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THREE PHASE WIRING FOR **ASCO**® 7000 SERIES AUTOMATIC DELAYED TRANSITION TRANSFER & BYPASS-ISOLATION SWITCHES TYPE J7ADTB RATED 150-600 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:
1. ENABLE OR DISABLE THE ROUTINE
 2. ENABLE OR DISABLE TRANSFER OF THE LOAD DURING THE ROUTINE
 3. SET START TIME OF ROUTINE -
 - TIME OF DAY
 - DAY OF WEEK
 - WEEK OF MONTH (1st, 2nd, 3rd, 4th, ALTERNATE OR ALL)
 4. 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		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

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.

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 CLOSSES 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 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).

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) POSITIONS:

"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

1. 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.
2. DEVICE SYMBOLS AND DESIGNATIONS ARE IN ACCORDANCE WITH NEMA PUBLICATION ICS 1-1983, PART 1-101A.
3. ALL WIRING IS #16 AWG, TINNED, STRANDED COPPER UNLESS OTHERWISE INDICATED.
4. O ON TERMINAL BLOCKS INDICATES AVAILABLE FIELD CONNECTION POINT.
5. ● ON TERMINAL BLOCKS INDICATES FACTORY CONNECTION POINT.
6. CONTROL AND ACCESSORY WIRING IS ROUTED IN ACCORDANCE WITH ASCO ASSEMBLY PROCEDURE GS451261.
7. 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		VOLTAGE CODES 3 PHASE (3 OR 4 WIRE) 50 OR 60 HZ		ENCLOSURE CODES					
								CODE	DESCRIPTION	CODE	NOMINAL VOLTAGE	CODE	TYPE	DESCRIPTION			
J7ADTB	A	3	150	C	5	X	H	BLANK	NONE			BLANK		OPEN TYPE (NO ENCLOSURE)			
			200	D				A	SOLID			C	1	GENERAL PURPOSE, INDOOR			
			230	E				B	SWITCHING			E	2	INDOOR, WATER & DUST RESISTANT			
			260	F						C	208	F	3R	OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT			
			400	G						D	220	G	4	INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT			
			600	H						E	230	H	4X	TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL)			
				I						F	240	J	4X	TYPE 4 PLUS CORROSION RESISTANCE (FIBERGLASS)			
				J							380	K	7	EXPLOSION PROOF			
				K							400	L	12	INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT			
				L							415						
				M							440						
				N							460	M	3R	(SECURE ENCLOSURES)			
				O							480	N	4	OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT			
				P							550	P	4X	INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT			
				Q							575	Q	12	TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL)			
				R							600			INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT			
	B	3			5	X	H										
	BLANK FOR NONE																

CATALOG NUMBER _____

ASCO® CERTIFIED TO
S.O. _____

BY _____

DATE _____

FORM REV E

PROJECT NAME: _____

WIRING _____ DIAGRAM _____

7000 SERIES (J7ADTB) 3PH 150-600 AMPS

"J" 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.	COMPUTER GENERATED DRAWING				
DRAWN BY	JPB	10/12/06					SCALE	NONE	SIZE	DS
CHECKED			PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.				DWG. NO.	806099		
PROJECT APPROVAL							DRAWING REV.	E	ECN NO.	290974
FINAL APPROVAL	JPB	10/12/06	ASCO [®] ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.						SHEET	1 OF 10

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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				
101-102				
103-104				
105-106	●			
107-108				
109-110	●			
111-112	●			
113-114				
115-116				
117-118				
125-126				
127-128				

BYPASS SWITCH OPERATOR AUXILIARY CONTACTS

	BP AUXILIARY CONTACT	STATUS (*)	BP SWITCH HANDLE POSITION			
			NORMAL (CCW)		OFF	EMERGENCY (CW)
			BYPASS (±90°)	<> ±20°		<> ±20°
(AUX4)	140-141	●				
	140-142	●				
	146-147	●				
	146-148	●				
(AUX5)	137-138	●				
	137-139	●				
	143-144	●				
	143-145	●				

ISOLATION (TRANSFER SWITCH CARRIAGE POSITION) AUXILIARY CONTACTS

IS AUXILIARY CONTACT	STATUS (*)	TRANSFER SWITCH CARRIAGE POSITION				
		CONNECT	> <	TEST	> <	ISOLATE
1-2	●					
1-3	●					
4-5	●					
4-6	●					
7-8	●					
7-9	●					
10-11	●					
10-12	●					
13-14	●					
13-15	●					
16-17	●					
16-18	●					
19-20	●					
19-21	●					
22-23	●					
22-24	●					
25-26	●					
25-27	●					
28-29	●					
28-30	●					

(*) CONTACT AVAILABILITY STATUS:

