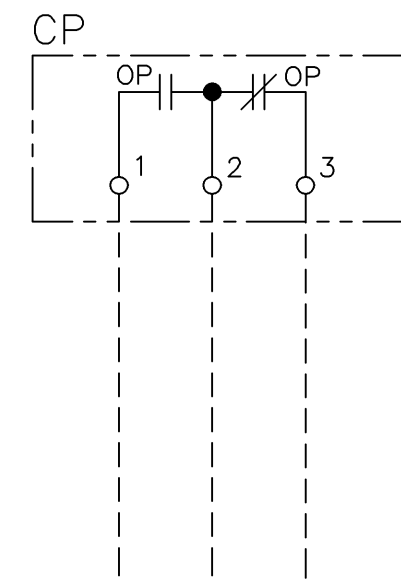
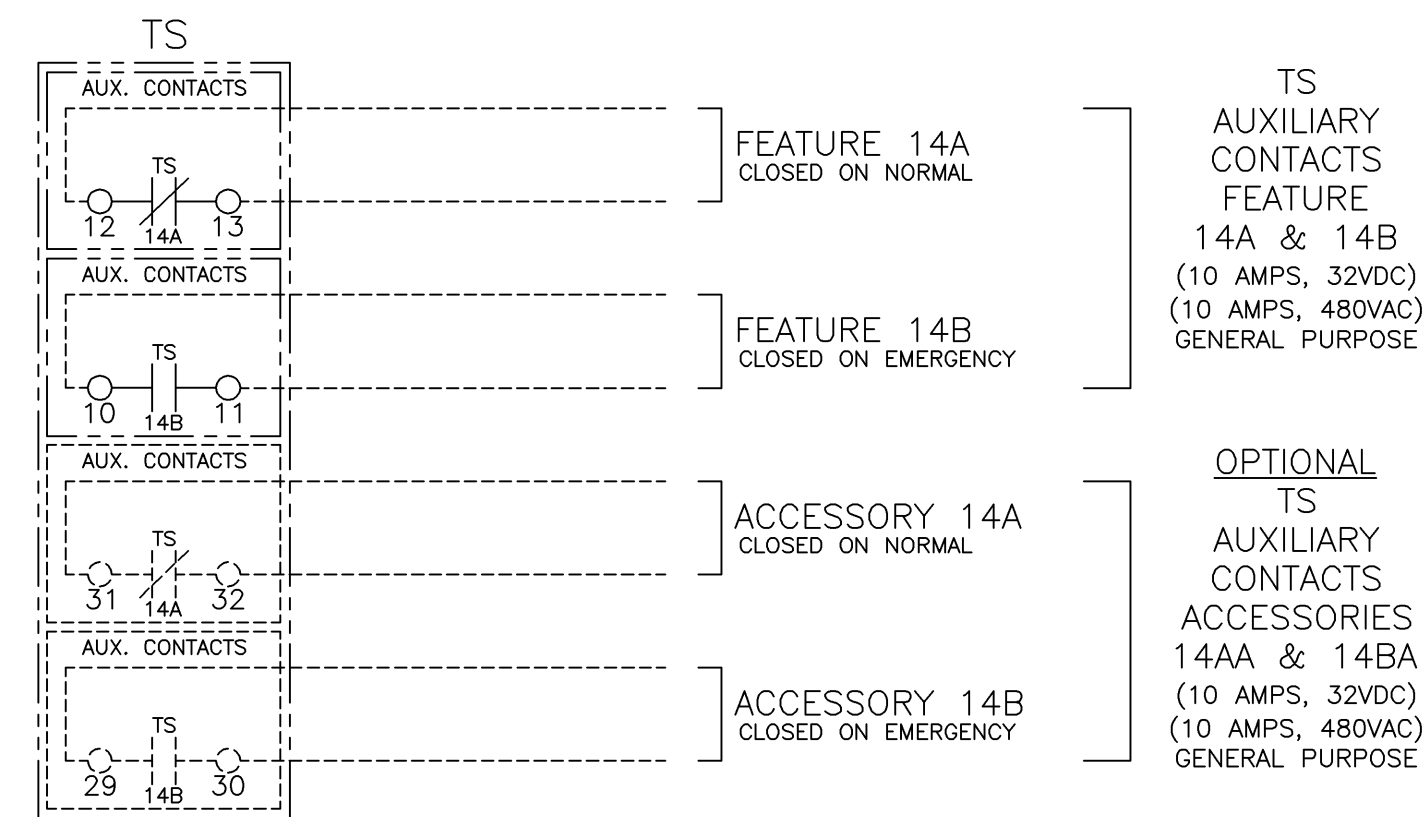


