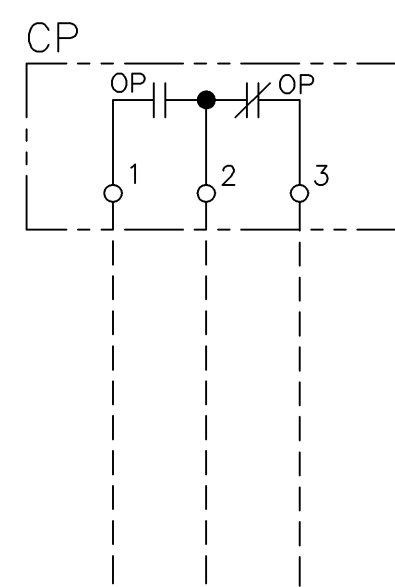
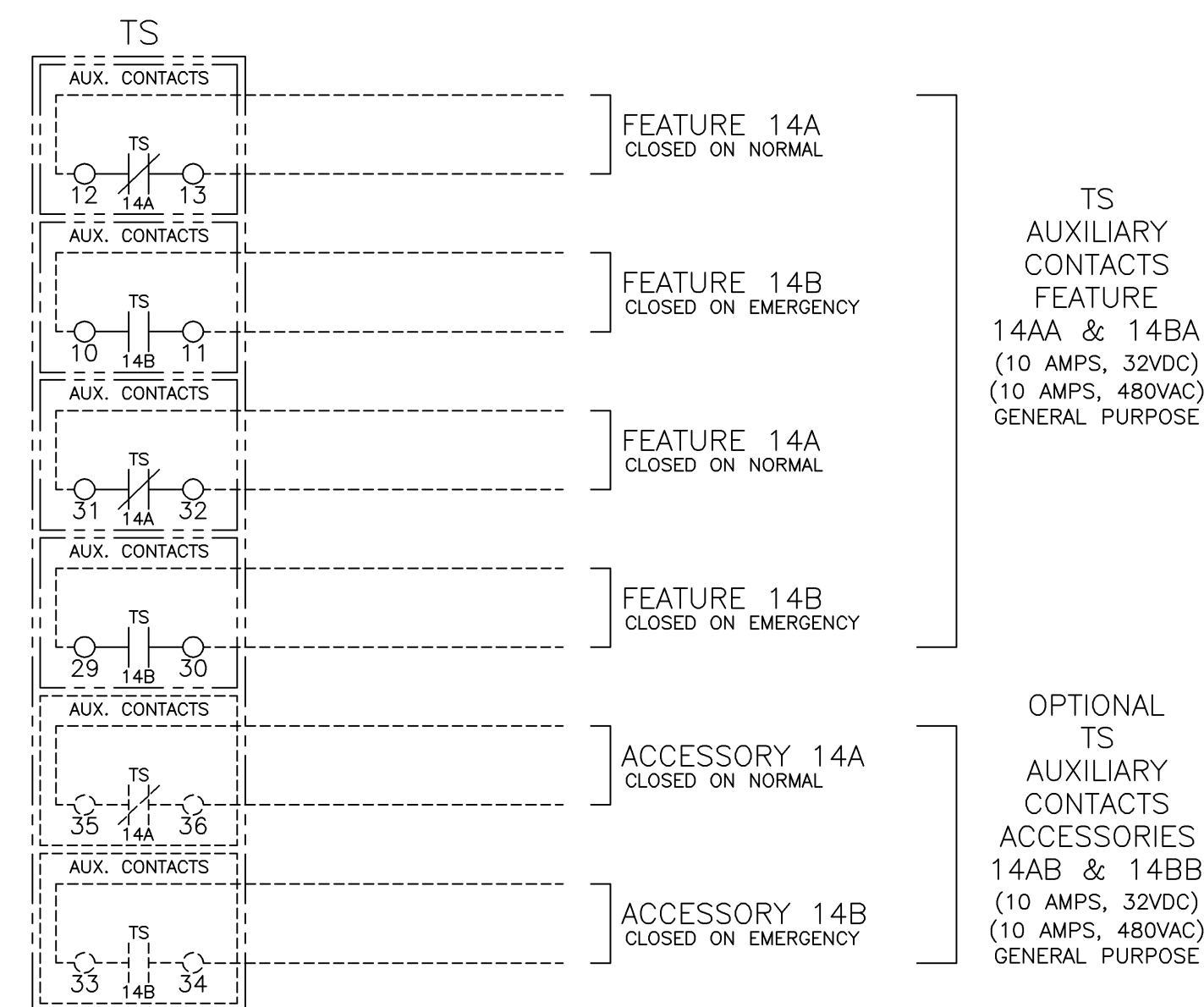


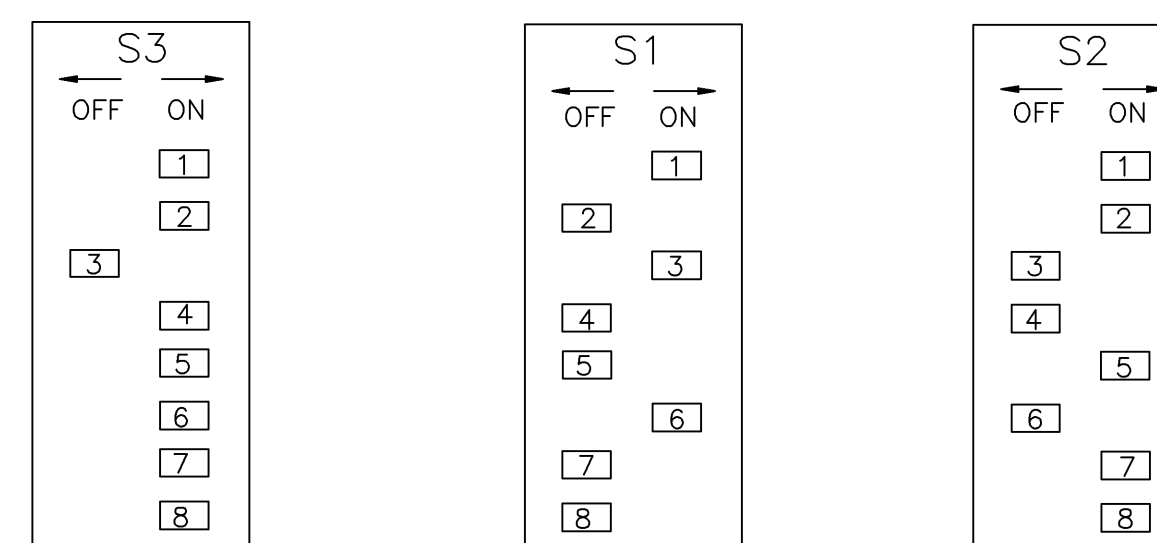
SINGLE PHASE WIRING FOR ASCO® SERIES E386 NON-AUTOMATIC TRANSFER SWITCHES RATED 260 & 400 AMPERES WITH GROUP I CONTROLS

