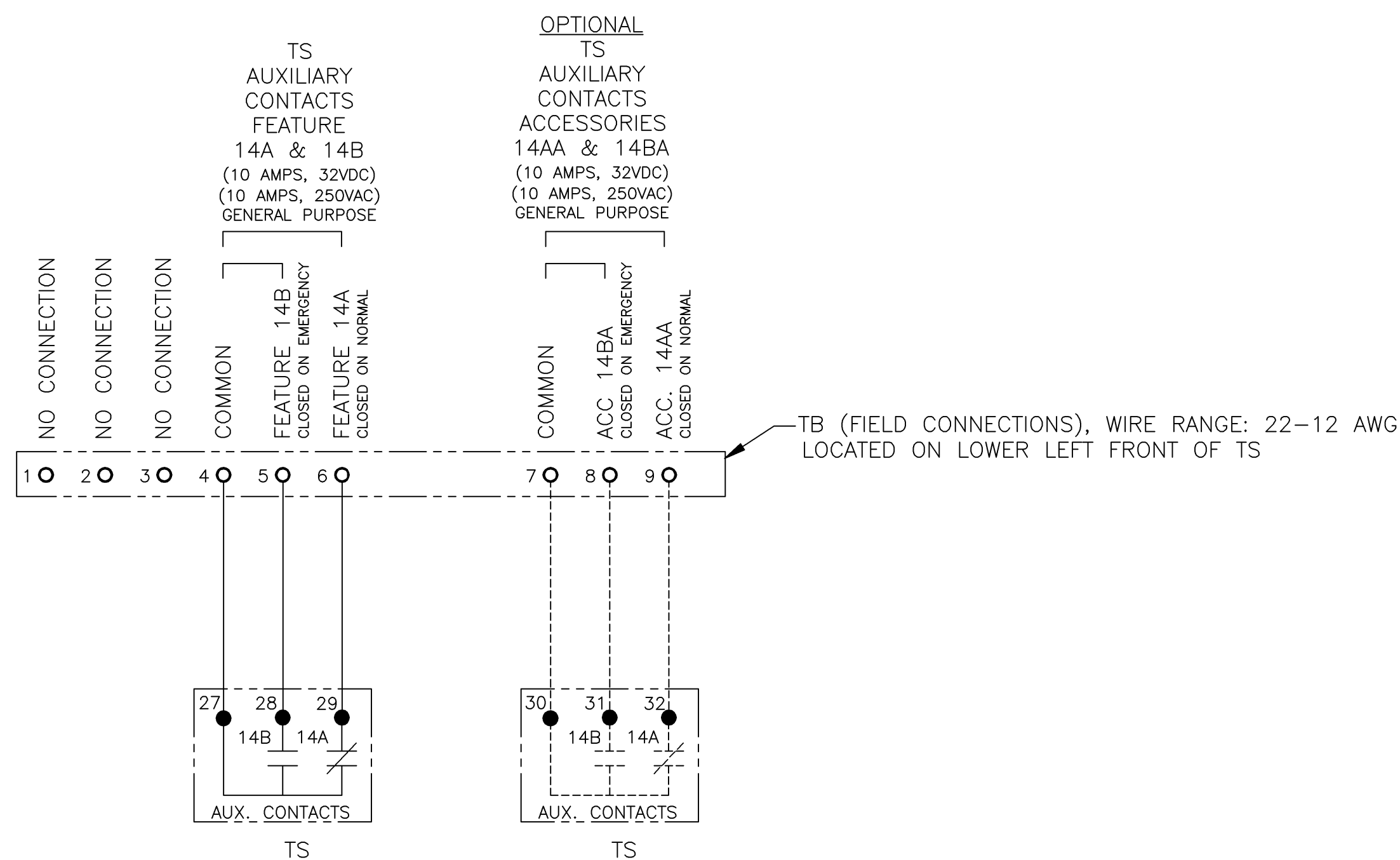


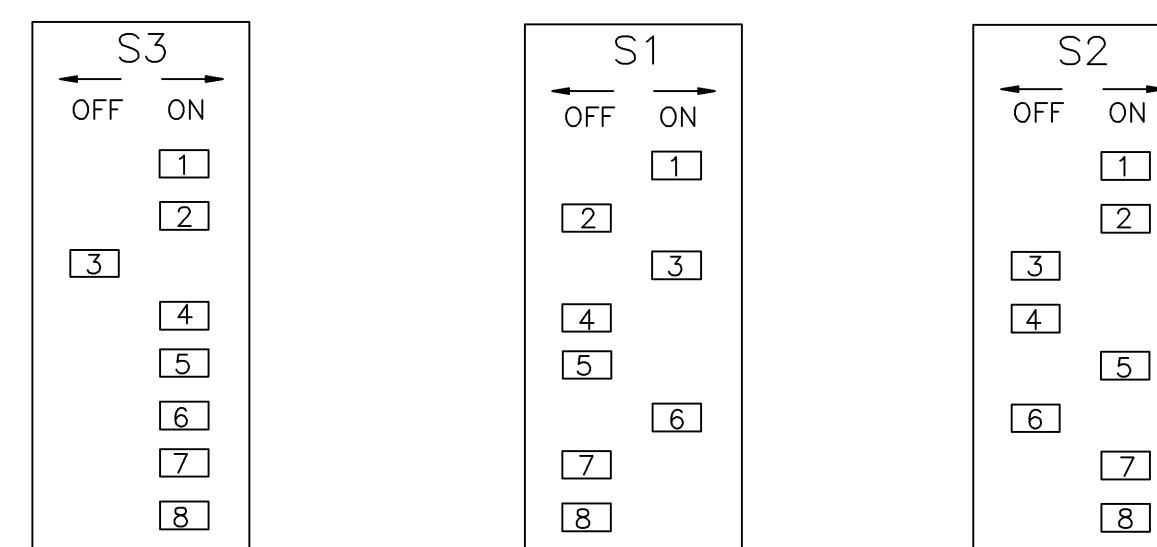
THREE PHASE WIRING FOR ASCO® SERIES H386 NON-AUTOMATIC TRANSFER SWITCHES RATED 600, 800, 1000 & 1200 AMPERES WITH GROUP I CONTROLS