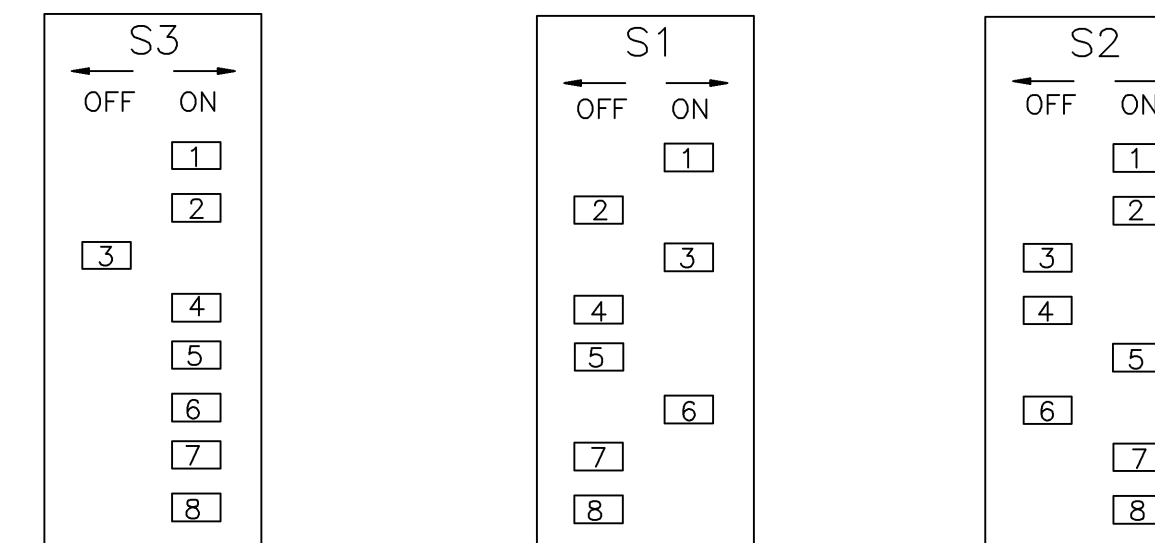
THREE PHASE WIRING FOR ASCO® SERIES D386 NON-AUTOMATIC TRANSFER SWITCHES RATED 30, 70, 100, 150, 200 & 230 AMPERES WITH GROUP I CONTROLS

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.
- 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 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.

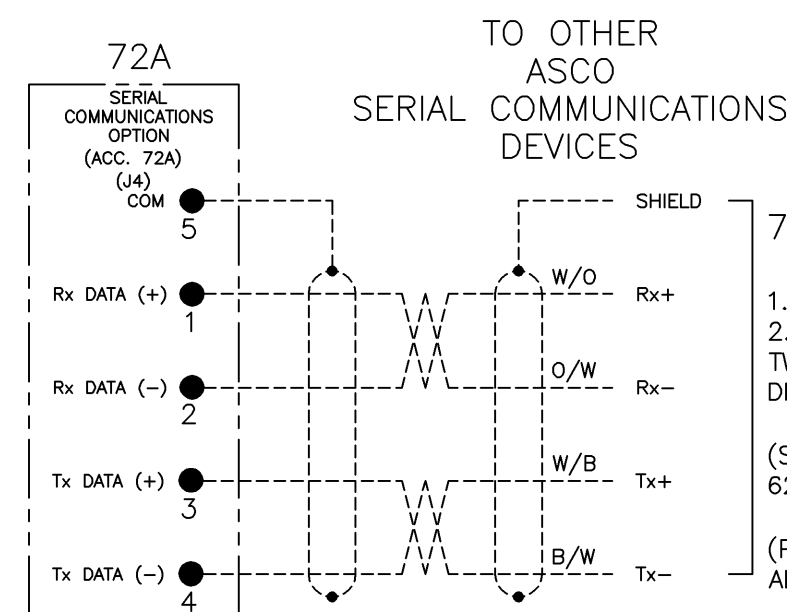
FEATURES

- SELECTOR SWITCH (SS) FOR MANUAL TRANSFER TO NORMAL AND EMERGENCY. THREE POSITION, MOMENTARY, SPRING RETURN TO CENTER SELECTOR SWITCH.
- FEATURES 14A & 14B - TRANSFER SWITCH AUXILIARY POSITION INDICATING CONTACTS. ONE (1) FORM C CONTACT TO INDICATE CONNECTION OF THE TRANSFER SWITCH TO NORMAL (14A) AND ONE (1) 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

- ACC. 60- KEY OPERATED TRANSFER CONTROL SWITCH. FOR TRANSFERRING TO NORMAL OR EMERGENCY. THREE POSITION MOMENTARY SPRING RETURN TO CENTER. KEY REMOVABLE IN CENTER POSITION.
- ACC. 9C- SIGNAL LIGHT (PL3 GREEN LED) INDICATES NORMAL SOURCE AVAILABLE.
- ACC. 9D- SIGNAL LIGHT (PL4 RED LED) INDICATES EMERGENCY SOURCE AVAILABLE.
- ACC. 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 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).
- ACC. 31 - 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.
- ACC. 37B- EXTENSION HARNESS FOR UNITS SHIPPED OPEN TO ACCOMMODATE CUSTOMER MOUNTING OF CONTROLS AND SWITCH. EXTENSION IS 72IN (1828mm) LONG.
- ACC. 43M- 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
- ACC. 72A- 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	ENCLOSURE CODES		
									CODE	DESCRIPTION	CODE	TYPE	DESCRIPTION
D	386	A B C	3	30 70 100 150 200* 230*	H J K L M N P Q R	1	X	C F G L	BLANK A B C	NONE SOLID SWITCHING OVERLAPPING	BLANK C F G L	1 3R 4 12	OPEN TYPE (NO ENCLOSURE) GENERAL PURPOSE, INDOOR OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT

* 200 & 230 AMP SIZES ARE 480V MAX.