FIELD CONNECTIONS



STANDARD FACTORY SETTINGS FOR CONTROL PANEL

1. FACTORY SETTINGS FOR DIP SWITCH S1, S2 & S3



- P1 (TIMER E/N) SET UP FOR FULL CCW.
- P2 (TIMER N/E) SET UP FOR FULL CCW.
- NORMAL SOURCE VOLTAGE (PU/N) PICKUP FACTORY SETTING IS 90% (S1-ACTUATOR 3 ON). SETTING S1-ACTUATOR 3 OFF IS FOR 95% NORMAL SOURCE VOLTAGE PICKUP.
- EMERGENCY SOURCE VOLTAGE PICKUP FACTORY SETTING 90% (NON ADJUSTABLE). EMERGENCY SOURCE VOLTAGE DROPOUT FACTORY SETTING 75% (NON ADJUSTABLE). EMERGENCY SOURCE FREQUENCY PICKUP FACTORY SETTING 95% (NON ADJUSTABLE).

! WARNING:
ANY CHANGE IN THESE SETTINGS MAY AFFECT THE NORMAL OPERATION OF THE TRANSFER SWITCH.

GENERAL NOTES

- SWITCH SHOWN DE-ENERGIZED AND CONNECTED TO THE NORMAL SOURCE.
- 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 TRANSFER SWITCH. REFER TO THIS PUBLICATION PRIOR TO INSTALLATION AND OPERATION OF THE UNIT.
- GROUND STRAP ON CONTROL PANEL IS AFFIXED TO CHASSIS (ENCLOSURE) AT LOWER LEFT CONTROL PANEL MOUNTING STUD.

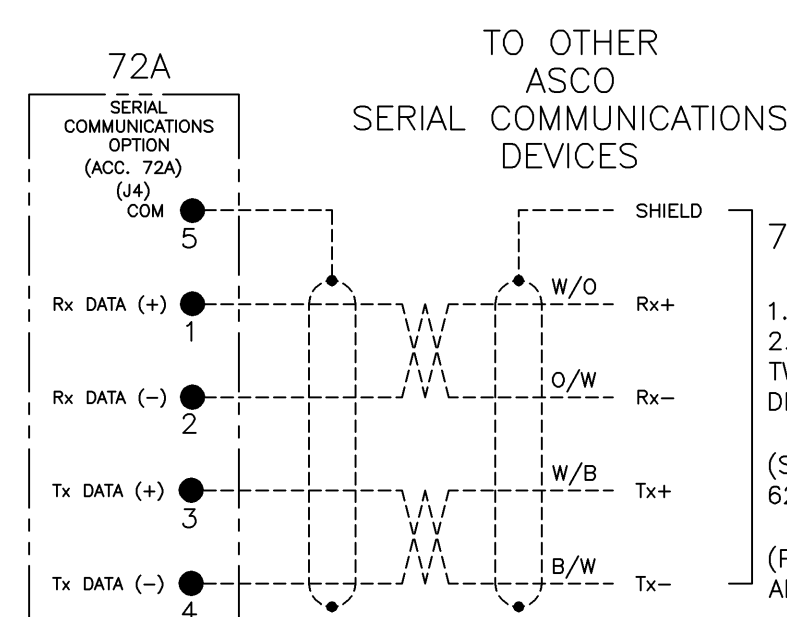
FEATURES

- SELECTOR SWITCH (SS) FOR MANUAL TRANSFER TO NORMAL AND EMERGENCY. THREE POSITION, MOMENTARY, SPRING RETURN TO CENTER SELECTOR SWITCH.
- FEATURES 14AA & 14BA - TRANSFER SWITCH AUXILIARY POSITION INDICATING CONTACTS. TWO (2) FORM C CONTACTS TO INDICATE CONNECTION OF THE TRANSFER SWITCH TO NORMAL (14A) AND TWO (2) FOR EMERGENCY (14B). CONTACTS RATED 10 AMPS, 32 VDC, 480 VAC. NOTE: ADDITIONAL AUXILIARY CONTACTS ARE AVAILABLE AS OPTIONS.
- SIGNAL LIGHT PL1, (GREEN LED), INDICATES WHEN TRANSFER SWITCH IS CONNECTED TO NORMAL SOURCE. (STD. FEAT. 9A)
- SIGNAL LIGHT PL2, (RED LED), INDICATES WHEN TRANSFER SWITCH IS CONNECTED TO EMERGENCY SOURCE. (STD. FEAT. 9B)
- ONE SET OF FORM C CONTACTS (1 N/O & 1 N/C) THAT CHANGE POSITION ON EXPIRATION OF THE NORMAL SOURCE OUTAGE DELAY AND RESET ON EXPIRATION OF THE UNLOADED RUNNING (ENGINE COOL DOWN) DELAY. OUTPUT CONTACTS (NR) ARE RATED 5 AMPS RESISTIVE AT 28V DC OR 120V AC MAXIMUM.