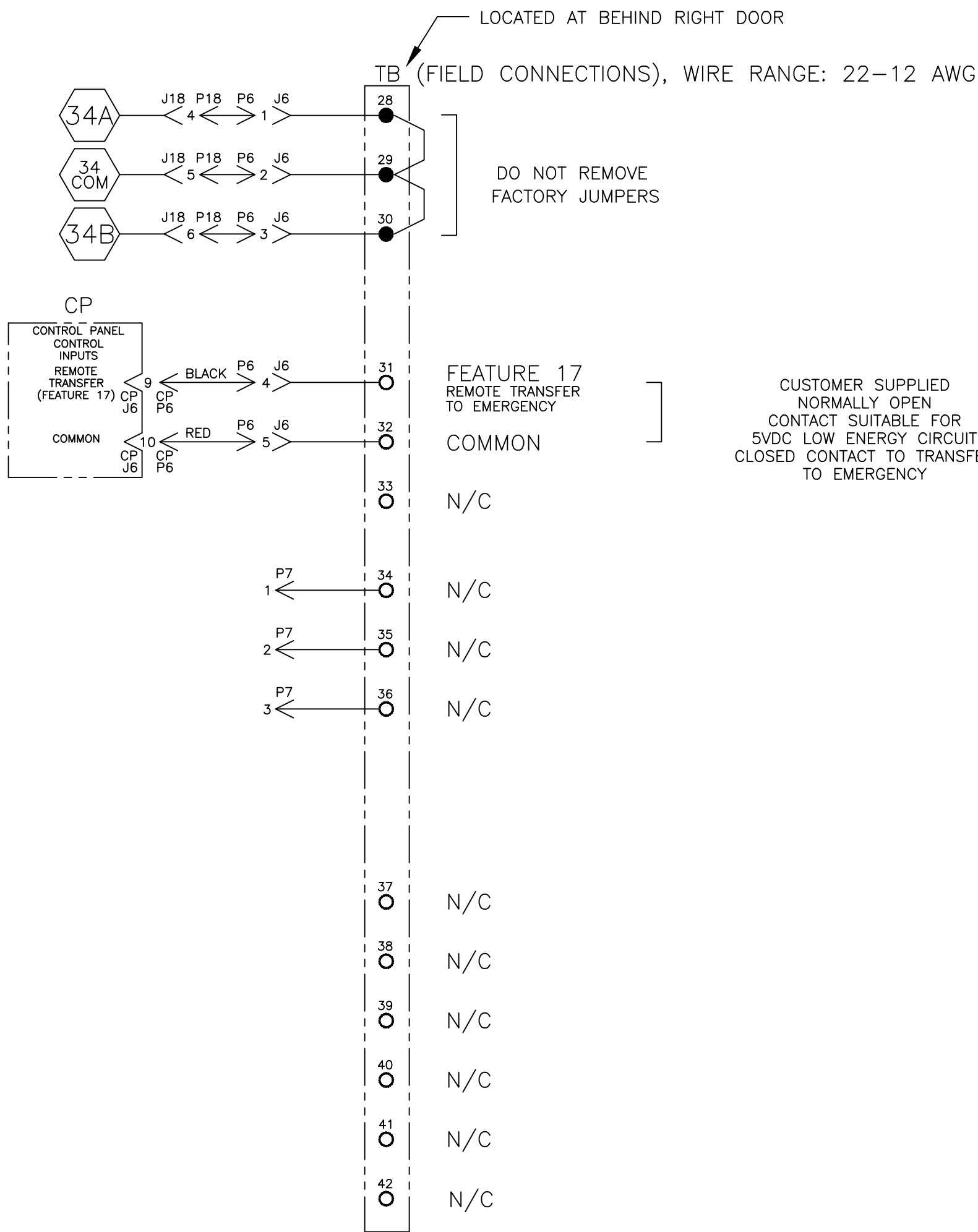
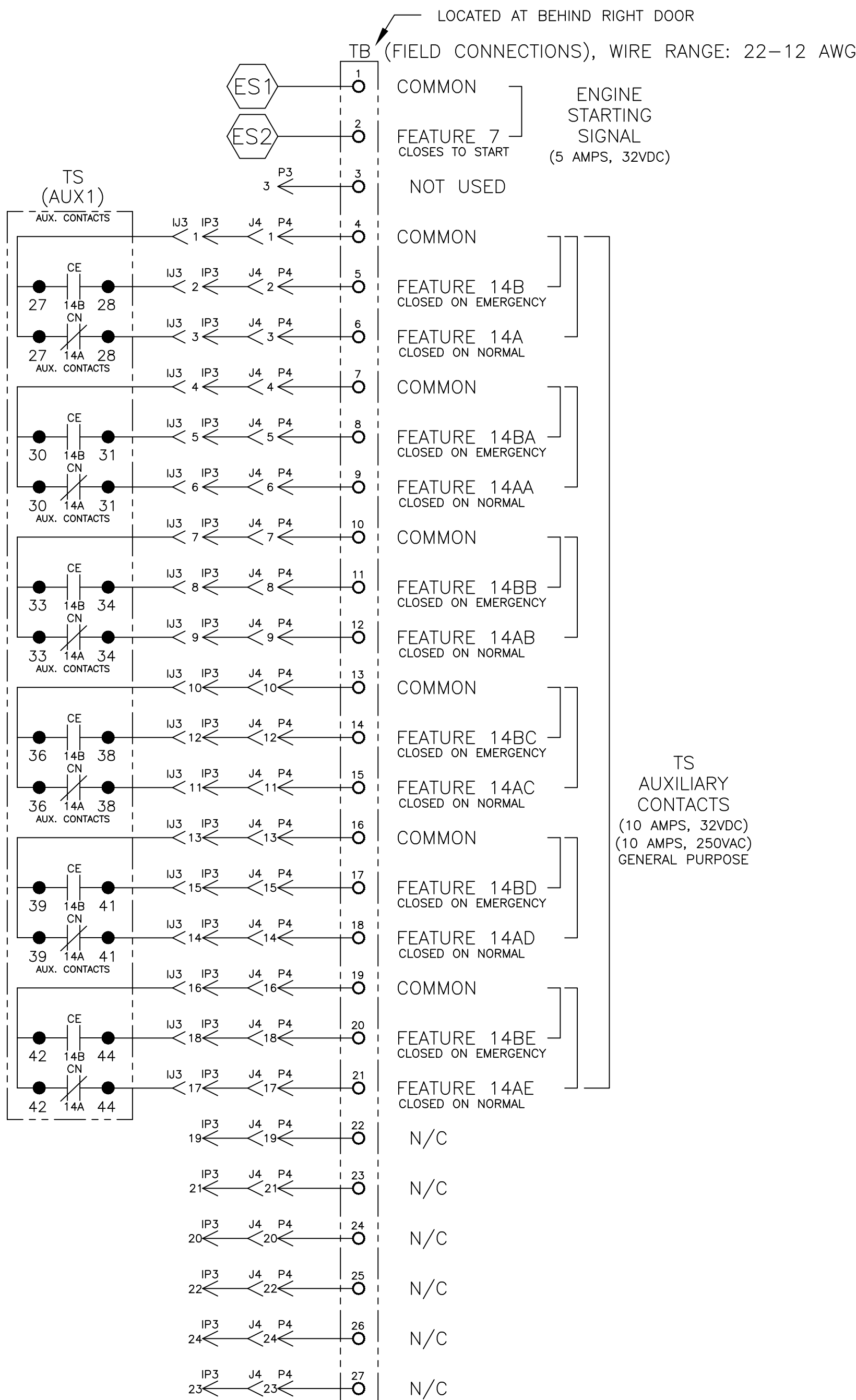
"●" CONTACT PROVIDED & USED IN CIRCUITRY

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

E	290974	AVK	HSL	08/24/21
	SEE ECN			
D	212251	MR	JPB	03/01/07
	SEE ECN			
C	211805	MR	JPB	01/30/07
	SEE ECN			
B	211529	MR	JPB	01/10/07
	SEE ECN			
A	210925	JPB	JPB	11/16/06
	SEE ECN			
—	210421	JPB	JPB	10/12/06
	ISSUE			

PROJECT NAME:				REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING				DIAGRAM				
7000 SERIES (J7ADTB) 3PH 150-600 AMPS								
"J" FRAME, GROUP 5 CONTROLS								
DRAWN BY		BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055		ASSEM. REF. NO.		COMPUTER GENERATED DRAWING
CHECKED		JPB	10/12/06	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								DWG. NO. 806099
FINAL APPROVAL		JPB	10/12/06	ASCOPower Technologies, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.				DRAWING REV. E ECN NO. 290974 SHEET 2 OF 10

FIELD CONNECTIONS



E	290974	AVK	HSL	08/24/21
SEE ECN				
D	212251	MR	JPB	03/01/07
SEE ECN				
C	211805	MR	JPB	01/30/07
SEE ECN				
B	211529	MR	JPB	01/10/07
SEE ECN				
A	210925	JPB	JPB	11/16/06
SEE ECN				
—	210421	JPB	JPB	10/12/06
ISSUE				