CATALOG NUMBER _____
ASCO CERTIFIED TO S.O. _____
 BY _____
 DATE _____

FORM REV D

PROJECT NAME: _____

WIRING _____ DIAGRAM _____

SERIES D386 TS,3PH, 30-230 AMPS
 "D" FRAME, GROUP 1 CONTROLS

DRAWN BY	BWM	8/02	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	SDH	8/02	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.	SCALE	1:1 SIZE DS
PROJECT APPROVAL				DWG. NO.	733601
FINAL APPROVAL	SDH	8/02		DRAWING D	ECN NO. 212659

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

REV. TO SHEET _____ ECN NO. _____ BY _____ APP. _____ DATE _____

THIRD ANGLE PROJECTION

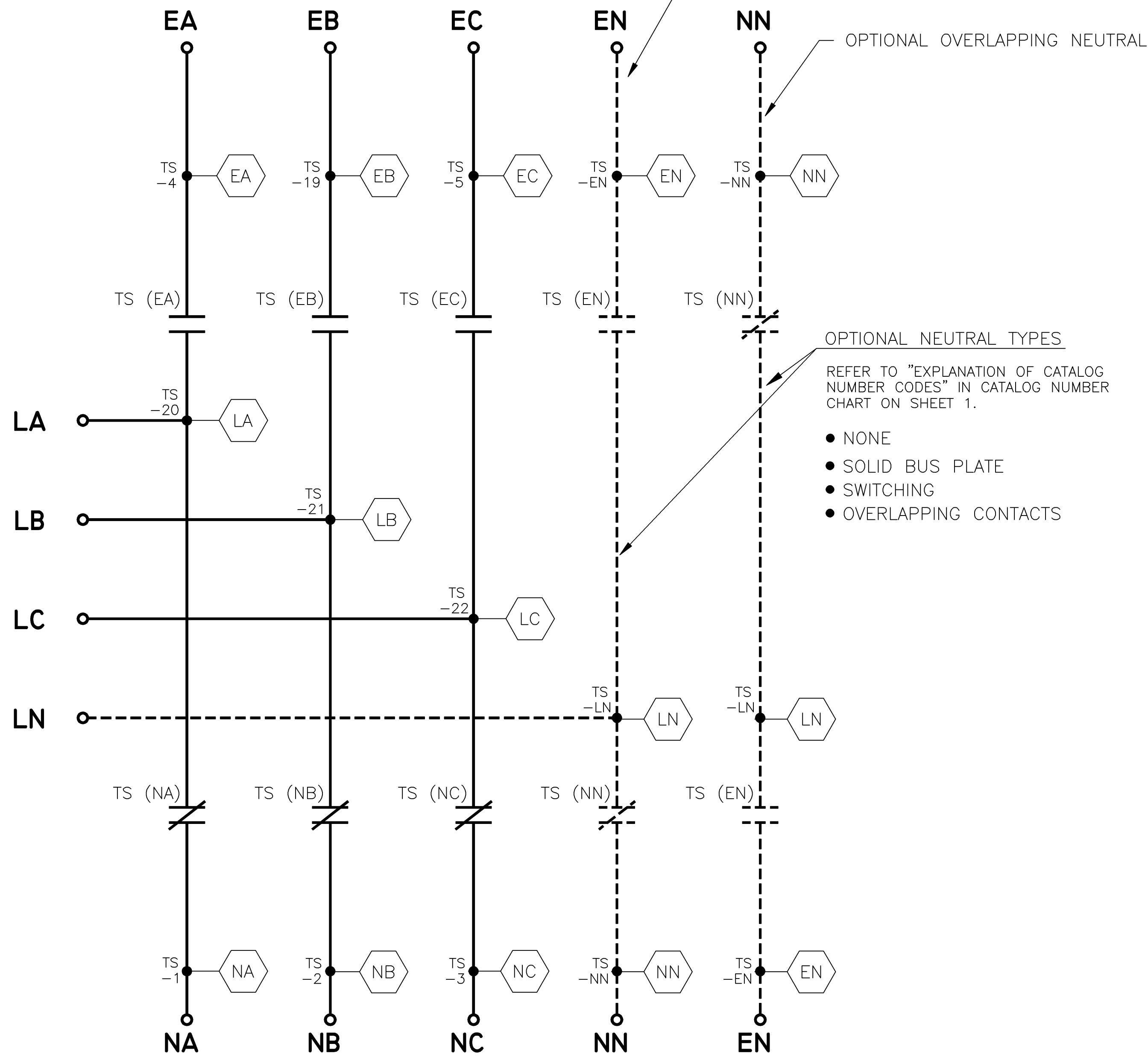
SHEET 10F4

MAIN POWER POLES

TS OPERATOR CIRCUIT

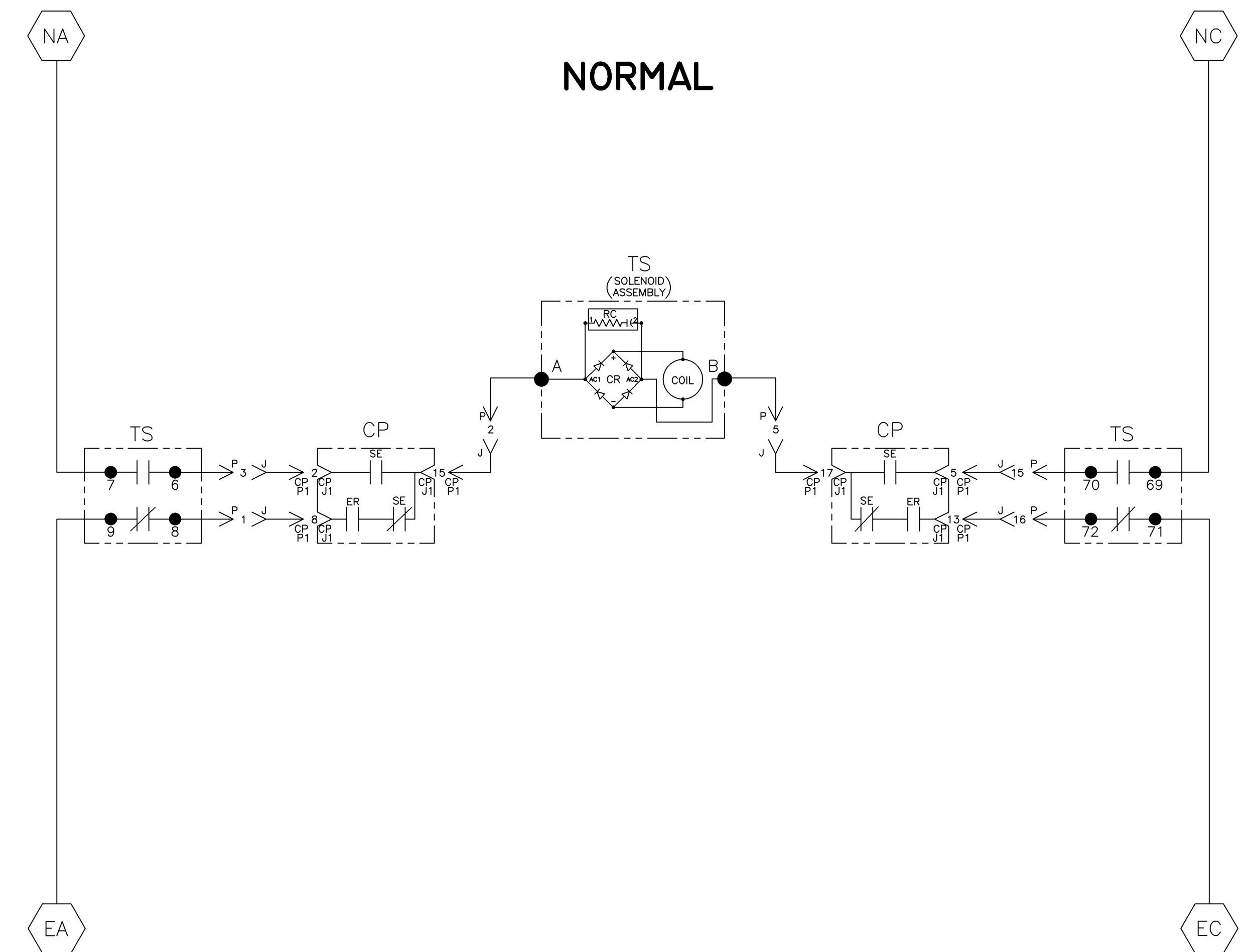
EMERGENCY

NORMAL



- OPTIONAL NEUTRAL TYPES
REFER TO "EXPLANATION OF CATALOG NUMBER CODES" IN CATALOG NUMBER CHART ON SHEET 1.
- NONE
 - SOLID BUS PLATE
 - SWITCHING
 - OVERLAPPING CONTACTS

NOTE:
ATS SHOWN CLOSED ON NORMAL SOURCE.



EMERGENCY

D	212659	WK	BK	03/29/07
SEE ECN				
C	167059	SDH	SDH	05/17/04
SEE ECN				
B	166172	AJM	BK	02/17/04
SEE ECN				
A	164537	BWM	WK	08/08/03
SEE ECN				
-	161395	BWM	SDH	8/02
ISSUE				

PROJECT NAME:		REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING DIAGRAM						
SERIES D386 TS,3PH, 30-230 AMPS						
"D" FRAME, GROUP 1 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	SDH	8/02	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		SCALE	1:1 SIZE DS
PROJECT APPROVAL					DWG. NO. 733601	
FINAL APPROVAL	SDH	8/02			DRAWING REV. D	ECN NO. 212659 SHEET 2 OF 4
ASCO ASCO POWER TECHNOLOGIES, L.P. FLORENCE PARK, NEW JERSEY 07932 U.S.A.						