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

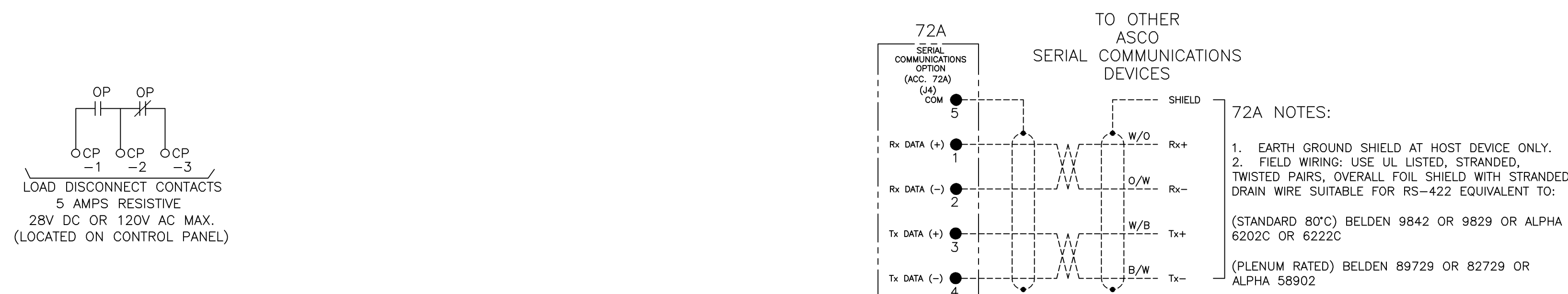
- SELECTOR SWITCH (SS) FOR MANUAL TRANSFER TO NORMAL AND EMERGENCY. THREE POSITION, MOMENTARY, SPRING RETURN TO CENTER SELECTOR SWITCH.
- FEATURES 14A & 14B - TRANSFER SWITCH AUXILIARY POSITION INDICATING CONTACTS. ONE (1) FORM C CONTACT TO INDICATE CONNECTION OF THE TRANSFER SWITCH TO NORMAL (14A) AND ONE (1) FOR EMERGENCY (14B). CONTACT CONNECTED TO THE FIELD CONNECTIONS TERMINAL BLOCK (TB). CONTACTS RATED 10 AMPS, 32 VDC, 250 VAC.
- 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 6 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. 14AA (2) AUXILIARY CONTACT CLOSED ON NORMAL.
- ACC. 14BA (2) AUXILIARY CONTACT CLOSED ON EMERGENCY.
- 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 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)



TS FRAME	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
H	386	A B C	3	600 800 1000 1200	H J K L M N P Q R	1	X	C F G L
		BLANK FOR NONE					BLANK FOR NONE	BLANK FOR OPEN TYPE

NEUTRAL TYPE		VOLTAGE CODES 3 PHASE (3 OR 4 WIRE) 50 OR 60 Hz		ENCLOSURE CODES	
CODE	DESCRIPTION	CODE	NOMINAL VOLTAGE	CODE	DESCRIPTION
BLANK	NONE	BLANK		C	OPEN TYPE (NO ENCLOSURE)
A	SOLID	C	208	F	3R OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT
B	SWITCHING	D	220	G	4 INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT
C	OVERLAPPING	E	230	L	12 INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT
		F	240		
		H	380		
		J	400		
		K	415		
		L	440		
		M	460		
		N	480		
		P	550		
		Q	575		
		R	600		

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

FORM REV G

PROJECT NAME: _____

WIRING _____ DIAGRAM _____
 SERIES H386 TS 3PH 600-1200 AMPS
 "H" FRAME, GROUP 1 CONTROLS

DRAWN BY	BWM	DATE	4/01	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	5/30/01	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						
FINAL APPROVAL	WK	DATE	5/30/01			