OPTIONAL ACCESSORIES

- KEY OPERATED TRANSFER CONTROL SWITCH. FOR TRANSFERRING TO NORMAL OR EMERGENCY. THREE POSITION MOMENTARY SPRING RETURN TO CENTER. KEY REMOVABLE IN CENTER POSITION.
- SIGNAL LIGHT (PL3 GREEN LED) INDICATES NORMAL SOURCE AVAILABLE.
- SIGNAL LIGHT (PL4 RED LED) INDICATES EMERGENCY SOURCE AVAILABLE.
- 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 BY SETTING A DIP SWITCH ON THE CONTROL PANEL. (FACTORY SET AS DISABLED). (REFER TO OPERATOR'S MANUAL FURNISHED WITH EACH TRANSFER SWITCH REGARDING CONTROL PANEL SETTINGS).
- ONE SET OF FORM C CONTACTS (1 N/O & 1 N/C) THAT CHANGE POSITION ON ACTIVATION OF A SELECTABLE TIME DELAY BEFORE TRANSFER (LD TDBT) AND RESET EITHER IMMEDIATELY FOLLOWING TRANSFER OR FOR THE SAME DELAYS SET FOR PRE-SIGNAL BEFORE TRANSFER. SELECTABLE AS 0, 3, 10 OR 20 SECONDS. FACTORY SET AT 0. (REFER TO THE OPERATOR'S MANUAL FURNISHED WITH EACH TRANSFER SWITCH REGARDING CONTROL PANEL SETTINGS). OUTPUT CONTACTS (OP) ARE RATED 5 AMPS RESISTIVE AT 28V DC OR 120V AC MAXIMUM.
- EXTENSION HARNESS FOR UNITS SHIPPED OPEN TO ACCOMMODATE CUSTOMER MOUNTING OF CONTROLS AND SWITCH. EXTENSION IS 72IN (1828mm) LONG.
- PROVISIONS FOR CUSTOMER SUPPLIED 3-POSITION SELECTOR SWITCH. POSITION 1- LOCAL CONTROL ENABLE POSITION 2- REMOTE CONTROL TRANSFER TO NORMAL POSITION 3- REMOTE CONTROL TRANSFER TO EMERGENCY
- SERIAL COMMUNICATIONS INTERFACE. RS-485 SERIAL INTERFACE TO CONTROL PANEL. FOR REMOTE MONITORING AND CONTROL FROM ASCO COMMUNICATIONS BASED PRODUCTS.

ACC. 72A SERIAL COMMUNICATIONS OPTION COMMUNICATING WITH GROUP 1 CONTROL PANEL (CP)



- 72A 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

BASE CATALOG NUMBER				CATALOG NUMBER SUFFIXES				EXPLANATION OF CATALOG NUMBER CODES				
TS FRAME	CATALOG TYPE	NEUTRAL TYPE	PHASE POLES	AMPS	VOLT CODE	CONTROLLER	OPTIONAL ACCESSORY	ENCLOSURE CODE	NEUTRAL TYPE	VOLTAGE CODES 1 PHASE (2 OR 3 WIRE) 50 OR 60 Hz	ENCLOSURE CODES	DESCRIPTION
E	386	A B C	2	260 400	H J K L M N P Q R	1	X	C F G	BLANK A B C	208 220 230 240 380 400 415 440 460 480 550 575 600	BLANK C F G L	OPEN TYPE (NO ENCLOSURE) GENERAL PURPOSE, INDOOR OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT

CATALOG NUMBER _____
BY _____
DATE _____

FORM REV E

PROJECT NAME: _____

WIRING _____ DIAGRAM _____

SERIES E386 TS,1PH, 260-400 AMPS
"E" FRAME, GROUP 1 CONTROLS

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055.