PROJECT NAME:				REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING				DIAGRAM				
7000 SERIES (J7ADTB) 3PH 150-600 AMPS								
"J" FRAME, GROUP 5 CONTROLS								
DRAWN BY	JPB	DATE	10/12/06	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055		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 SIZE DS
PROJECT APPROVAL						DWG. NO.		806099
FINAL APPROVAL	JPB	DATE	10/12/06	ASCO [®] ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.		DRAWING REV.		ECN NO. 290974
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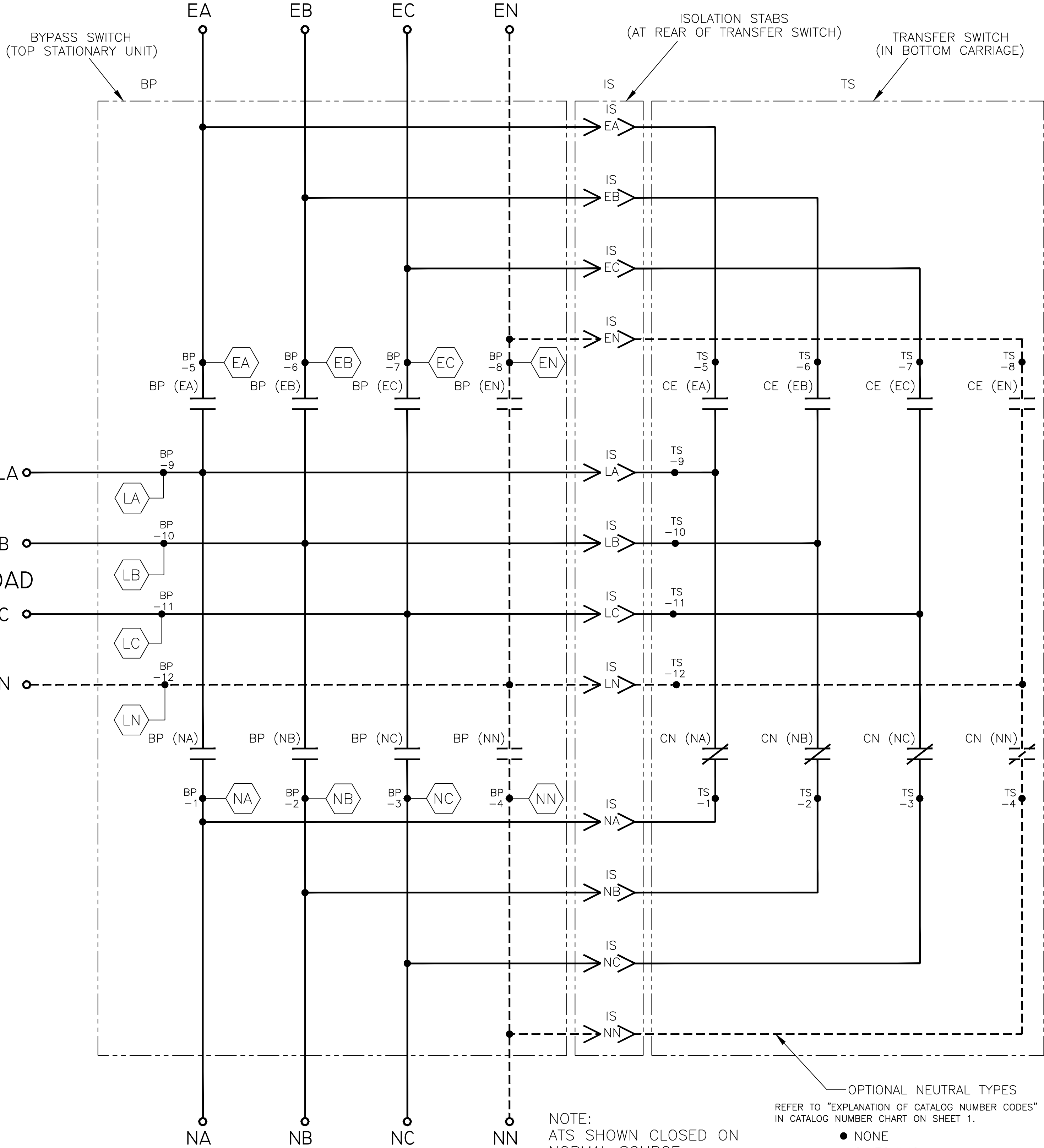
MAIN POWER POLES