713507
 DRAWING G ECN NO. 212659 SHEET 10F4

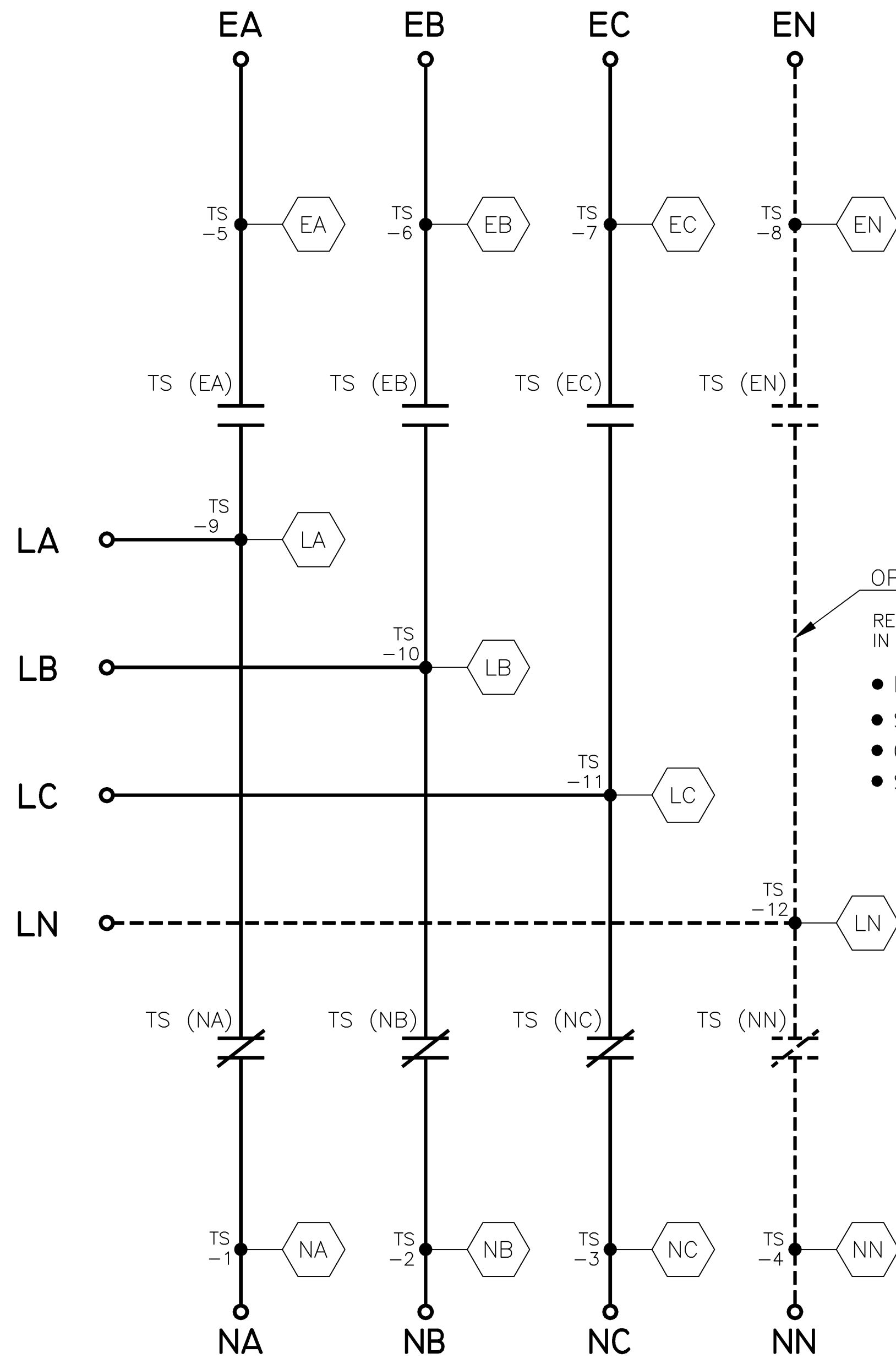
G	212659	WK	BK	03/30/07
SEE ECN				
F	166900	SDH	SDH	04/26/04
SEE ECN				
E	166704	BWM	WK	04/01/04
SEE ECN				
D	166172	AJM	BK	02/17/04
SEE ECN				
C	162498	BWM	WK	1/03
SEE ECN				
B	161055	BWM	WK	06/19/02
SEE ECN				
A	158049	BWM	BK	6/28/01
SEE ECN				
-	157464	BWM	WK	4/01
ISSUE				

