



JEA Brandy Branch Generating Station

TRANSFER SWITCH RECORD DRAWINGS

PO #2354532 / QUOTE #8868497

**Joshua Ehens**

**Sales Representative**

Joshua.Ehens@ascopower.com

Tel No : 407.462.6279

July 17, 2023

# Brandy Branch Generating Station

Reference Quote: 8868497

Sales Order: 3116133

TRANSFER SWITCH DETAILS									
ATS NAME	QTY	AMPS / POLES (VOLTS)	BYPASS	TRANSITION TYPE	CATALOG NUMBER	ACCESSORIES	OUTLINE DRAWING	WIRING DIAGRAM	BOM NUMBER
B54-EE21-001	1	0800 / 3 (480V)	YES	OPEN	H07ATBA30800N5XP	31BG,44G,135LA1	749416-009	735259-1879	1529180
B50-EE21-001	1	0600 / 3 (480V)	YES	OPEN	J07ATBA30600N5XC	31BG,135LA1	802093	806095-1874	1529184
B51-EE21-001, B52-EE21-001, B53-EE21-001	3	0600 / 3 (480V)	YES	OPEN	J07ATBA30600N5XP	31BG,44G,135LA1	802093-003	806095-1874	1529185

Transfer Switch Withstand and Closing Ratings																						
				300, 4000 & 7000 Series							4000 & 7000 Series				7000 Series							
ATS NAME	FRAME SIZE	SWITCH RATING AMPS		CURRENT LIMITING FUSES				SPECIFIC BREAKER			TIME BASED				Short Time Ratings <sup>3</sup> (sec)							
		Transfer Switches	Bypass Switches	480V Max.	600V Max.	MAX SIZE, A	CLASS	240V Max.	480V Max.	600V Max.	Time(Sec)	240V Max.	480V Max.	600V Max.	480V Max.				600V Max.			
															.13	.2	.3	.5	.1	.13	.3	.5
-	J	600	600	200kA	200kA	800	L	65kA	85kA	42kA	0.05	65kA	42kA <sup>5</sup>	35kA	7.5kA <sup>9</sup>	-	-	-	-			
-	H	800 - 1200	800 - 1200	200kA	200kA	1600 <sup>4</sup>	L	65kA	150kA	65kA	0.05	50kA	50kA	50kA	36kA	-	-	36kA	-			

**NOTES:**

- 1) All WCR values indicated are tested in accordance with the requirements of UL 1008, 7th Edition.
- 2) Application requirements may permit higher WCR for certain switch sizes.
- 3) Short Time ratings are provided for applications involving circuit breakers that utilize trip delay settings for system selective coordination
- 4) Max fuse rating is 1200A on front connected H frame switches
- 5) Switches utilizing overlapping neutral (code "C") have 35kA, 0.050 Sec time-based rating at 480V Max
- 9) Short Time Rating applies to 600A Bypass switch only, the 600A Transfer Switch does not have a Short Time Rating

# Brandy Branch Generating Station

## Transfer Switch Details

#1	ATS	AMPS: 0800	QTY: 1
Product	: 7000 Series Bypass Transfer Switches	Catalog Number	: H07ATBA30800N5XP
Service Voltage / Hz	: 480V/60Hz	Optional Accessories	: 31BG,44G,135LA1
Bypass Isolation	: YES	Product Description	: 7000 Series, Automatic Open Transition ByPass Switch
No. of Switched Poles	: 3	Neutral Configuration	: Solid [A] <b>No Neutral Needed</b>
Withstand Rating:	: See WCR Table Below	No. of Cables & Lug Size	: See applicable outline drawing
Frame = H, Switch Rating = 0800, Series = 7000			
Enclosure	: 4X(P)-UL Type 4X - 304 Stainless Steel Secure	Service	: Three Phase, 4-wire <b>3P, 3W</b>
Extended Warranty	: Not Included	Markings	: Item1: B54-EE21-001