TS OPERATOR CIRCUIT

EMERGENCY

NORMAL

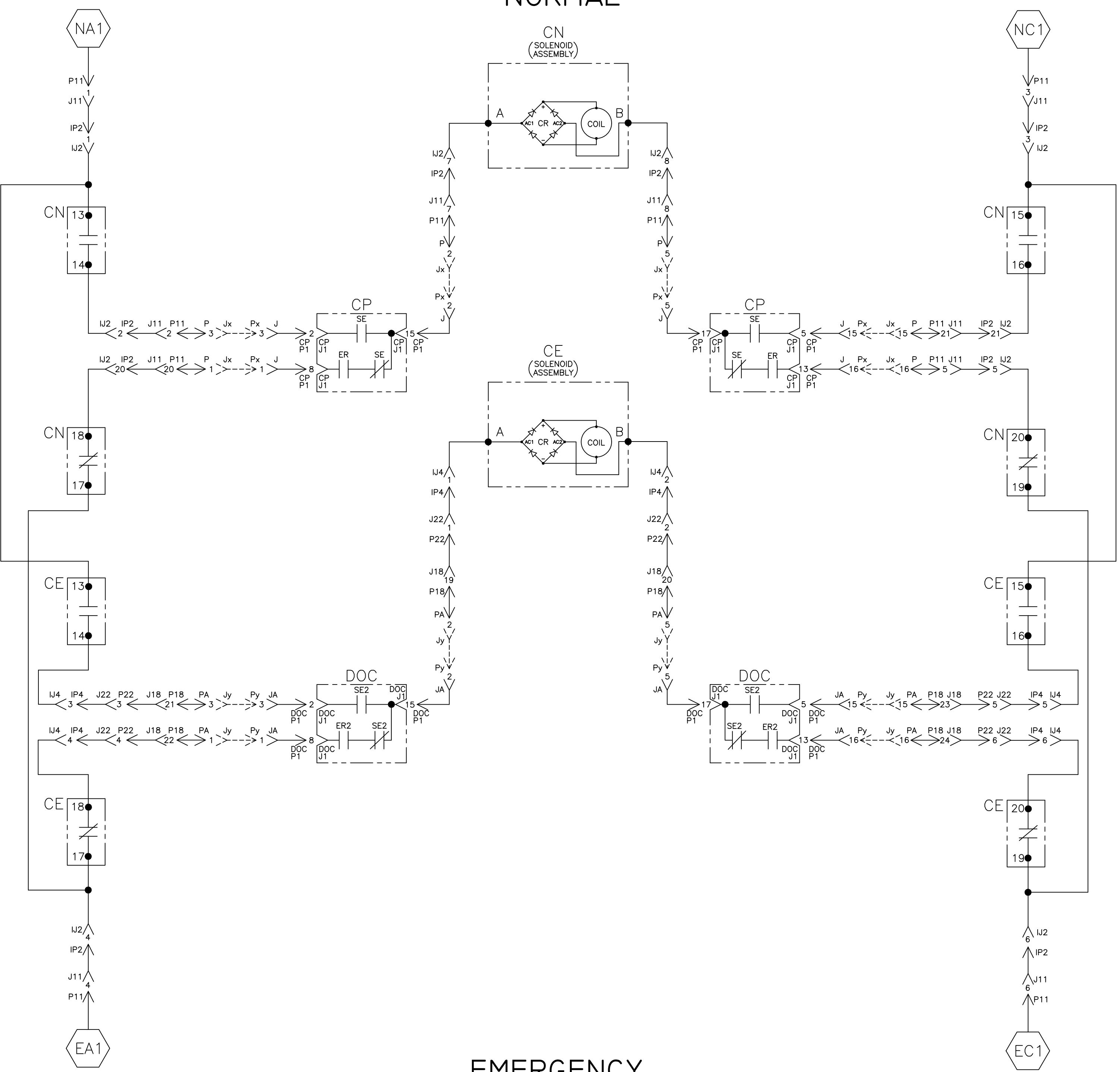
EMERGENCY



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
- SOLID BUS PLATE



CN CONTROL CONTACTS				
CN	SOLENOID POSITION			
	CN	BEFORE CLOSED	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 CONTROL CONTACTS				
CE	SOLENOID POSITION			
	CE	BEFORE CLOSED	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:		REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING		DIAGRAM				
7000 SERIES (J7ADTB) 3PH 150-600 AMPS						
"J" 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	
CHECKED	JPB	10/12/06			SCALE	NONE
PROJECT APPROVAL					SIZE	DS
FINAL APPROVAL	JPB	10/12/06			DWG. NO.	806099
					DRAWING REV.	ECN NO. 290974
						4 OF 10

THIRD ANGLE PROJECTION

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

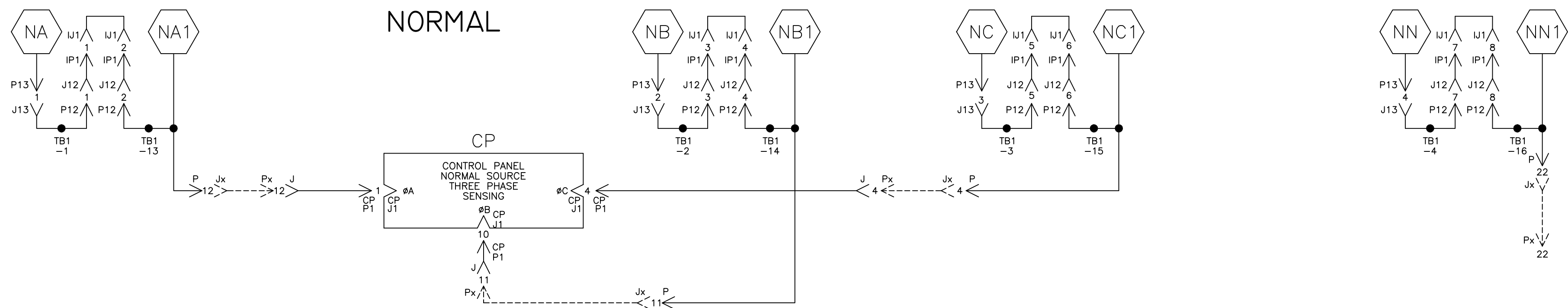
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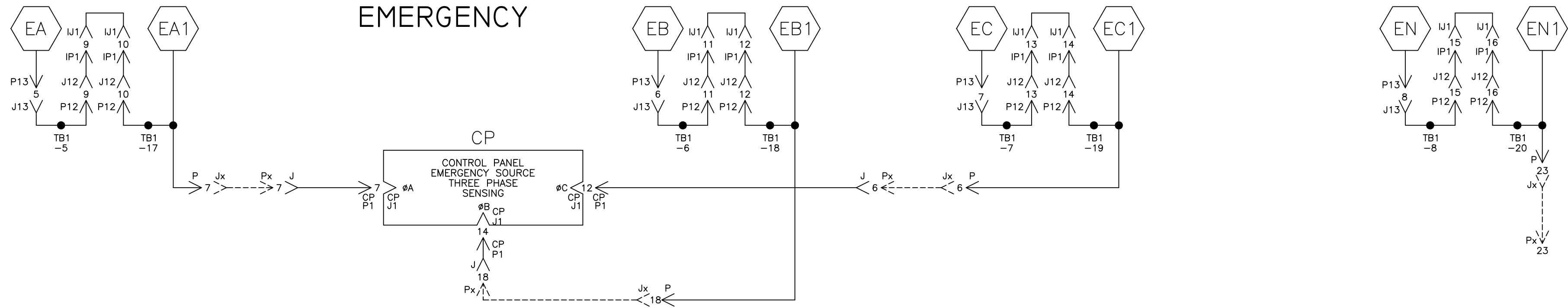
B