MAIN POWER POLES

TS OPERATOR CIRCUIT

EMERGENCY

NORMAL

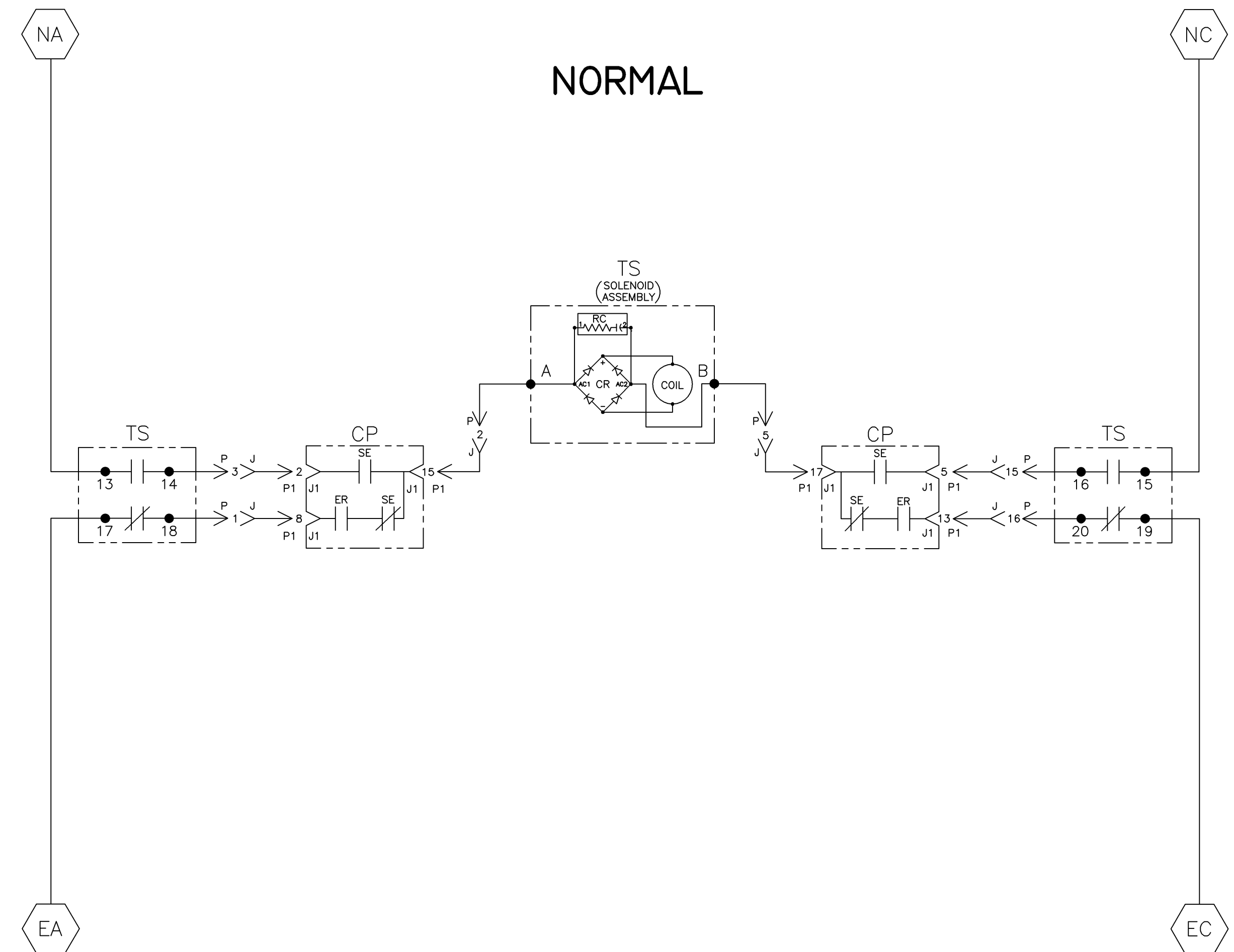


OPTIONAL NEUTRAL TYPES
 REFER TO "EXPLANATION OF CATALOG NUMBER CODES"
 IN CATALOG NUMBER CHART ON SHEET 1.

- NONE
- SWITCHING CONTACTS
- OVERLAPPING CONTACTS
- SOLID BUS PLATE

NORMAL

EMERGENCY



NOTE:
 TS SHOWN CLOSED ON NORMAL SOURCE.

TS	SOLENOID POSITION			
	CLOSED BEFORE NORMAL	BEFORE TDC	BEFORE CLOSED	CLOSED EMERG
13-14				
15-16				
17-18				
19-20				

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

G	212659	WK	BK	03/30/07
SEE ECN				
F	166900	SDH	SDH	04/26/04
SEE ECN				
E	166704	BWM	WK	04/01/04
SEE ECN				
D	166172	AJM	BK	02/17/04
SEE ECN				
C	162498	BWM	WK	1/03
SEE ECN				
B	161055	BWM	WK	06/19/02
SEE ECN				
A	158049	BWM	BK	6/28/01
SEE ECN				
-	157464	BWM	WK	4/01
ISSUE				

PROJECT NAME:		REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING DIAGRAM						
SERIES H386 TS 3PH 600-1200 AMPS		ASSEMBLY REF. NO.		COMPUTER GENERATED DRAWING		
"H" FRAME, GROUP 1 CONTROLS		SCALE 1:1		SIZE DS		
DRAWN BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055		PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		
CHECKED BY	DATE	ASCO		713507		
PROJECT APPROVAL	DATE	ASCOP		DRAWING G		
FINAL APPROVAL	DATE	ASCOP		ECN NO. 212659		
		ASCOP		SHEET 20F4		

WIRE RUN LISTING

WIRE No.	713082 (P) MAIN TS	AWG CLR
1	P-1,TS-18	16
2	P-2,TS-A	
3	P-3,TS-14	
4	P-4,TS-3	
4	TS-3,TS-15	
5	P-5,TS-B	
6	P-6,TS-7	
6	TS-7,TS-19	
7	P-7,TS-5	
7	TS-5,TS-17	
8	P-8,TS-24	
8	TS-24,TB-1	
9	P-9,TS-25	
9	TS-25,TB-2	
10	P-10,TS-21	
11	P-11,TS-2	
12	P-12,TS-1	
12	TS-1,TS-13	
13	P-13,TS-22	
14	P-14,TS-23	
15	P-15,TS-16	
16	P-16,TS-20	
17	P-17,TB-3	
18	P-18,TS-6	
19	P-19,TS-9	
20	P-20,TS-10	
21	P-21,TS-11	
22	P-22,TS-4	
23	P-23,TS-8	
24	P-24,TS-12	
25	TS-27,TB-4	
26	TS-28,TB-5	
27	TS-29,TB-6	