WIRE RUN LISTING

NORMAL SOURCE CIRCUITS

FOR 30-230 AMPS

WIRE No.	HARNESS 337782-003 (P) MAIN TS	CLR	AWG
1	TS-8,P-1		20
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	TS-14,TB-14		
9	TS-15,TB-15		
24	TB-16,P-17		
25	TS-19,P-18		
26	TS-20,P-19		
27	TS-21,P-20		
28	TS-22,P-21		
29	TS-NN,P-22		
30	TS-EN,P-23		
31	TS-LN,P-24		

WIRE No.	HARNESS 483763 (J,CP-P1,CP-P2) CONTROL PANEL	CLR	AWG
1	J-1,CP-P1-8		16
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		

OPTIONAL ACC. 11CD

WIRE No.	OPTIONAL ACC. 11CD CKTS.	CLR	AWG
28	CP-4,TMR-3		16
29	CP-5,TMR-5		
30	CP-14,TMR-2		
31	CP-15,TMR-1		

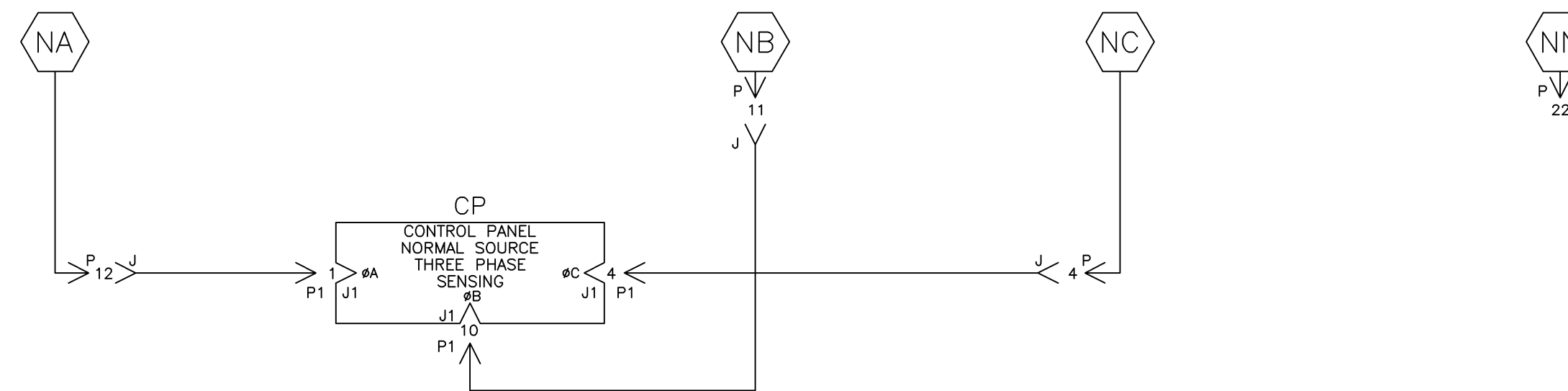
WIRE No.	HARNESS 619510-037 (P3) DOOR CONTROLS & INDICATORS	CLR	AWG
140	P3-5,PL1(-)		22
141	P3-8,PL1(+)		
142	P3-6,PL2(-)		
143	P3-7,PL2(+)		
144	P3-9,PL3(-) * SEE NOTE		
145	P3-10,PL4(-) *		
146	P3-11,PL3(+)		
146	PL3(+),PL4(+)		
147	CP-6,SS-13		
148	CP-10,SS-23		
149	CP-7,SS-14		
149	SS-14,SS-24		