A

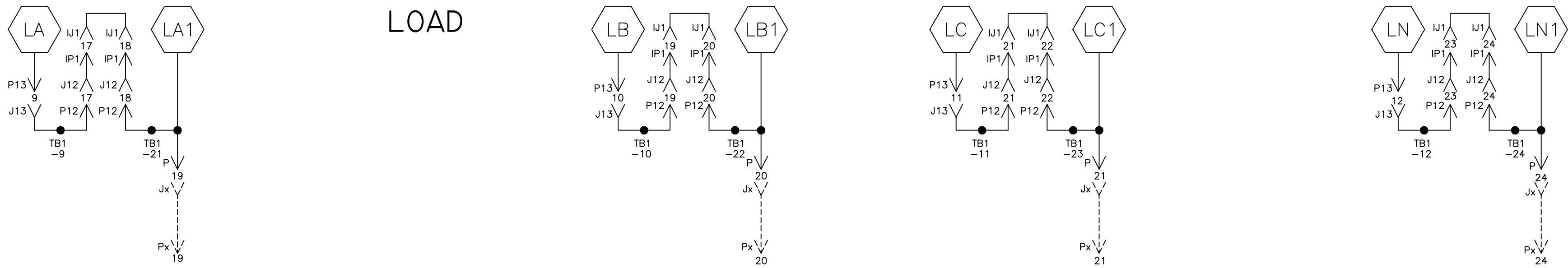
NORMAL SOURCE CIRCUITS



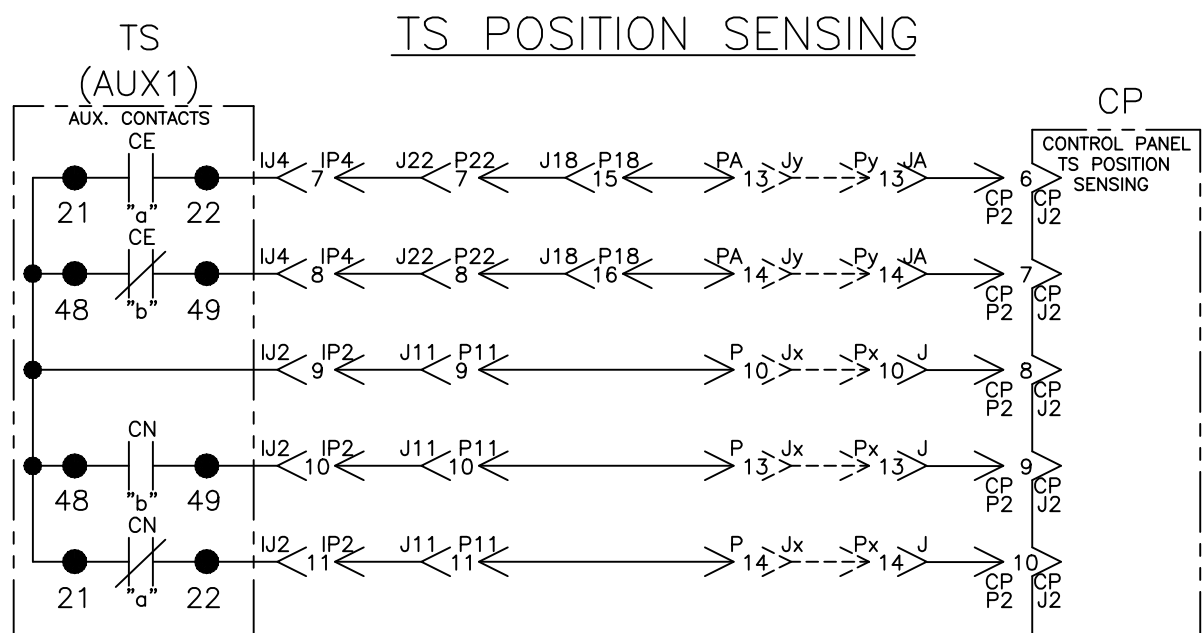
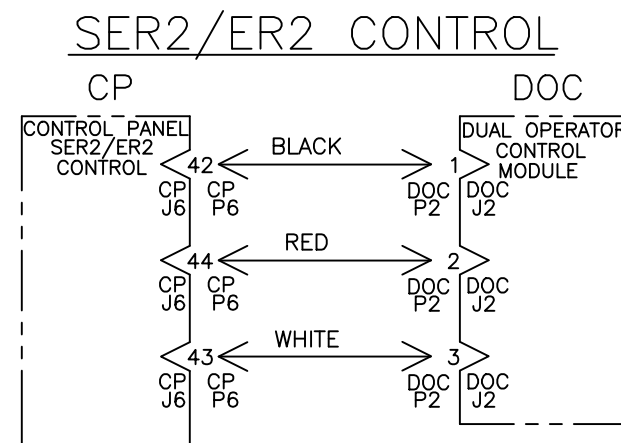
EMERGENCY SOURCE CIRCUITS