ASSEMBLY REF. NO. _____

COMPUTER GENERATED DRAWING

SCALE 1:1 SIZE DS

DWG. NO. 733602

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

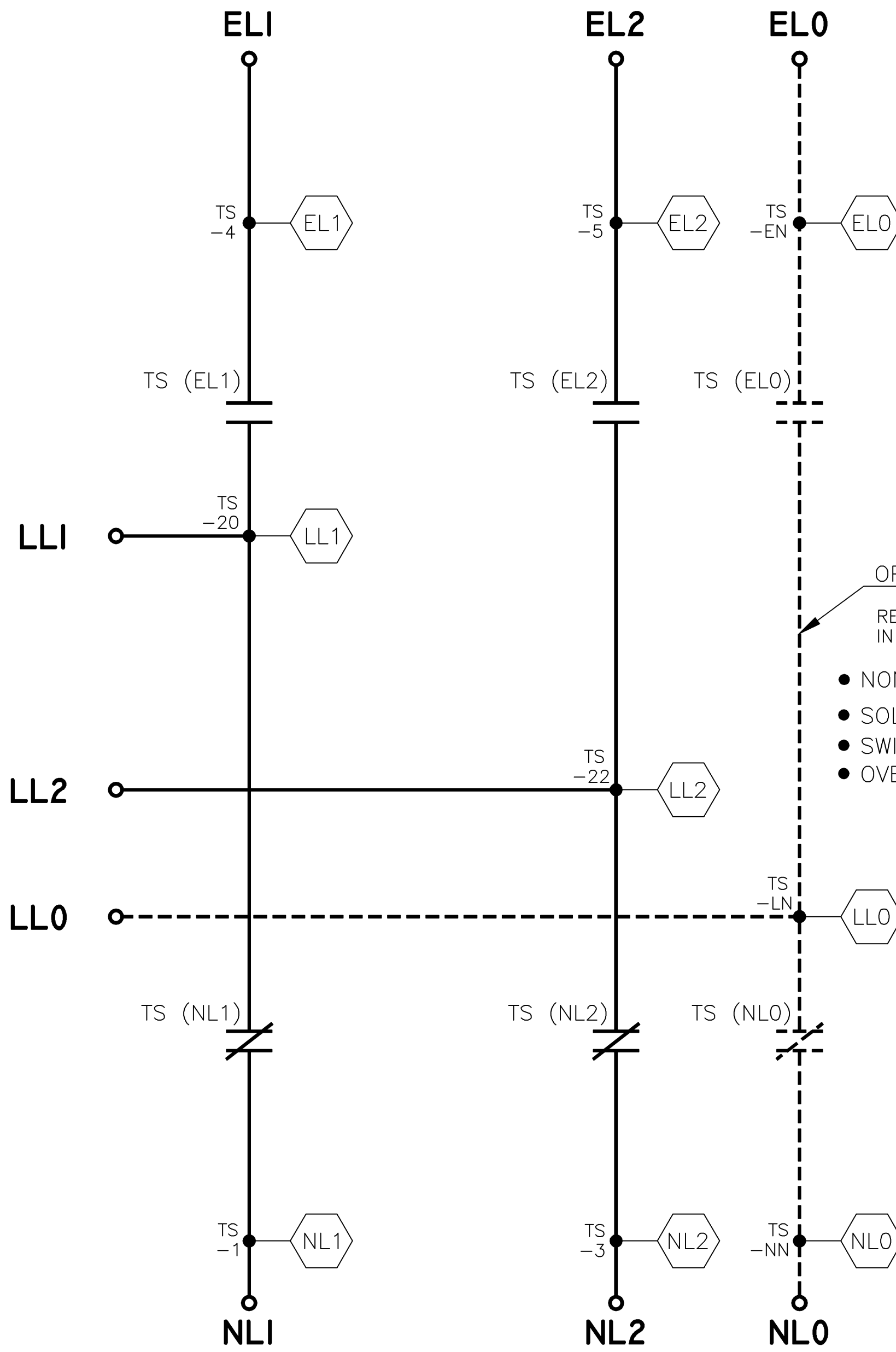
DRAWING E 212659 SHEET 10F4

MAIN POWER POLES

TS OPERATOR CIRCUIT

EMERGENCY

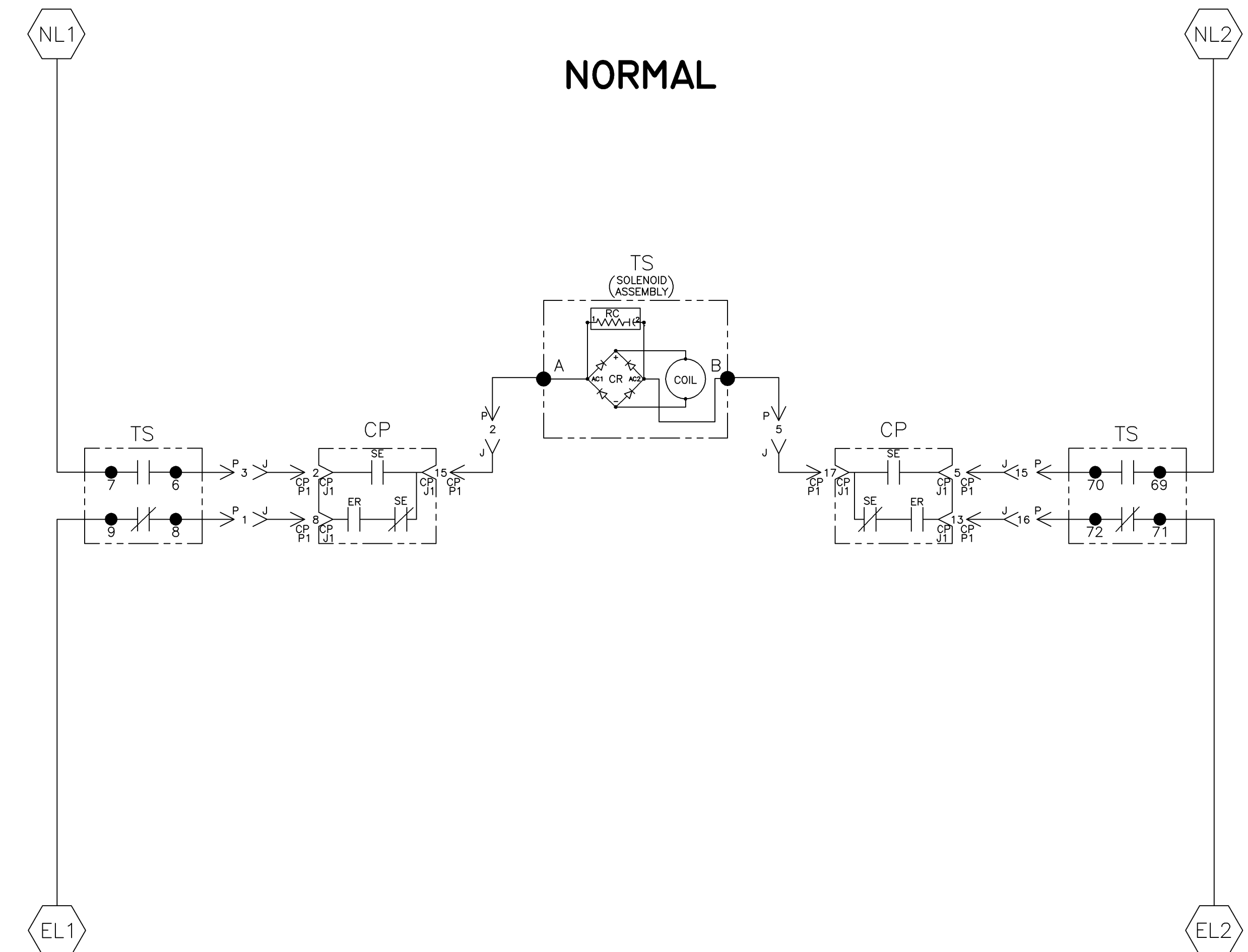
NORMAL



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

- NONE
- SOLID BUS PLATE
- SWITCHING (LOCATED BETWEEN L1 & L2 POLES)
- OVERLAPPING CONTACTS

NOTE:
 TS SHOWN CLOSED ON NORMAL SOURCE.