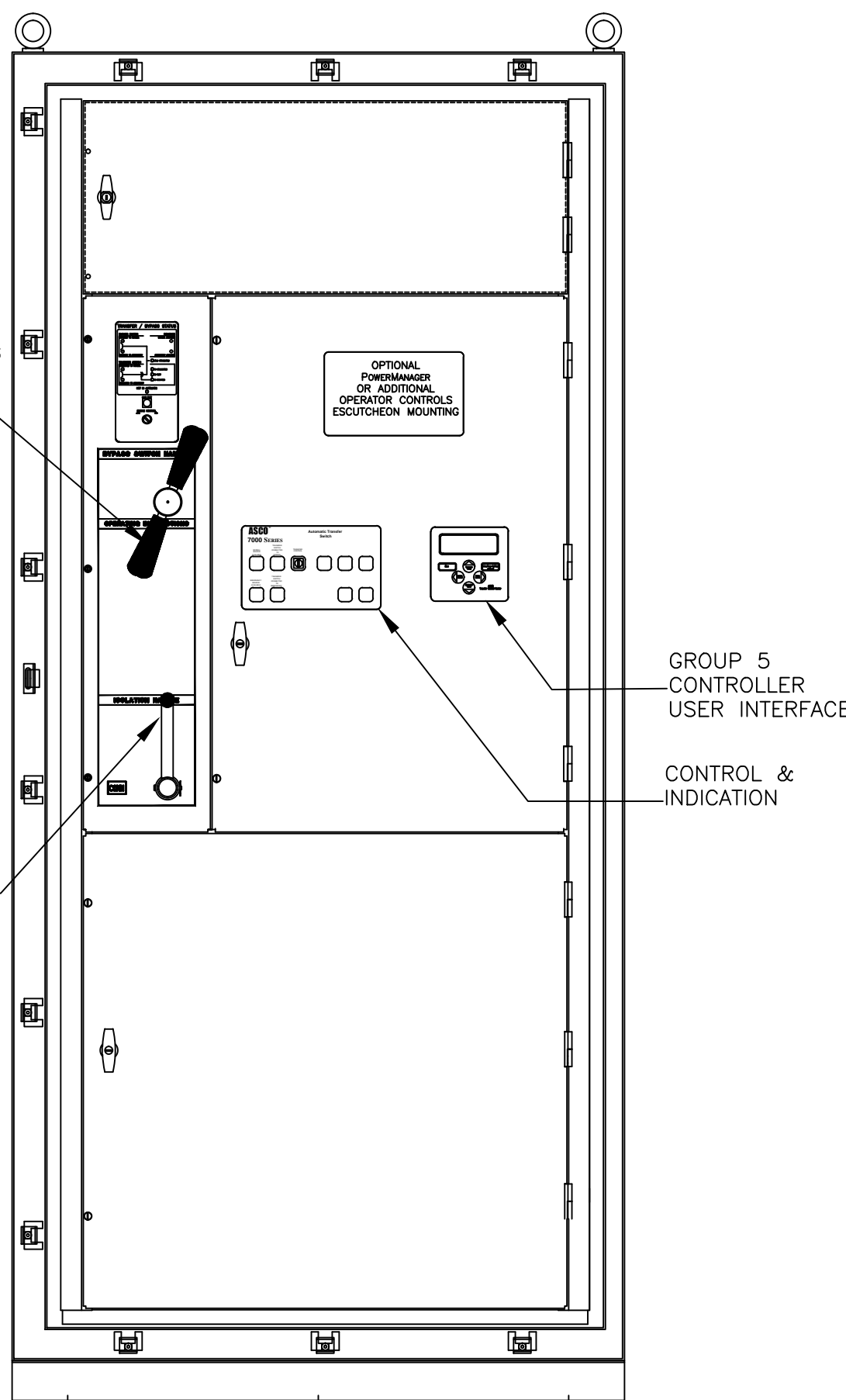
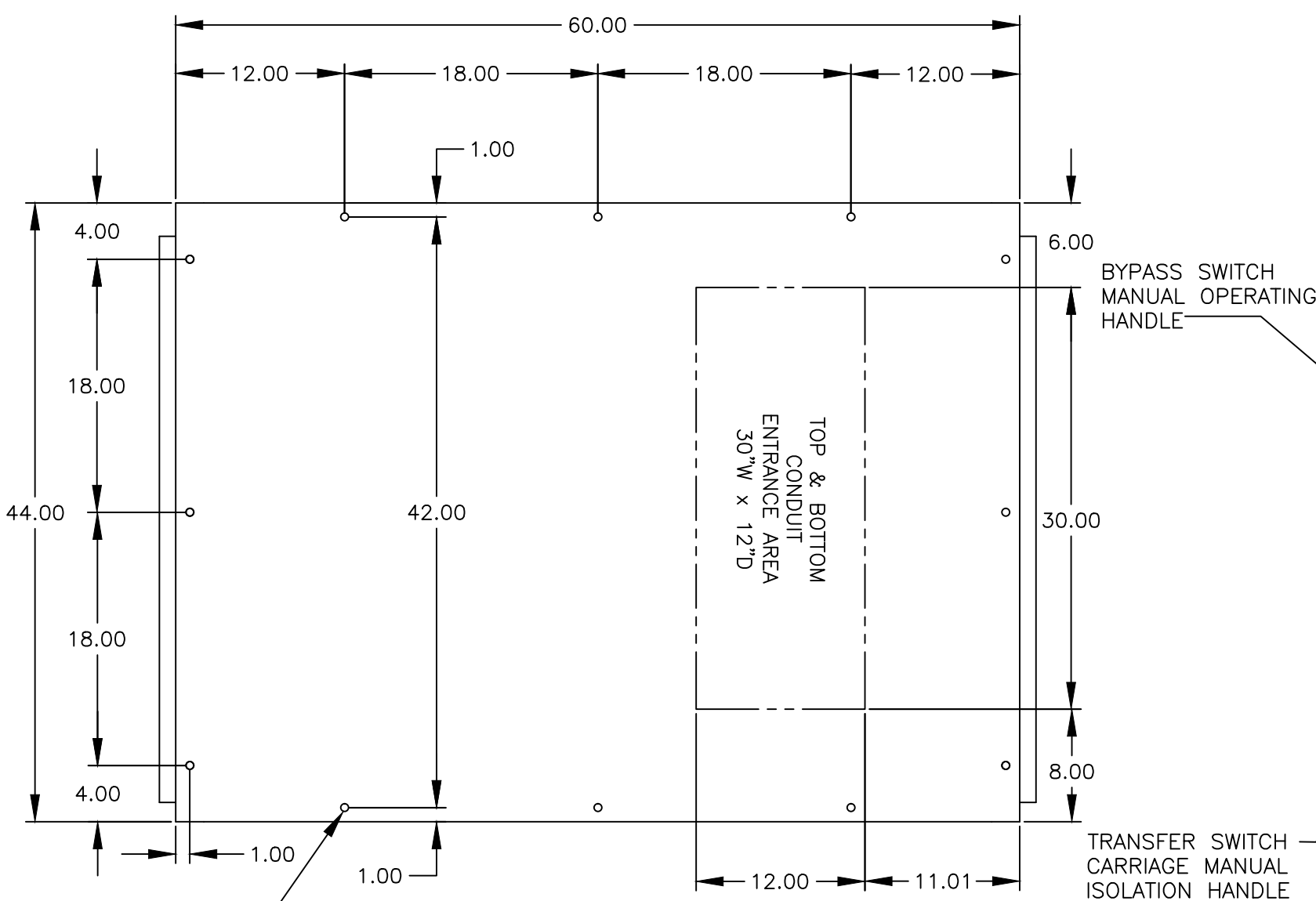
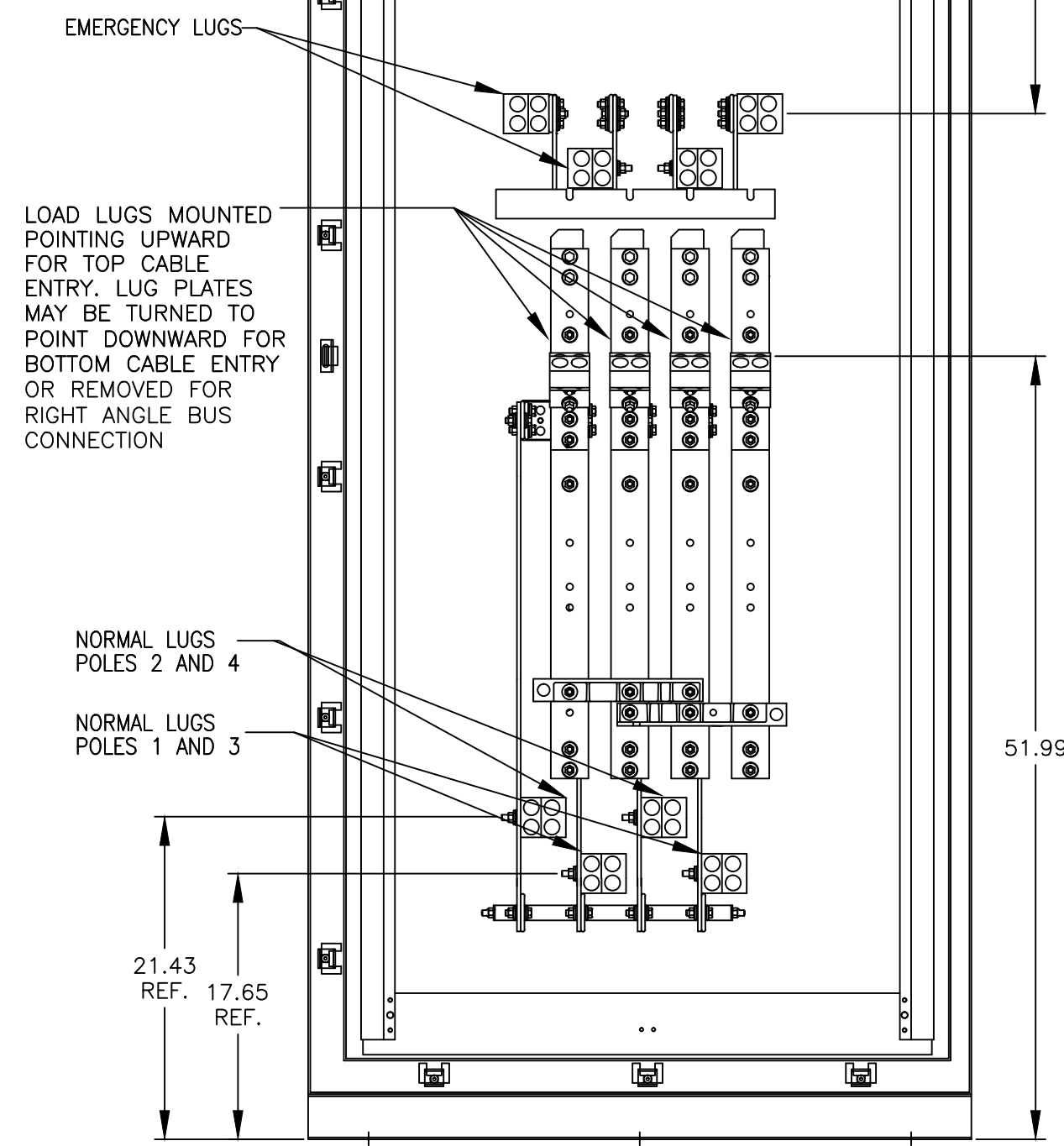
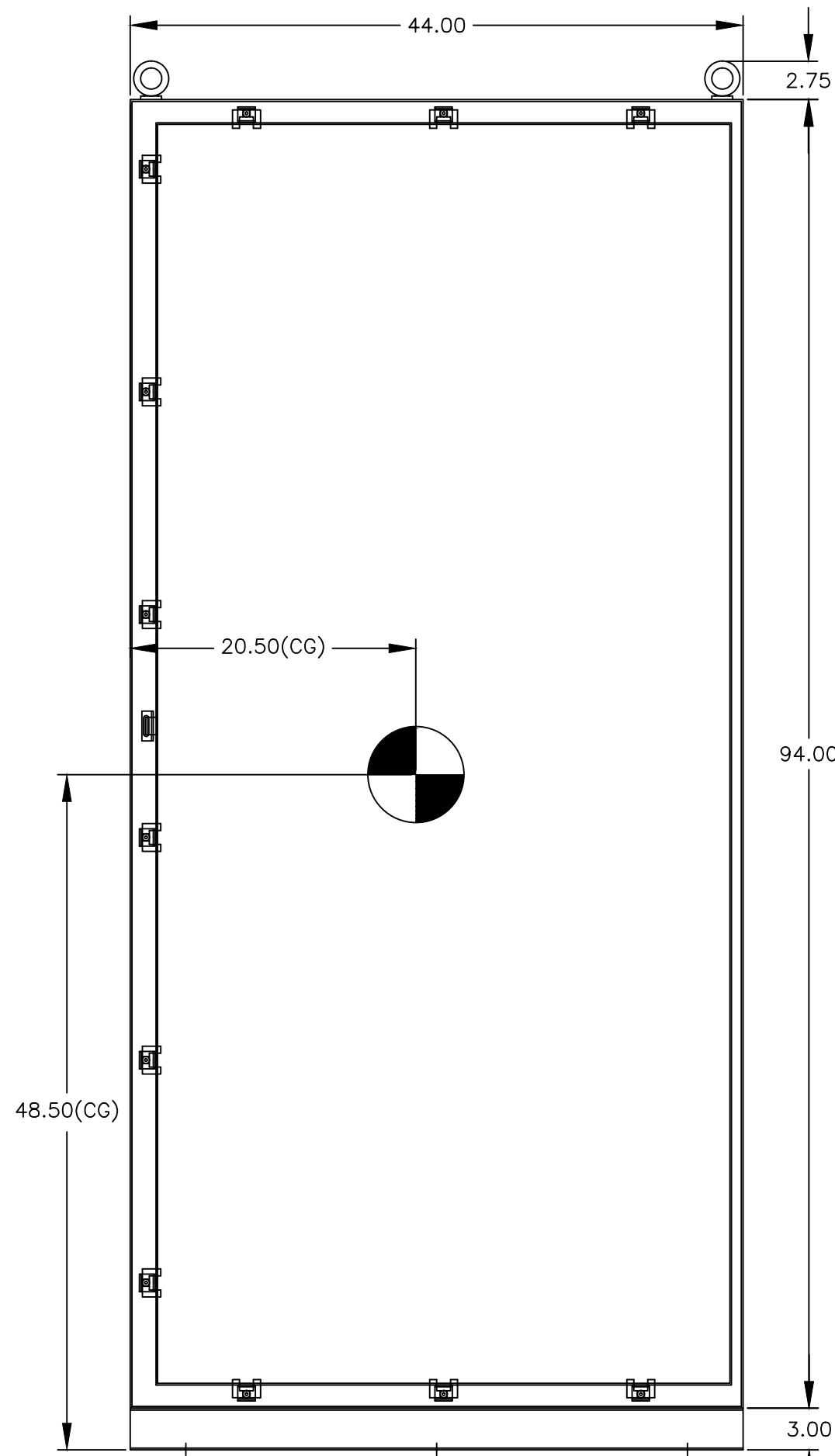
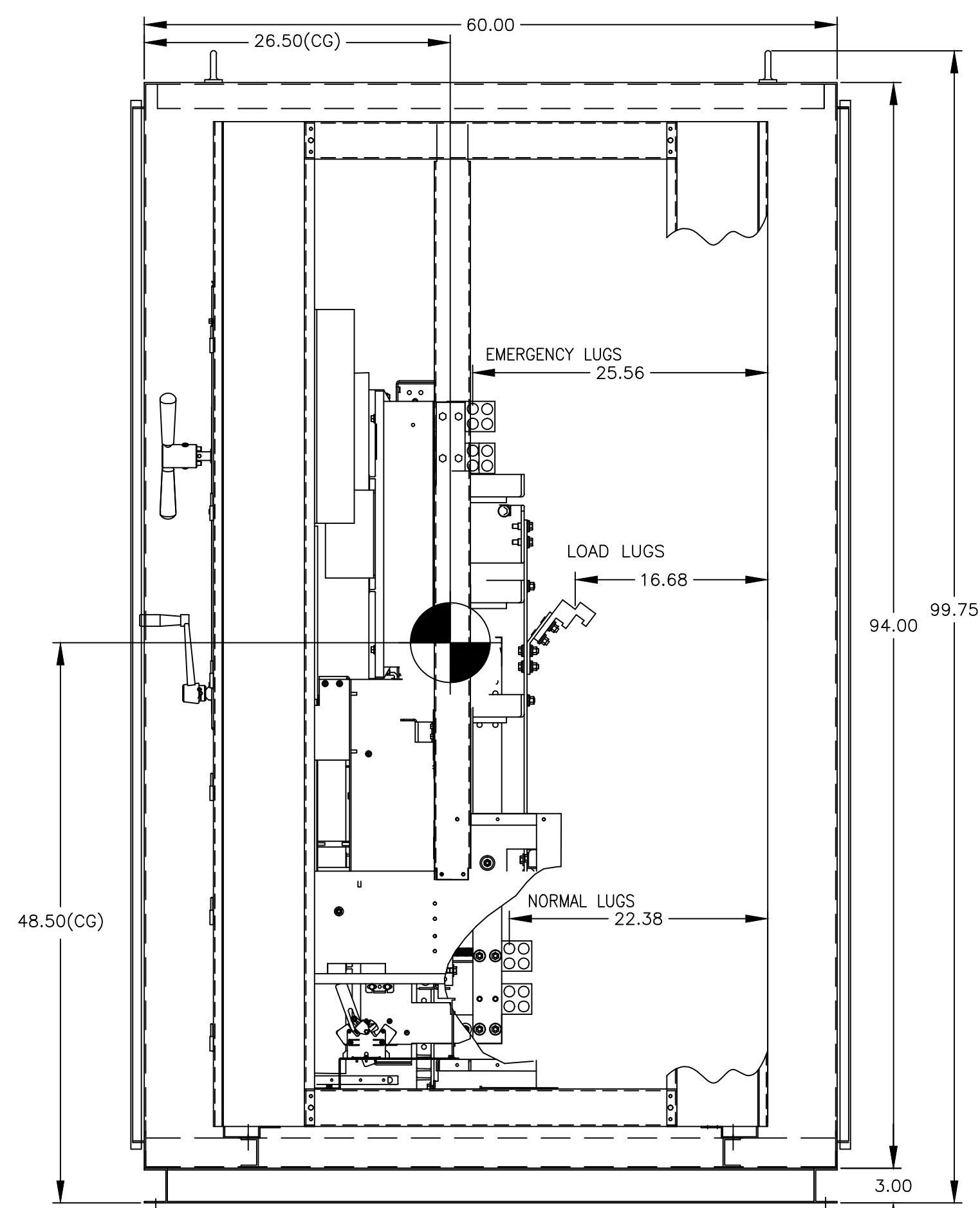
#	ACCESSORY DESCRIPTIONS	
	Accessory Code	Description
1	31BG	Status Relay Bundle - Provides 1 relay (3 total) for each of the following statuses, Normal Source Acceptability, Emergency Source Acceptability, Pre & Post Transfer Signal. Each relay has 2 NO/NC (Form C) sets of contacts rated for 6A at 120Vac, 250Vac Max.
2	44G	208-240VAC and or 440-480VAC Accessory 44 Strip heater is designed to keep humidity and or temperature within the ATS enclosure at acceptable levels. This accessory consists of a mounting bracket with strip heater, thermostat and terminal block.
3	135LA1	ASCO "Digital Power Meter" monitoring the load source for measurement of voltage, frequency, and current. Calculation of Power, Energy, and Power Factor.