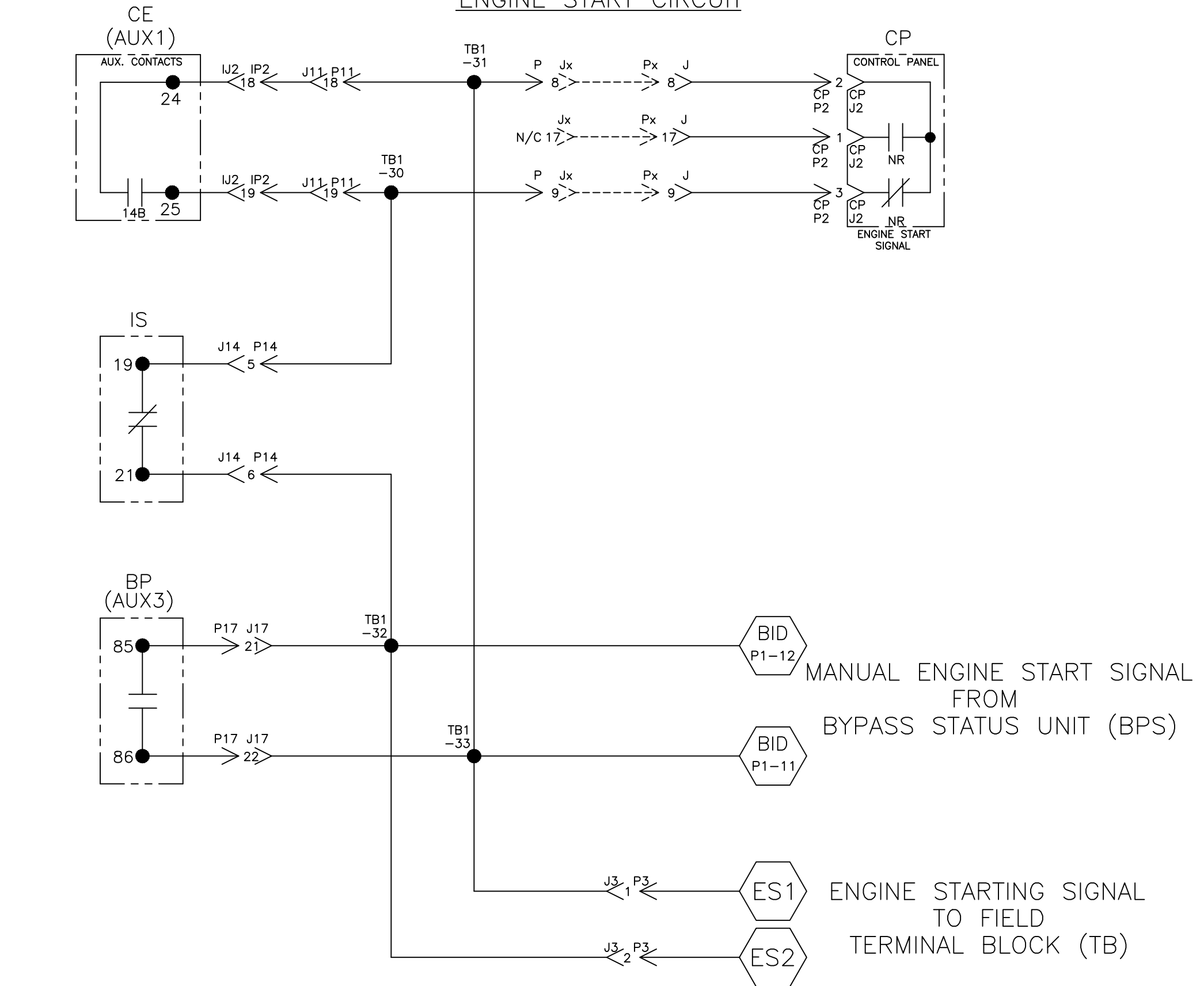
LOAD TERMINAL CIRCUITS



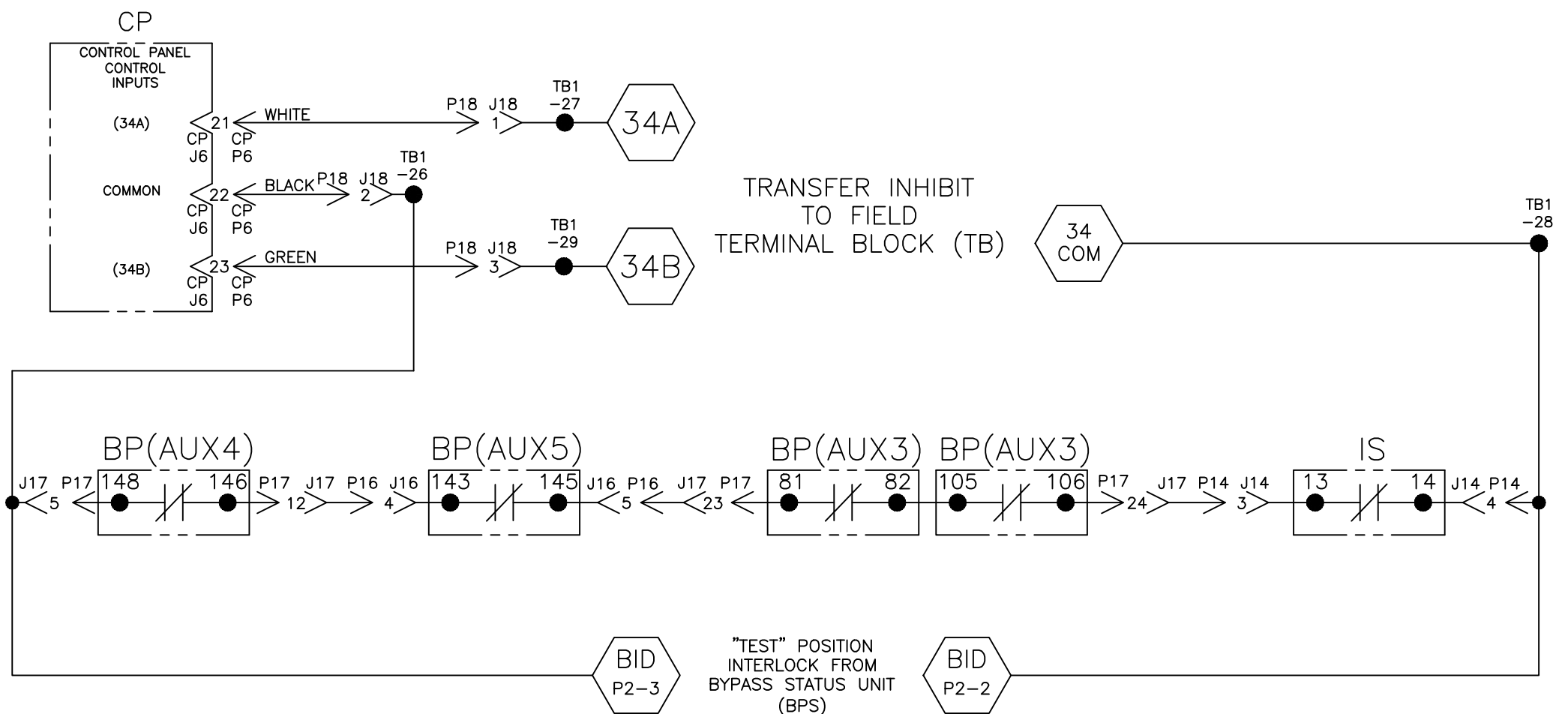
CONTROL SIGNALS & INDICATION



ENGINE START CIRCUIT



CONTROL PANEL/BYPASS-ISOLATION INTERLOCKS



PROJECT NAME:		REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING		DIAGRAM				
7000 SERIES (J7ADTB) 3PH 150-600 AMPS		"J" FRAME, GROUP 5 CONTROLS				
DRAWN BY	JPB	DATE	10/12/06	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055		ASSEM. REF. NO.
CHECKED				PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		
PROJECT APPROVAL				COMPUTER GENERATED DRAWING		
FINAL APPROVAL	JPB	DATE	10/12/06	SCALE	NONE	SIZE DS
806099		DWG. NO.		THIRD ANGLE PROJECTION		
ASCO		ASCO POWER TECHNOLOGIES, L.P.		DRAWING REV.		
FLORHAM PARK, NEW JERSEY 07932 U.S.A.		ECN NO. 290974		SHEET 5 OF 10		

D

C

B

A

D

C

B

A

ADDITIONAL CIRCUITS

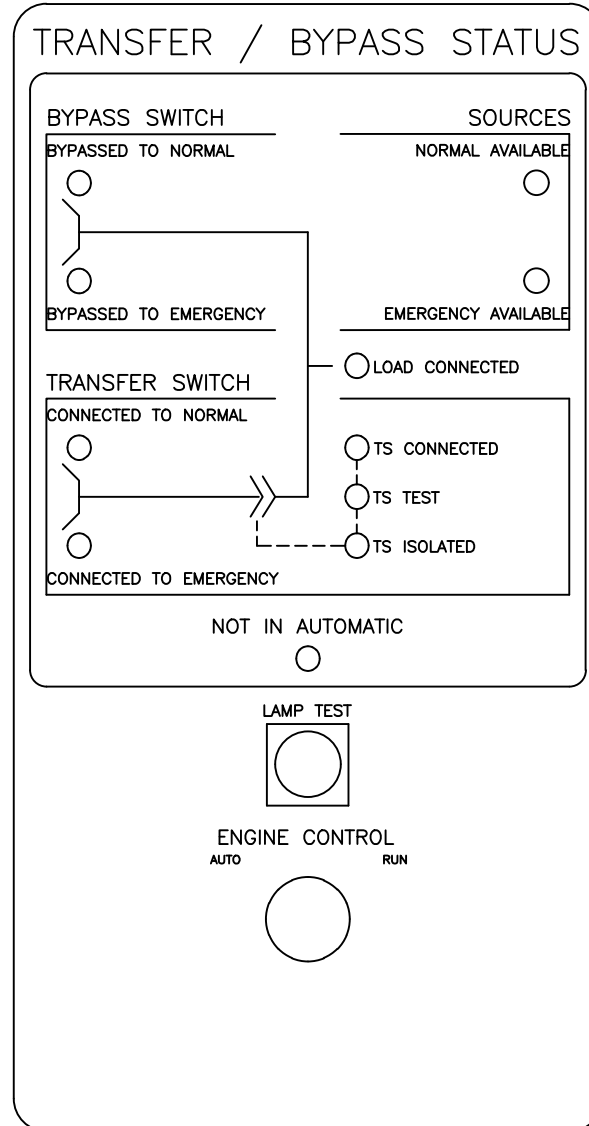
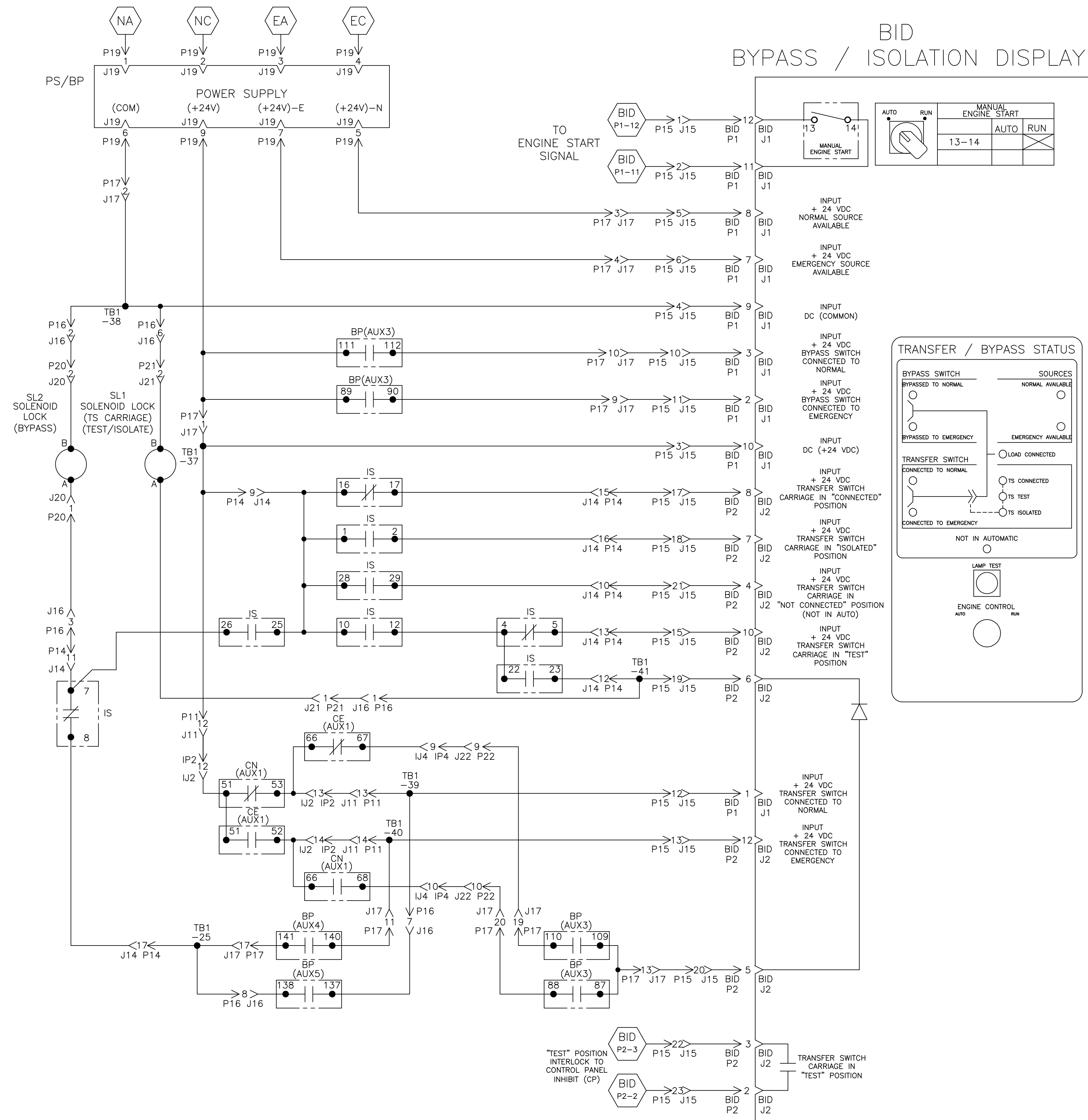
E	290974	AVK	HSL	08/24/21
SEE ECN				
D	212251	MR	JPB	03/01/07
SEE ECN				
C	211805	MR	JPB	01/30/07
SEE ECN				
B	211529	MR	JPB	01/10/07
SEE ECN				
A	210925	JPB	JPB	11/16/06
SEE ECN				
—	210421	JPB	JPB	10/12/06
ISSUE				