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

OPTIONAL ACC. 6Q

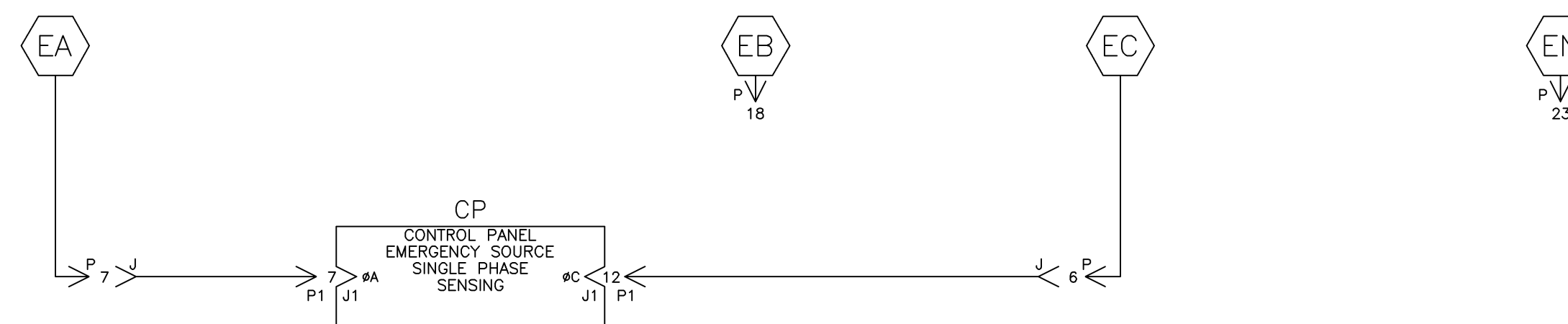
WIRE No.	HARNESS 619510-037 WITH 6Q KEY OPTION REMOVE WIRES	CLR	AWG
147	CP-6,SS-13		
148	CP-10,SS-23		
149	CP-7,SS-14		
149	SS-14,SS-24		
ADD WIRES			
147	CP-6,SS-1NO		
148	CP-10,SS-2NO		
149	CP-7,SS-1COM		
149	SS-1COM,SS-2COM		

NORMAL



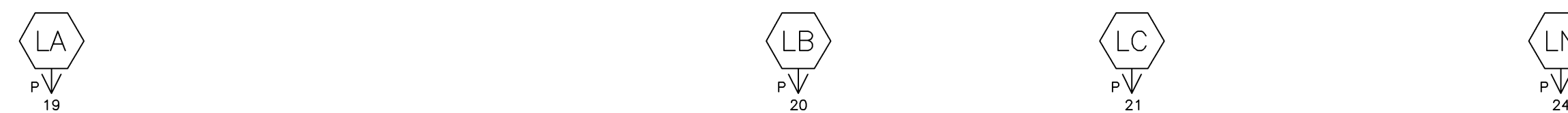
EMERGENCY SOURCE CIRCUITS

EMERGENCY

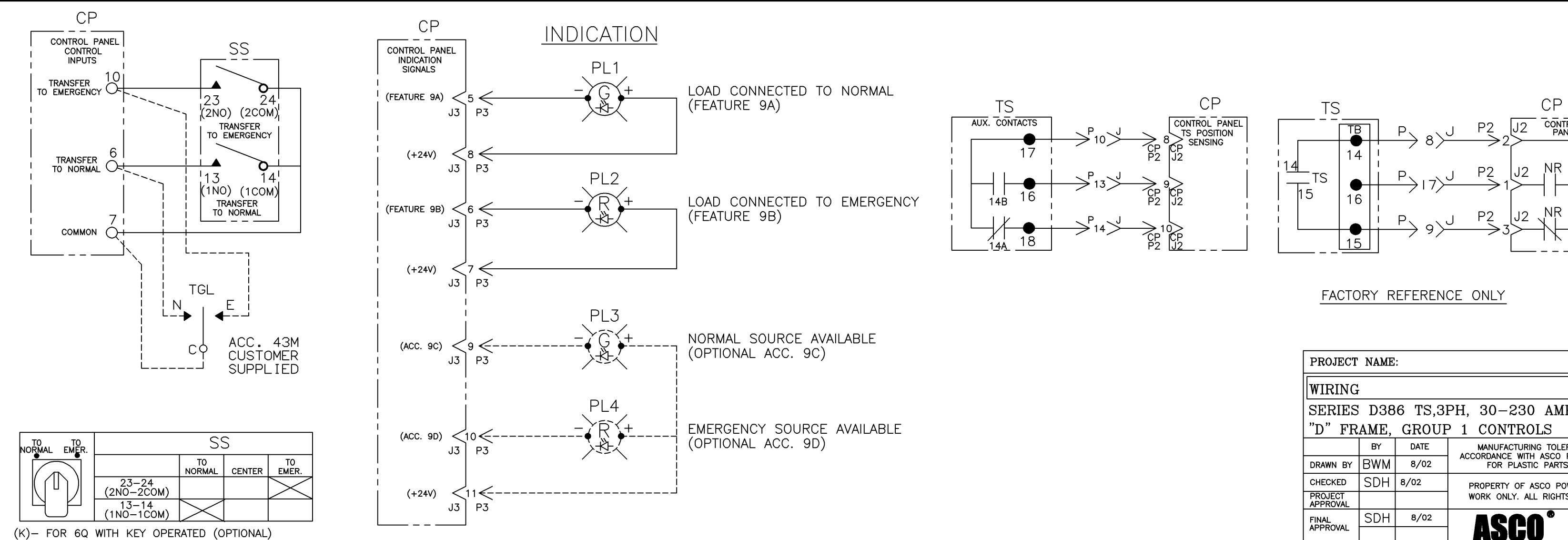


LOAD TERMINAL CIRCUITS

LOAD



CONTROL SIGNALS & INDICATION



FACTORY REFERENCE ONLY

D	212659	WK	BK	03/29/07
SEE ECN				
C	167059	SDH	SDH	05/17/04
SEE ECN				
B	166172	AJM	BK	02/17/04
SEE ECN				
A	164537	BWM	WK	08/08/03
SEE ECN				
-	161395	BWM	SDH	8/02
ISSUE				