EMERGENCY

TS	SOLENOID POSITION			
	CLOSED BEFORE NORMAL	BEFORE TDC	BEFORE TDC	CLOSED EMERG
6-7				
69-70				
8-9				
71-72				

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

E	212659	WK	BK	03/29/07
D	210834	TR	WK	11/14/06
C	210184	AE	BK	09/21/06
B	167059	SDH	SDH	05/17/04
A	166172	AJM	BK	02/17/04
-	162479	BWM	WK	1/03

PROJECT NAME: **WIRING DIAGRAM**

SERIES E386 TS, 1PH, 280-400 AMPS
 "E" FRAME, GROUP 1 CONTROLS

DRAWN BY	BWM	DATE	1/03	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	BK	DATE	1/03	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.	SCALE	1:1 SIZE DS
APPROVAL	WK	DATE	1/03	ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.	DWG. NO.	733602

REV. TO SHEET: E ECN NO. 212659 BY: E APP. DATE: 03/29/07

THIRD ANGLE PROJECTION



WIRE RUN LISTING

FOR 260-400 AMPS

← HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	CLR	AWG
WIRE No.	HARNESS 337012 (P) MAIN TS	<input checked="" type="checkbox"/>		16
1	TS-8,P-1			
2	TS-A,P-2			
3	TS-6,P-3			
4	TS-3,P-4			
5	TS-B,P-5			
6	TS-5,P-6			
7	TS-4,P-7			
8	TB-14,P-8			
9	TB-15,P-9			
10	TS-17,P-10			
11	TS-2,P-11			
12	TS-1,P-12			
13	TS-16,P-13			
14	TS-18,P-14			
15	TS-70,P-15			
16	TS-72,P-16			
17	TS-4,TS-9			
18	TS-7,TS-1			
20	TS-3,TS-69			
21	TS-5,TS-71			
8	TB-14,TB-14			
9	TS-15,TB-15			
24	TB-16,P-17			
25	TS-19,P-18			
26	TS-20,P-20			
27	TS-21,P-21			
28	TS-22,P-22			
29	TS-NN,P-24			
30	TS-EN,P-19			
31	TS-LN,P-23			
DEAD END WIRES				
11	TS-2,P-11			
25	TS-19,P-18			
27	TS-21,P-21			

← HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	CLR	AWG
WIRE No.	HARNESS 483763 (J,CP-P1,CP-P2) CONTROL PANEL	<input type="checkbox"/>		16
1	J-1,CP-P1-8			
2	J-2,CP-P1-15			
3	J-3,CP-P1-2			
4	J-4,CP-P1-4			
5	J-5,CP-P1-17			
6	J-6,CP-P1-12			
7	J-7,CP-P1-7			
8	J-8,CP-P2-2			
9	J-9,CP-P2-3			
10	J-10,CP-P2-8			
11	J-11,CP-P1-10			
12	J-12,CP-P1-1			
13	J-13,CP-P2-9			
14	J-14,CP-P2-10			
15	J-15,CP-P1-5			
16	J-16,CP-P1-13			
24	J-17,CP-P2-1			
25	J-18,CP-P1-14			
ADD WIRES				
26	J-19			
27	J-20			
28	J-21			
29	J-22			
30	J-23			
31	J-24			

← HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	CLR	AWG
WIRE No.	HARNESS 619510-037 (P3) DOOR CONTROLS & INDICATORS	<input type="checkbox"/>		22
140	P3-5,PL1(-)			
141	P3-8,PL1(+)			
142	P3-6,PL2(-)			
143	P3-7,PL2(+)			
144	P3-9,PL3(-) * SEE NOTE			
145	P3-10,PL4(-) *			
146	P3-11,PL3(+)			
146	PL3(+),PL4(+)			
147	CP-6,SS-13			
148	CP-10,SS-23			
149	CP-7,SS-14			
149	SS-14,SS-24			

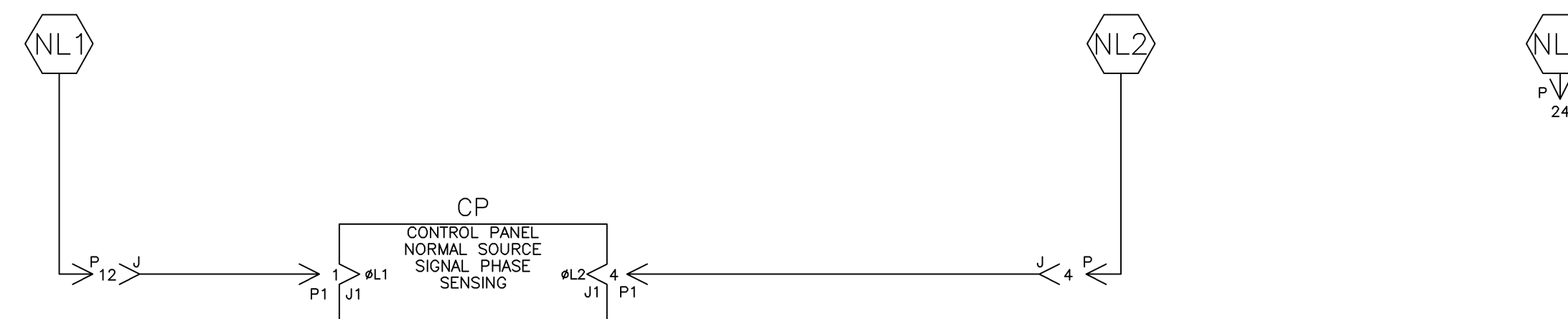
* NOTE: CONNECTIONS ARE OPTIONAL FOR ACC. 9C, 9D.