PROJECT NAME:		REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING		DIAGRAM				
7000 SERIES (J7ADTB) 3PH 150–600 AMPS						
"J" FRAME, GROUP 5 CONTROLS						
DRAWN BY	JPB	DATE	10/12/06		MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055	
CHECKED					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	JPB	DATE	10/12/06		COMPUTER GENERATED DRAWING	
					SCALE NONE SIZE DS	
					DWG. NO. 806099	
					DRAWING REV. E ECN NO. 290974 SHEET 6 OF 10	

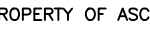


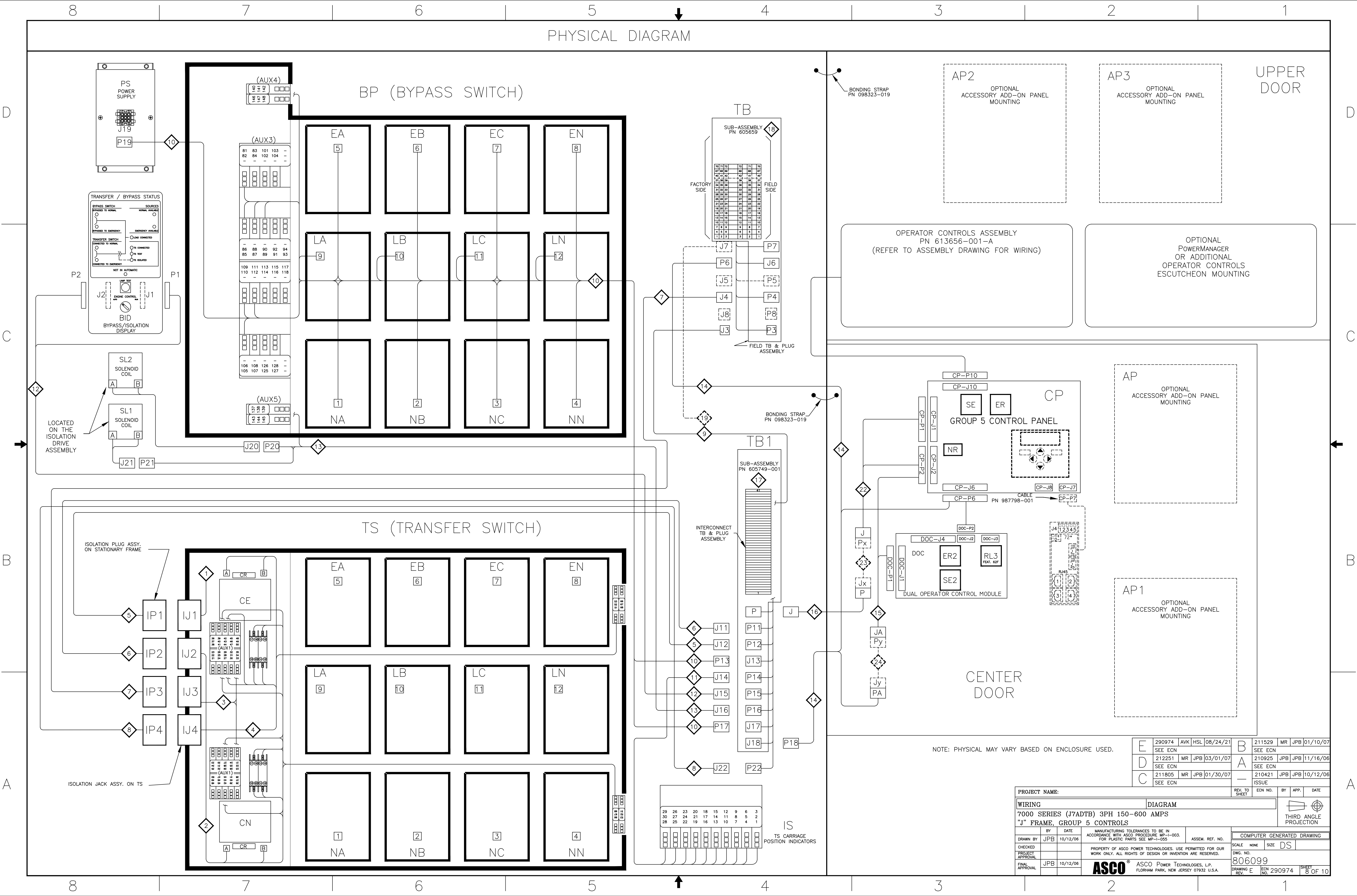
ASCO[®] ASCO POWER TECHNOLOGIES, L.P.
FLORHAM PARK, NEW JERSEY 07932 U.S.A.