WIRE No.	OPTIONAL ACC. 14AA & 14BA	AWG CLR
32	TS-30,TB-7	16
33	TS-31,TB-8	
34	TS-32,TB-9	

WIRE No.	HARNESS 619510-037 (P3) DOOR CONTROLS & INDICATORS	AWG CLR
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

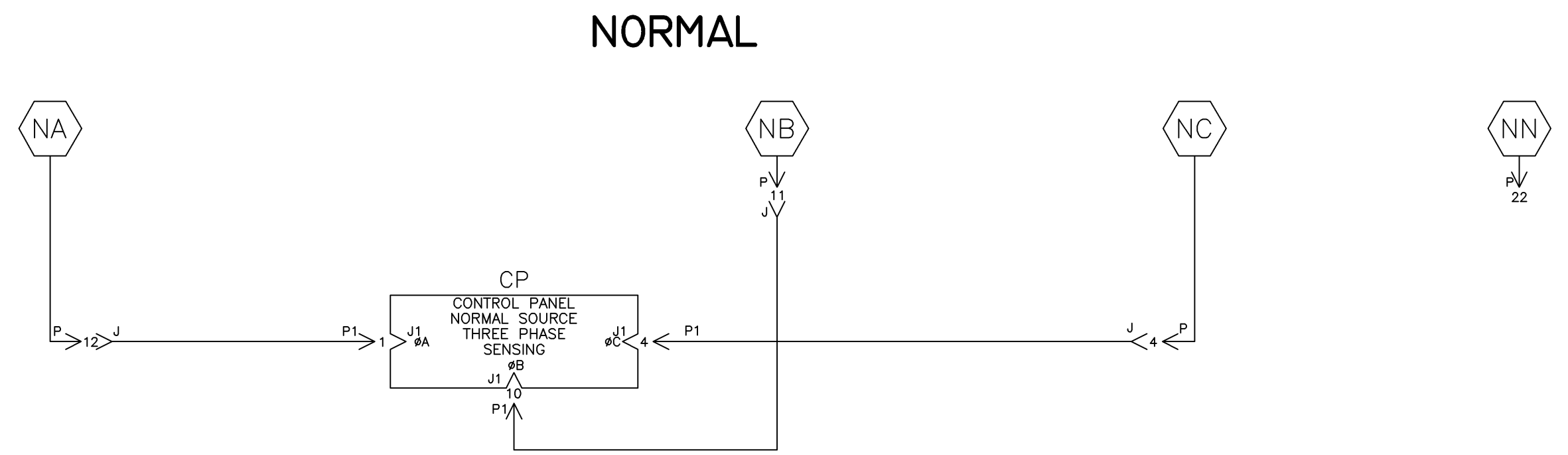
HARNESS 619510-037 WITH BQ KEY OPTION REMOVE WIRES	
147	CP-6,SS-13
148	CP-10,SS-23
149	CP-7,SS-14
149	SS-14,SS-24

ADD WIRES	
147	CP-6,SS-1NO
148	CP-10,SS-2NO
149	CP-7,SS-1COM
149	SS-1COM,SS-2COM

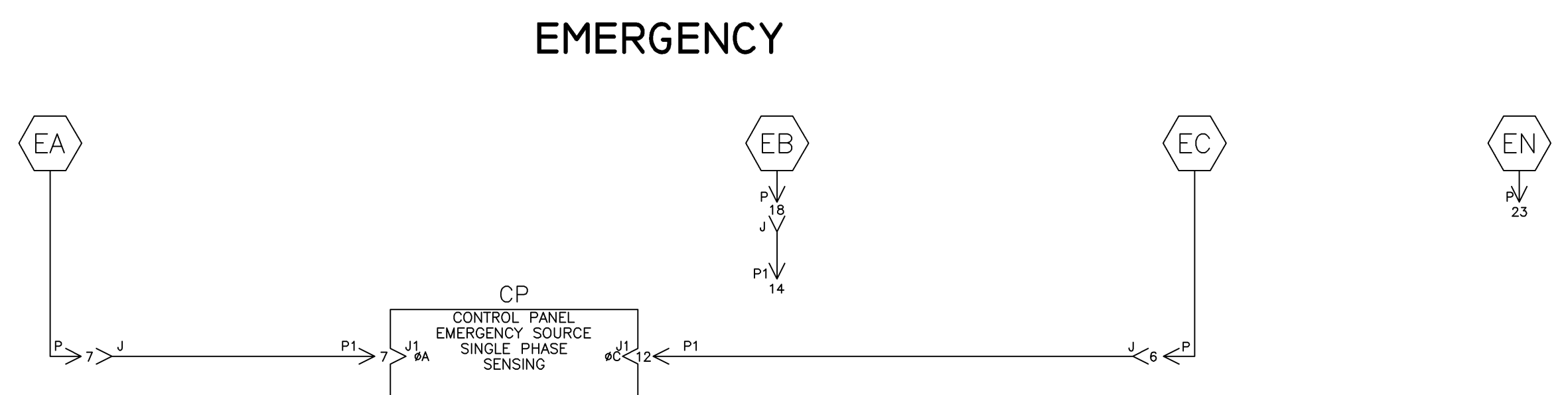
WIRE No.	HARNESS 483763 (J,P1,P1) CONTROL PANEL	AWG CLR
1	J-1,P1-8	16
2	J-2,P1-15	
3	J-3,P1-2	
4	J-4,P1-4	
5	J-5,P1-17	
6	J-6,P1-12	
7	J-7,P1-7	
8	J-8,P2-2	
9	J-9,P2-3	
10	J-10,P2-8	
11	J-11,P1-10	
12	J-12,P1-1	
13	J-13,P2-9	
14	J-14,P2-10	
15	J-15,P1-5	
16	J-16,P1-13	
17	J-17,P2-1	
18	J-18,P1-14	