OPTIONAL ACC. 6Q

← HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	CLR	AWG
WIRE No.	HARNESS 619510-037 WITH 6Q KEY OPTION REMOVE WIRES	<input type="checkbox"/>		
147	CP-6,SS-13			
148	CP-10,SS-23			
149	CP-7,SS-14			
149	SS-14,SS-24			
ADD WIRES				
147	CP-6,SS-1NO			
148	CP-10,SS-2NO			
149	CP-7,SS-1COM			
149	SS-1COM,SS-2COM			

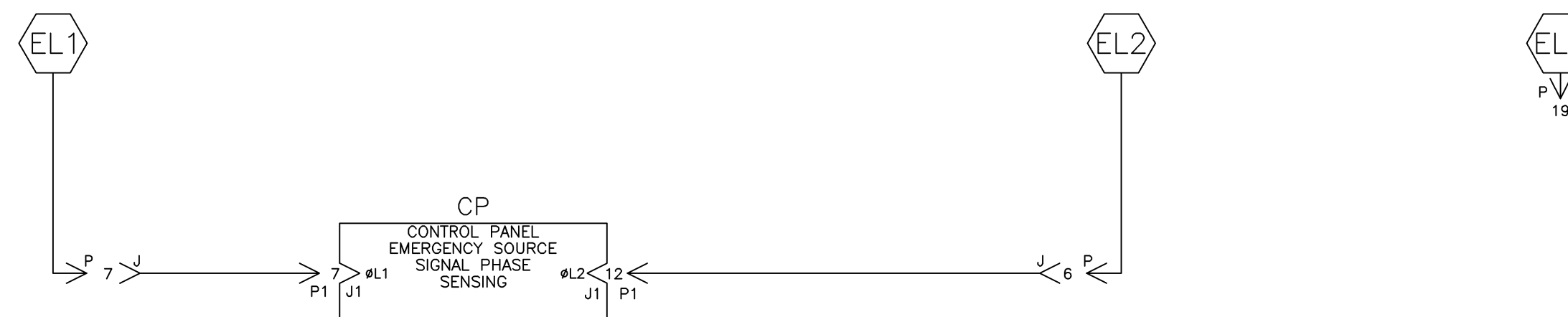
NORMAL SOURCE CIRCUITS

NORMAL



EMERGENCY SOURCE CIRCUITS

EMERGENCY

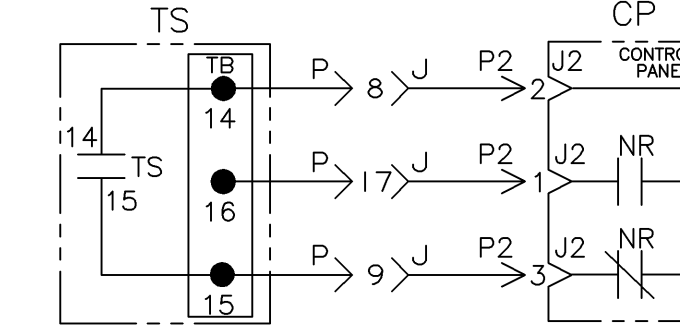
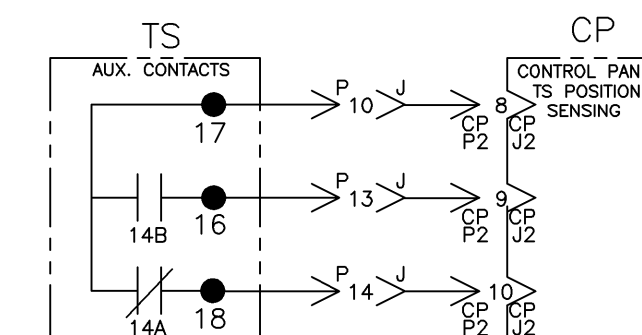
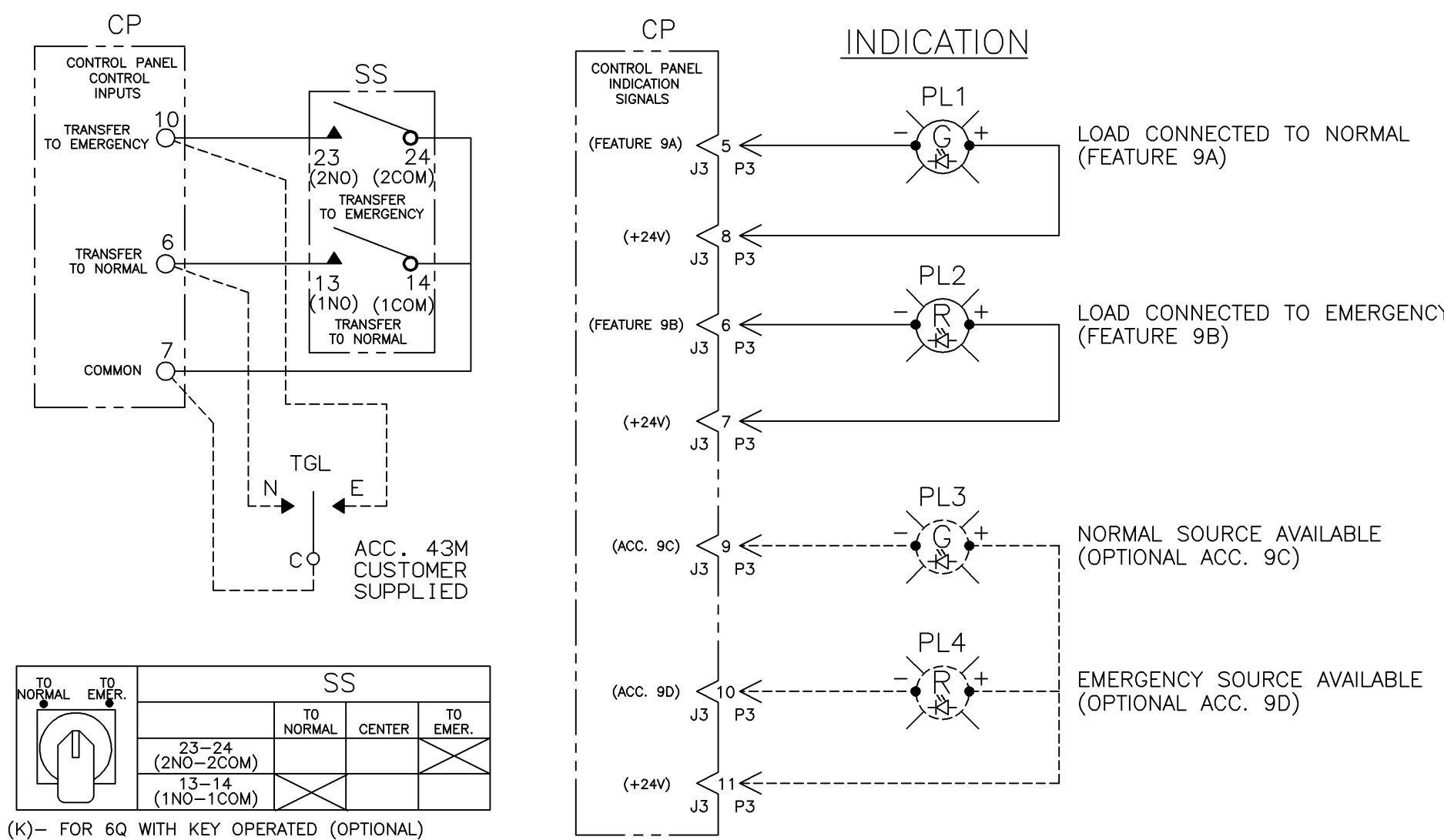