BYPASS / ISOLATION INTERLOCKING & INDICATION



E	290974	AVK	HSL	08/24/21
	SEE ECN			
D	212251	MR	JPB	03/01/07
	SEE ECN			
C	211805	MR	JPB	01/30/07
	SEE ECN			
B	211529	MR	JPB	01/10/07
	SEE ECN			
A	210925	JPB	JPB	11/16/06
	SEE ECN			
—	210421	JPB	JPB	10/12/06
	ISSUE			

PROJECT NAME:				REV. TO SHEET	ECON NO.	BY	APP.	DATE
WIRING				DIAGRAM			 THIRD ANGLE PROJECTION	
7000 SERIES (J7ADTB) 3PH 150-600 AMPS								
"J" 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				
DRAWN BY		JPB 10/12/06		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.						
PROJECT APPROVAL		 ASCO® ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.						
FINAL APPROVAL		JPB 10/12/06		DWS. NO.		SCALE		SIZE
				806099		DS		
				DRAWING REV.		ECON NO.		SHEET
				290974		7		10



6 </	
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40	P-15,J-15		
24	P-16,J-16		
312	P-17,J-17		
6	P-18,J-18		
9	P-19,J-19		
10	P-20,J-20		
11	P-21,J-21		
4	P-22,J-22		
8	P-23,J-23		
12	P-24,J-24		

E	290974	AVK	HSL	08/
	SEE ECN			
D	212251	MR	JPB	03/
	SEE ECN			
C	211805	MR	JPB	01/
	SEE ECN			
B	211529	MR	JPB	01/
	SEE ECN			
A	210925	JPB	JPB	11/
	SEE ECN			

		ISSUE	
REV. TO SHEET	ECON. NO.	BY	APP.
DIGRAM			
AMPS		THIRD ANGLE PROJECTION	
TO BE IN CONFORMITY WITH MP-1-003. MP-1-055	ASSEM. REF. NO.	COMPUTER GENERATED DRAWING	
TECHNOLOGIES, USE PERMITTED FOR OUR DESIGN OR INVENTION ARE RESERVED.		SCALE NONE SIZE DS	DWG. NO.
O POWER TECHNOLOGIES, L.P.		8060909	
REMARKS: FCQ 200074		SHEET	

WIRE RUN LISTING

HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	
WIRE No.	SUB-ASSEMBLY 605749-001 (TB1,P,P11,P12,J13,P14,P15,P16,J17,J18) MAIN INTERCONNECT ASSEMBLY	CLR	AWG
14	P-2,P11-7		16
21	P-3,P11-2		
3	P-4,TB1-15		
15	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,TB1-23		
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-1		
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		
5	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		
500	J17-23,P16-5		
150	J17-24,P14-3		

HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	
WIRE No.	SUB-ASSEMBLY 605749-001 (TB1,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		
190	P14-17,J17-17		
191	P16-4,TB1-26		
33	J17-12,TB1-40		
32	J17-11,TB1-39		
	ADD WIRES		
312	P-17		
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		
507	P14-1		
160	P14-2		
169	P14-7		
168	P14-8		
156	P14-14		
190	P14-17,TB1-25		
161	P14-18		
162	P14-19		
163	P14-20		
164	P14-21		
165	P14-22		
166	P14-23		
167	P14-24		
389	P15-7		
390	P15-8		
391	P15-9		
395	P15-14		
508	P15-16		
405	P15-24		
173	P16-4,J17-12		
32	P16-7,TB1-39		
190	P16-8,TB1-25		
524	P16-9		
525	P16-10		
526	P16-11		
527	P16-12		
528	P16-13		
529	P16-14		
530	P16-15		
531	P16-16		
532	P16-17		
533	P16-18		
534	P16-19		
535	P16-20		
536	P16-21		
537	P16-22		
538	P16-23		
539	P16-24		
191	J17-5,TB1-26		
174	J17-6		
504	J17-7		
175	J17-8		
33	J17-11,TB1-40		
178	J17-14		
505	J17-15		
189	J17-16		
190	J17-17,TB1-25		
506	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		
228	J18-19,P22-1		
229	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		
68	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 (J7) OPTIONAL FIELD OUTPUTS	CLR	AWG
270	J7-1		16
271	J7-2		
272	J7-3		
273	J7-4		
274	J7-5		
275	J7-6		
276	J7-7		
277	J7-8		
278	J7-9		
279	J7-10		
280	J7-11		
281	J7-12		
282	J7-13		
283	J7-14		
284	J7-15		
285	J7-16		
286	J7-17		
287	J7-18		
288	J7-19		
289	J7-20		
290	J7-21		
291	J7-22		
292	J7-23		
293	J7-24		

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		
3	Jx-4,Px-4		
15	Jx-5,Px-5		
7	Jx-6,Px-6		
5	Jx-7,Px-7		
120	Jx-8,Px-8		
38	Jx-9,Px-9		
28	Jx-10,Px-10		
2	Jx-11,Px-11		
1	Jx-12,Px-12		
30	Jx-13,Px-13		
29	Jx-14,Px-14		
40	Jx-15,Px-15		
24	Jx-16,Px-16		
312	Jx-17,Px-17		
6	Jx-18,Px-18		
9	Jx-19,Px-19		
10	Jx-20,Px-20		
11	Jx-21,Px-21		
4	Jx-22,Px-22		
8	Jx-23,Px-23		
12	Jx-24,Px-24		

HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	
WIRE No.	HARNESS 309320-005 OPTIONAL 8 IN. EXTENSION HARNESS	CLR	AWG
322	Jy-1,Py-1		16
228	Jy-2,Py-2		
320	Jy-3,Py-3		
509	Jy-4,Py-4		
229	Jy-5,Py-5		
510	Jy-6,Py-6		
511	Jy-7,Py-7		
512	Jy-8,Py-8		
513	Jy-9,Py-9		
514	Jy-10,Py-10		
515	Jy-11,Py-11		
516	Jy-12,Py-12		
324	Jy-13,Py-13		
325	Jy-14,Py-14		
321	Jy-15,Py-15		
323	Jy-16,Py-16		
36	Jy-17,Py-17		
35	Jy-18,Py-18		
517	Jy-19,Py-19		
349	Jy-20,Py-20		
350	Jy-21,Py-21		
351	Jy-22,Py-22		
352	Jy-23,Py-23		
353	Jy-24,Py-24		

WIRE No.	ADDITIONAL WIRING	CLR	AWG
153	J20-1,SL2-A		16
170	J20-2,SL2-B		
154	J21-1,SL1-A		
170	J21-2,SL1-B		
502	CN-CR-(+),CN-COIL-BLK1		
503	CN-CR-(-),CN-COIL-BLK2		
230	CE-CR-(+),CE-COIL-BLK1		
231	CE-CR-(-),CE-COIL-BLK2		