PROJECT NAME:		WIRING DIAGRAM	
SERIES D386 TS,3PH, 30-230 AMPS			
"D" FRAME, GROUP 1 CONTROLS			
BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055	ASSEM. REF. NO.
BWM	8/02		
CHECKED	SDH	PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.	SCALE 1:1 SIZE DS
PROJECT APPROVAL			COMPUTER GENERATED DRAWING
FINAL APPROVAL	SDH	8/02	DWG. NO. 733601
			DRAWING D ECN NO. 212659 SHEET 3 OF 4

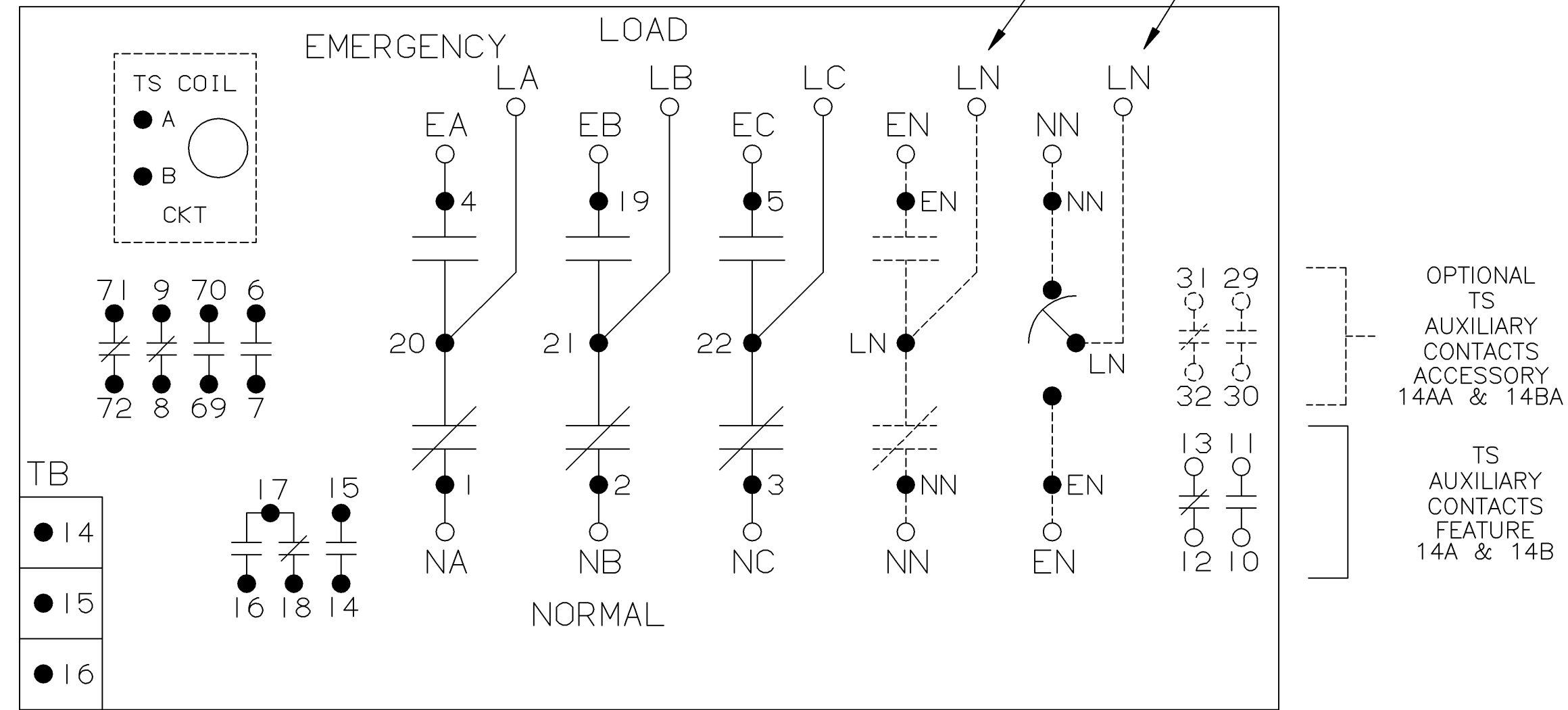
ASCO POWER TECHNOLOGIES, L.P. FLOHAM PARK, NEW JERSEY 07932 U.S.A.