LOAD TERMINAL CIRCUITS

LOAD



CONTROL SIGNALS & INDICATION

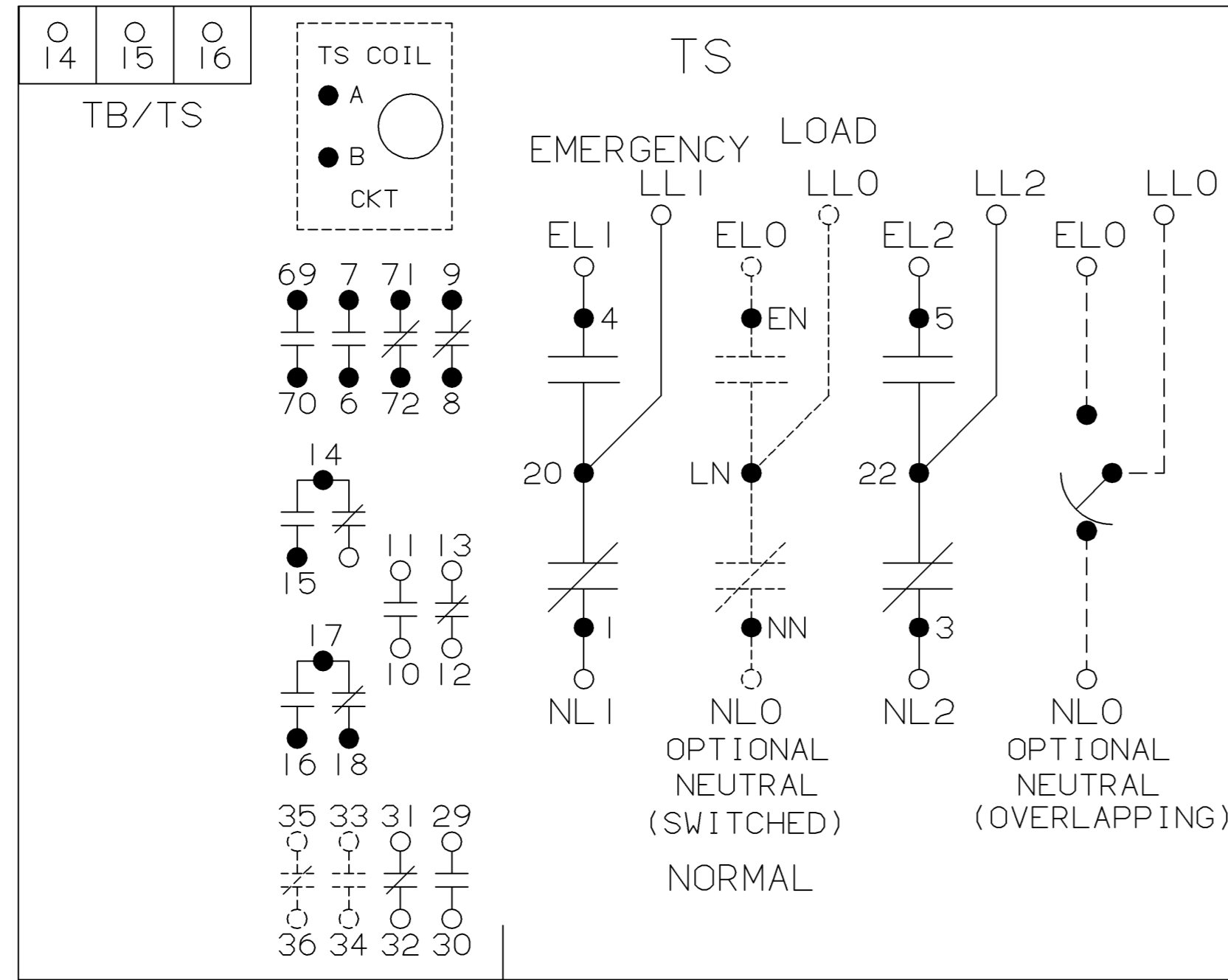


E	212659	WK	BK	03/29/07
D	210834	TR	WK	11/14/06
C	210184	AE	BK	09/21/06
B	167059	SDH	SDH	05/17/04
A	166172	AJM	BK	02/17/04
-	162479	BWM	WK	1/03
-				ISSUE

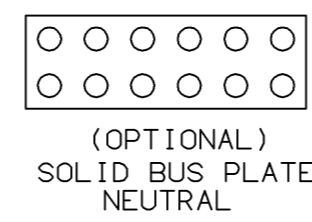
PROJECT NAME:		REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING DIAGRAM						
SERIES E386 TS,1PH, 260-400 AMPS						
"E" FRAME, GROUP 1 CONTROLS						
DRAWN BY		DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055		ASSEM. REF. NO.	
CHECKED		1/03	PROPERTY OF ASCO POWER TECHNOLOGIES, L.P. WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		COMPUTER GENERATED DRAWING	
PROJECT APPROVAL			733602		SCALE 1:1 SIZE DS	
FINAL APPROVAL		WK	1/03	DRAWING E		ECN NO. 212659 SHEET 3 OF 4
				ASCO		ASC POWER TECHNOLOGIES, L.P. FLOHAM PARK, NEW JERSEY 07932 U.S.A.

