPUTS, CLR, AWG 22.

Table 42: HARNESS LOCATOR 4. WIRE No. 316-317, HARNESS 736828-005 (J16, P20, P21) BP/IS INTERLOCKS, CLR, AWG 16.

Project information block including: PROJECT NAME: WIRING DIAGRAM, 7000 SERIES (H7ADTB) 1PH 600-1200 AMPS 'H' FRAME, GROUP 5 CONTROLS. Includes revision table, drawing details, and manufacturer information (ASCO POWER TECHNOLOGIES, L.P.).

WIRE RUN LISTING

← HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED		
WIRE No.	SUB-ASSEMBLY 605749-001 (TBI,P,P11,P12,J13,P14,P15,P16,J17,J18) MAIN INTERCONNECT ASSEMBLY	CLR	AWG	
1	P-2,P11-7		16	
21	P-3,P11-2			
3	P-4,TB1-15			
5	P-5,P11-8			
7	P-6,TB1-19			
5	P-7,TB1-17			
120	P-8,TB1-31			
38	P-9,TB1-30			
28	P-10,P11-9			
2	P-11,TB1-14			
1	P-12,TB1-13			
30	P-13,P11-10			
29	P-14,P11-11			
24	P-16,P11-5			
6	P-18,TB1-18			
9	P-19,TB1-21			
10	P-20,TB1-22			
11	P-21,TB1-23			
4	P-22,TB1-16			
8	P-23,TB1-20			
12	P-24,TB1-24			
1	P11-1,TB1-13			
3	P11-3,TB1-15			
5	P11-4,TB1-17			
7	P11-6,TB1-19			
31	P11-12,TB1-37			
32	P11-13,TB1-39			
33	P11-14,TB1-40			
34	P11-15,TB1-34			
35	P11-16,TB1-35			
36	P11-17,TB1-36			
120	P11-18,TB1-31			
38	P11-19,TB1-30			
39	P11-20,P-			
40	P11-21,P-15			
1	P12-1,TB1-1			
1	P12-2,TB1-13			
2	P12-3,TB1-2			
2	P12-4,TB1-14			
3	P12-5,TB1-3			
3	P12-6,TB1-15			
4	P12-7,TB1-4			
4	P12-8,TB1-16			
5	P12-9,TB1-5			
6	P12-10,TB1-17			
6	P12-11,TB1-6			
6	P12-12,TB1-18			
7	P12-13,TB1-7			
7	P12-14,TB1-19			
8	P12-15,TB1-8			
8	P12-16,TB1-20			
9	P12-17,TB1-9			
9	P12-18,TB1-21			
10	P12-19,TB1-10			
10	P12-20,TB1-22			
11	P12-21,TB1-11			
11	P12-22,TB1-23			
12	P12-23,TB1-12			
12	P12-24,TB1-24			
1	J13-1,TB1-1			
2	J13-2,TB1-2			
3	J13-3,TB1-3			
4	J13-4,TB1-4			
5	J13-5,TB1-5			
6	J13-6,TB1-6			
7	J13-7,TB1-7			
8	J13-8,TB1-8			
9	J13-9,TB1-9			
10	J13-10,TB1-10			
11	J13-11,TB1-11			
12	J13-12,TB1-12			
151	P14-4,TB1-28			
38	P14-5,TB1-30			
121	P14-6,TB1-32			
31	P14-9,TB1-37			
153	P14-11,P16-3			
154	P14-12,TB1-41			
155	P14-13,P15-15			
157	P14-15,P15-17			
158	P14-16,P15-18			
190	P14-17,J17-17			
121	P15-1,TB1-32			
120	P15-2,TB1-33			
31	P15-3,TB1-37			
170	P15-4,TB1-38			
171	P15-5,J17-3			
172	P15-6,J17-4			
176	P15-10,J17-10			
177	P15-11,J17-9			
32	P15-12,TB1-39			
33	P15-13,TB1-40			
154	P15-19,TB1-41			
149	P15-20,J17-13			
152	P15-21,P14-10			
191	P15-22,TB1-26			
151	P15-23,TB1-28			
154	P16-1,TB1-41			
170	P16-2,TB1-38			
191	P16-4,TB1-26			
170	P16-6,TB1-38			
31	J17-1,TB1-37			
170	J17-2,TB1-38			
32	J17-11,TB1-39			
33	J17-12,TB1-40			
121	J17-21,TB1-32			
120	J17-22,TB1-33			
150	J17-23,P16-5			
150	J17-24,P14-3			

← HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED		
WIRE No.	SUB-ASSEMBLY 605749-001 (TBI,P,P11,P12,J13,P14,P15,P16,J17,J18) MAIN INTERCONNECT ASSEMBLY (CONTINUED...)	CLR	AWG	
210	J18-1,TB1-27		16	
191	J18-2,TB1-26			
211	J18-3,TB1-29			
210	J18-4,TB1-27			
151	J18-5,TB1-28			
211	J18-6,TB1-29			
120	TB1-31,TB1-33			
REMOVE WIRES				
2	P-11,TB1-14			
6	P-18,TB1-18			
10	P-20,TB1-22			
312	P-17			
ADD WIRES				
41	P11-22			
42	P11-23			
43	P11-24			
26	J13-13			
140	J13-14			
27	J13-15			
340	J13-16			
341	J13-17			
342	J13-18			
343	J13-19			
344	J13-20			
345	J13-21			
346	J13-22			
347	J13-23			
348	J13-24			
159	P14-1			
27	P14-2			
169	P14-7			
168	P14-8			
156	P14-14			
161	P14-18			
162	P14-19			
163	P14-20			
164	P14-21			
165	P14-22			
166	P14-23			
167	P14-24			
173	P15-7			
174	P15-8			
175	P15-9			
178	P15-14			
156	P15-16			
400	P15-24			
401	P16-7			
402	P16-8			
403	P16-9			
404	P16-10			
405	P16-11			
406	P16-12			
407	P16-13			
408	P16-14			
409	P16-15			
410	P16-16			
411	P16-17			
412	P16-18			
413	P16-19			
414	P16-20			
415	P16-21			
416	P16-22			
417	P16-23			
418	P16-24			
173	J17-5			
174	J17-6			
157	J17-7			
175	J17-8			
178	J17-14			
419	J17-15			
188	J17-16			
155	J17-18			
420	J17-19,P22-9			
421	J17-20,P22-10			
215	J18-7			
216	J18-8			
217	J18-9			
218	J18-10			
219	J18-11			
220	J18-12			
221	J18-13			
222	J18-14			
324	J18-15,P22-7			
325	J18-16,P22-8			
36	J18-17			
35	J18-18			
227	J18-19,P22-1			
228	J18-20,P22-2			
320	J18-21,P22-3			
322	J18-22,P22-4			
321	J18-23,P22-5			
323	J18-24,P22-6			

← HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED		
WIRE No.	SUB-ASSEMBLY 605659 (P3,P4,J6,P7,TB) STD. FIELD TB	CLR	AWG	
120	TB-1,P3-1		16	
121	TB-2,P3-2			
122	TB-3,P3-3			
50	TB-4,P4-1			
51	TB-5,P4-2			
52	TB-6,P4-3			
53	TB-7,P4-4			
54	TB-8,P4-5			
55	TB-9,P4-6			
56	TB-10,P4-7			
57	TB-11,P4-8			
58	TB-12,P4-9			
59	TB-13,P4-10			
61	TB-14,P4-12			
60	TB-15,P4-11			
62	TB-16,P4-13			
64	TB-17,P4-15			
63	TB-18,P4-14			
65	TB-19,P4-16			
67	TB-20,P4-18			
66	TB-21,P4-17			
68	TB-22,P4-19			
70	TB-23,P4-21			
69	TB-24,P4-20			
71	TB-25,P4-22			
73	TB-26,P4-24			
72	TB-27,P4-23			
210	TB-28,J6-1			
151	TB-29,J6-2			
211	TB-30,J6-3			
243	TB-31,J6-4			
244	TB-32,J6-5			
270	TB-34,P7-1			
271	TB-35,P7-2			
272	TB-36,P7-3			
JUMPERS				
	TB-28,TB-29			
	TB-29,TB-30			
ADD WIRES				
123	P3-4			
245	J6-6			
246	J6-7			
247	J6-8			
248	J6-9			
249	J6-10			
250	J6-11			
251	J6-12			
252	J6-13			
253	J6-14			
254	J6-15			
255	J6-16			
256	J6-17			
257	J6-18			
258	J6-19			
259	J6-20			
260	J6-21			
261	J6-22			
262	J6-23			
263	J6-24			
273	P7-4			
274	P7-5			
275	P7-6			
276	P7-7			
277	P7-8			
278	P7-9			
279	P7-10			
280	P7-11			
281	P7-12			
282	P7-13			
283	P7-14			
284	P7-15			
285	P7-16			
286	P7-17			
287	P7-18			
288	P7-19			
289	P7-20			
290	P7-21			
291	P7-22			
292	P7-23			
293	P7-24			

← HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED		
WIRE No.	HARNESS 483763 (J,CP-P1,CP-P2) CONTROL PANEL	CLR	AWG	
14	J-2,CP-P1-8		16	
21	J-3,CP-P1-2			
3	J-4,CP-P1-4			
15	J-5,CP-P1-17			
7	J-6,CP-P1-12			
5	J-7,CP-P1-7			
37	J-8,CP-P2-2			
38	J-9,CP-P2-3			
28	J-10,CP-P2-8			
2	J-11,CP-P1-10			
1	J-12,CP-P1-1			
30	J-13,CP-P2-9			
29	J-14,CP-P2-10			
40	J-15,CP-P1-5			
24	J-16,CP-P1-13			
312	J-17,CP-P2-1			
6	J-18,CP-P1-14			
ADD WIRE				
9	J-19			
10	J-20			
11	J-21			
4	J-22			
8	J-23			
12	J-24			

← HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED		
WIRE No.	HARNESS 309320-005 OPTIONAL 8 IN. EXTENSION HARNESS	CLR	AWG	
39	Jx-1,Px-1		16	
14	Jx-2,Px-2			
21	Jx-3,Px-3			