PHYSICAL DIAGRAM

ENCLOSURE

DOOR (INSIDE)

30, 70, 100, 150, 200, & 230 AMPS



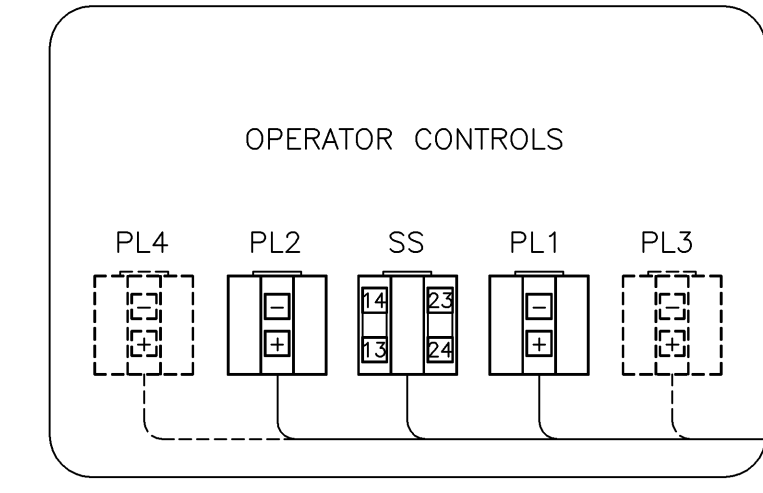
OPTIONAL SWITCHING NEUTRAL

OPTIONAL OVERLAPPING NEUTRAL

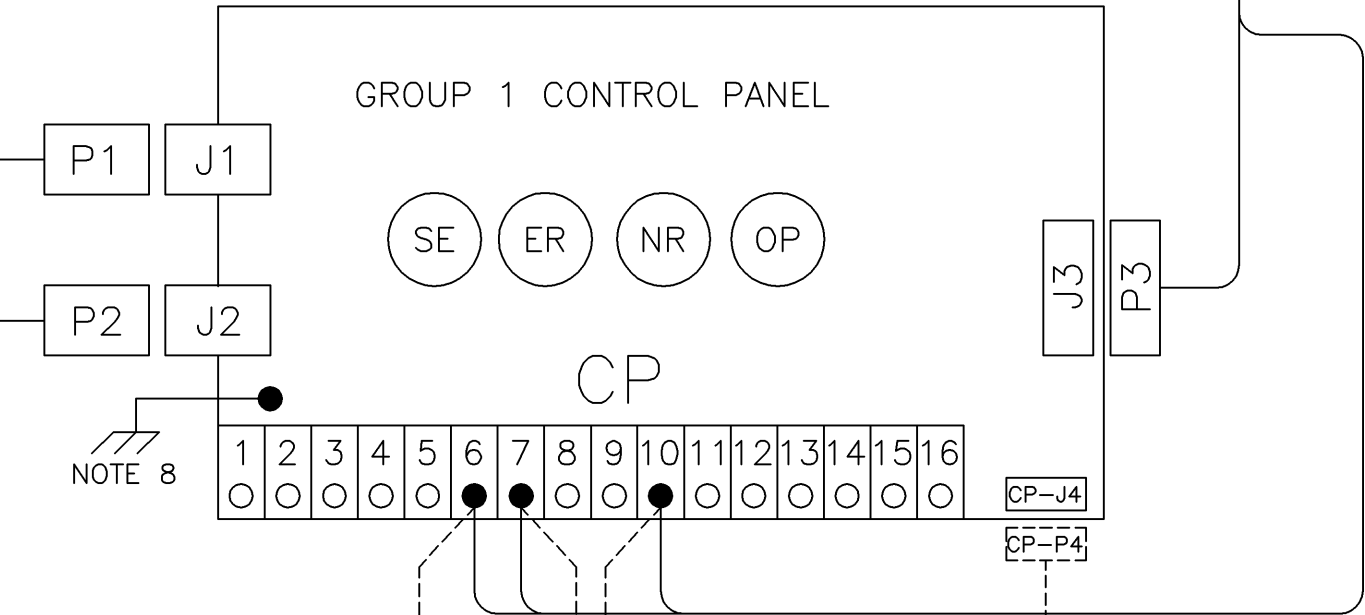
OPTIONAL TS AUXILIARY CONTACTS ACCESSORY 14AA & 14BA

TS AUXILIARY CONTACTS FEATURE 14A & 14B

STANDARD TRANSFER SWITCH HARNESS (TYPICAL ALL SWITCHES)



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)



NOTE 8

TGL
N
E
C/O

CABLE P/N 629798-001

ACC. 72A SERIAL COM MODULE OPTION

ASCO OPTIONAL SERIAL COMMUNICATION DEVICE

DOOR HINGE

BONDING STRAP P/N 098323-019

D	212659	WK	BK	03/29/07
SEE ECN				
C	167059	SDH	SDH	05/17/04
SEE ECN				
B	166172	AJM	BK	02/17/04
SEE ECN				
A	164537	BWM	WK	08/08/03
SEE ECN				
-	161395	BWM	SDH	8/02
ISSUE				

REV. TO SHEET		ECN NO.	BY	APP.	DATE
WIRING		DIAGRAM			
PROJECT NAME: SERIES D386 TS,3PH, 30-230 AMPS					
"D" FRAME, GROUP 1 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	SDH	8/02	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		SCALE: 1:1 SIZE: DS
PROJECT APPROVAL					DWG. NO. 733601
FINAL APPROVAL	SDH	8/02			DRAWING D ECN NO. 212659 SHEET 4 OF 4

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