ADD WIRES	
19	J-19
20	J-20
21	J-21
22	J-22
23	J-23
24	J-24

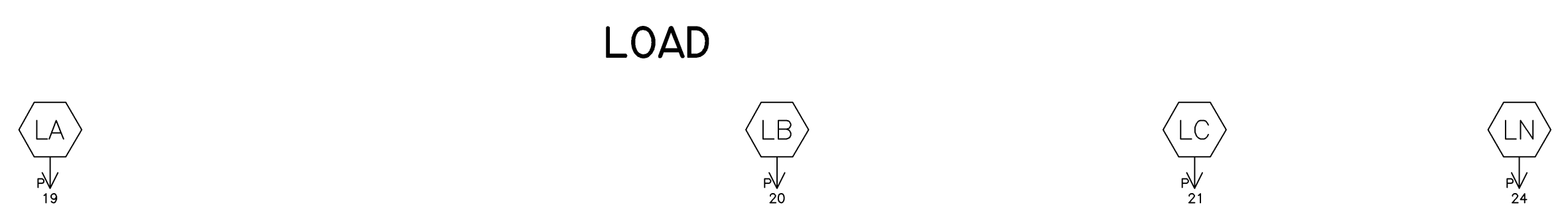
NORMAL SOURCE CIRCUITS



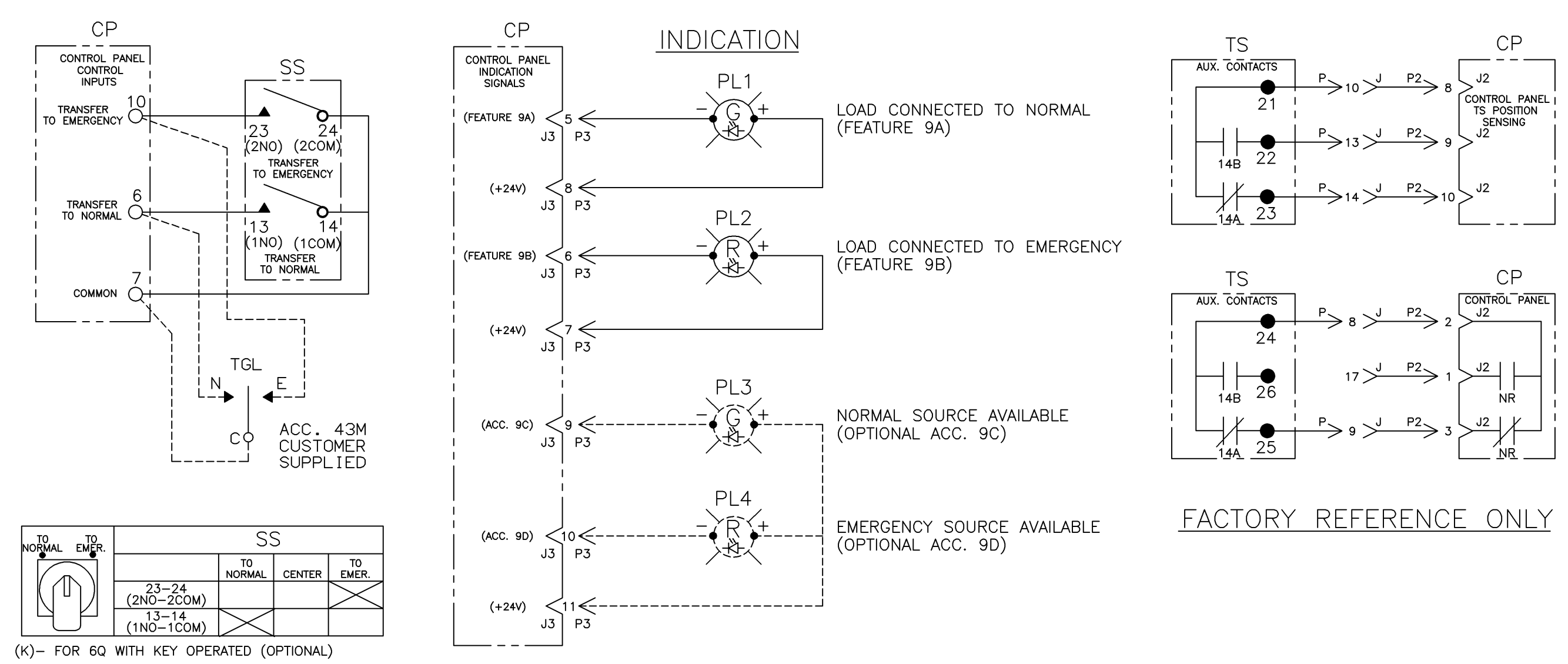
EMERGENCY SOURCE CIRCUITS



LOAD TERMINAL CIRCUITS



CONTROL SIGNALS & INDICATION



G	212659	WK	BK	03/30/07
F	166900	SDH	SDH	04/26/04
E	166704	BWM	WK	04/01/04
D	166172	AJM	BK	02/17/04
C	162498	BWM	WK	1/03
B	161055	BWM	WK	06/19/02
A	158049	BWM	BK	6/28/01
-	157464	BWM	WK	4/01