PHYSICAL DIAGRAM

ENCLOSURE
TS (TRANSFER SWITCH)
VIEW FROM INSIDE FRONT
260 & 400 AMPS



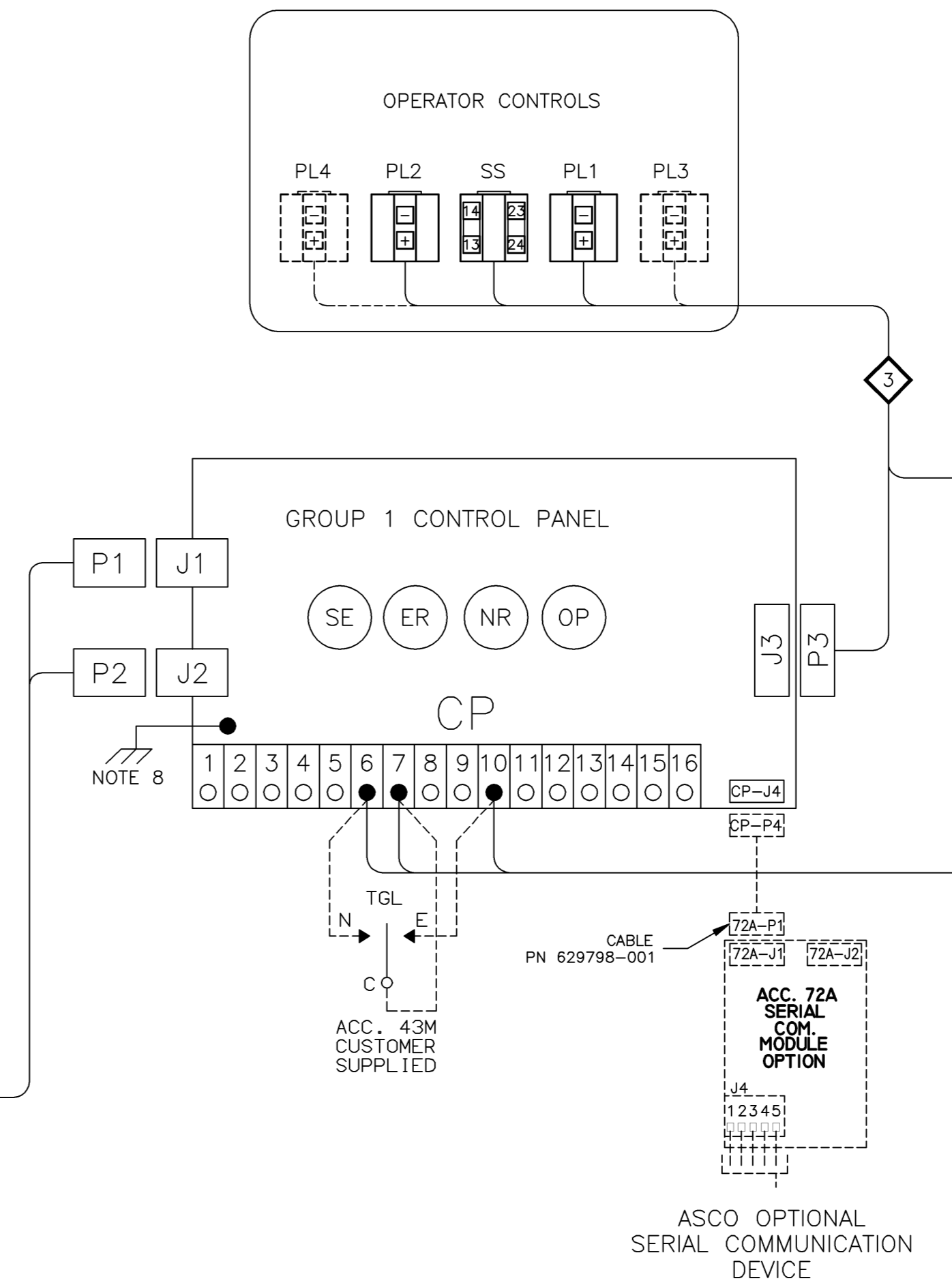
STANDARD TRANSFER SWITCH HARNESS
(TYPICAL ALL SWITCHES)



DOOR HINGE

BONDING STRAP
PN 098323-019

DOOR (INSIDE)



OPERATOR CONTROLS

ID	DESCRIPTION
PL1	TS CONNECTED TO NORMAL (GREEN)
PL2	TS CONNECTED TO EMERGENCY (RED)
PL3	NORMAL SOURCE AVAILABLE (GREEN)
PL4	EMERGENCY SOURCE AVAILABLE (RED)
SS	TRANSFER CONTROL (TEST - TD BYPASS)

E	212659	WK	BK	03/29/07
	SEE ECN			
D	210834	TR	WK	11/14/06
	SEE ECN			
C	210184	AE	BK	09/21/06
	SEE ECN			
B	167059	SDH	SDH	05/17/04
	SEE ECN			
A	166172	AJM	BK	02/17/04
	SEE ECN			
-	162479	BWM	WK	1/03
	ISSUE			

REV. TO SHEET	ECN NO.	BY	APP.	DATE

PROJECT NAME: **WIRING DIAGRAM**

SERIES E386 TS, 1PH, 260-400 AMPS
"E" FRAME, GROUP 1 CONTROLS

DRAWN BY	BWM	DATE	1/03	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005.	ASSEM. REF. NO.	
CHECKED	BK	1/03		PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		
PROJECT APPROVAL						
FINAL APPROVAL	WK	1/03				

COMPUTER GENERATED DRAWING

SCALE: 1:1 SIZE: DS

DWG. NO.: **733602**

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

DRAWING REV. E ECN NO. 212659 SHEET 4 OF 4