PROJECT NAME: WIRING DIAGRAM

SERIES H386 TS 3PH 600-1200 AMPS "H" FRAME, GROUP 1 CONTROLS

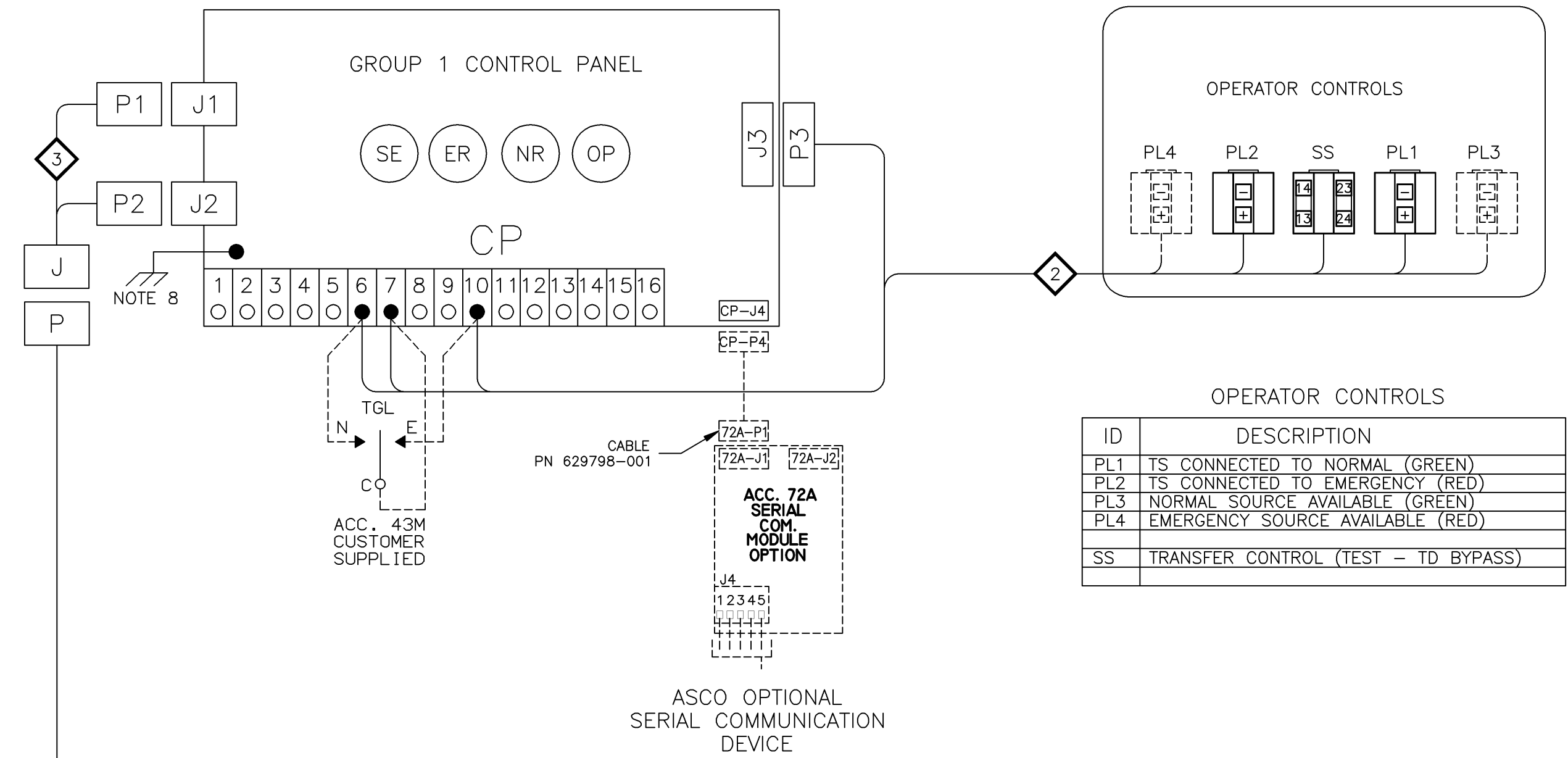
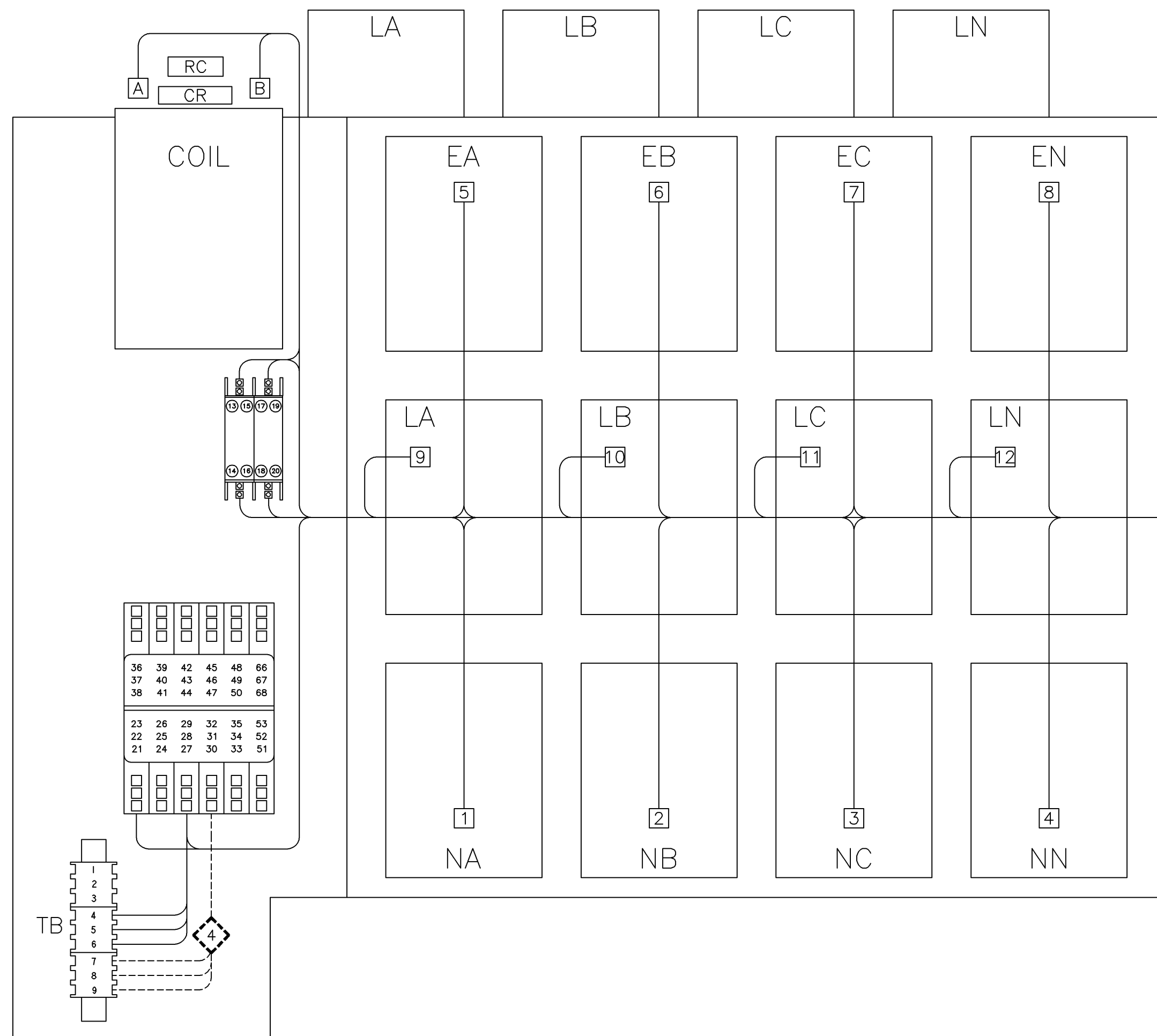
DRAWN BY	BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055	ASSEM. REF. NO.	COMPUTER GENERATED DRAWING
BWM	BWM	4/01			SCALE 1:1 SIZE DS
CHECKED	BK	5/30/01	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		DWG. NO. 713507
PROJECT APPROVAL					DRAWING G ECN NO. 212659 SHEET 3 OF 4
FINAL APPROVAL	WK	5/30/01	ASCO ASCO POWER TECHNOLOGIES, L.P. FLOHAM PARK, NEW JERSEY 07932 U.S.A.		

PHYSICAL DIAGRAM

ENCLOSURE

DOOR (INSIDE)

TS (TRANSFER SWITCH)
VIEW FROM INSIDE FRONT



DOOR HINGE

BONDING STRAP
PN 098323-019

G	212659	WK	BK	03/30/07
SEE ECN	166900	SDH	SDH	04/26/04
F	166704	BWM	WK	04/01/04
SEE ECN	166172	AJM	BK	02/17/04
E	162498	BWM	WK	1/03
SEE ECN	161055	BWM	WK	06/19/02
D	158049	BWM	BK	6/28/01
SEE ECN	157464	BWM	WK	4/01
C				ISSUE
B				
SEE ECN				
A				
REV. TO SHEET	ECN NO.	BY	APP.	DATE

PROJECT NAME: WIRING DIAGRAM

SERIES H386 TS 3PH 600-1200 AMPS
"H" FRAME, GROUP 1 CONTROLS

DRAWN BY	BWM	DATE	4/01	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	BK	5/30/01		PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		SCALE: 1:1 SIZE: DS
FINAL APPROVAL	WK	5/30/01				DWG. NO. 713507
						DRAWING G ECN NO. 212659 SHEET 4 OF 4

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