D

C

B

A



Ø.56 MOUNTING HOLES (12) PLACES.  
½" MOUNTING HARDWARE MUST BE GRADE 5. USE ½" BASE MOUNTING PLATE SIMILAR TO "POWER-STRUT P/N PS619.

## GENERAL NOTES

- TYPE 4/4X ENCLOSURE. FREE STANDING. FLOOR MOUNTED. CODE GAUGE FORMED STEEL FRAME CONSTRUCTION.
- DOORS PROVIDED WITH PAD LOCKABLE HASP & STAPLE. CLAMPS ON 3 SIDES.
- FINISH: TYPE 4: ANSI 61 GRAY POLYESTER SEMI GLOSS ELECTROSTATIC POWDER.  
TYPE 4X (P): EXTERIOR CONSTRUCTED OF CODE GAUGE TYPE 304 STAINLESS STEEL.  
TYPE 4X (V): EXTERIOR CONSTRUCTED OF CODE GAUGE TYPE 316 STAINLESS STEEL.
- SWITCH CONSTRUCTION IS IN ACCORDANCE WITH UL 1008.
- APPLICABLE U.L. LABELS: UL 1008.
- PADLOCKING PROVISIONS ARE INCLUDED:  
ISOLATION HANDLE: THE TRANSFER SWITCH ISOLATION HANDLE MAY BE PADLOCKED WITH THE TRANSFER SWITCH IN THE FULLY ISOLATED (DISCONNECTED POSITION).
- RECOMMENDED CLEARANCES:  
FRONT: 48 INCHES REAR: 36 INCHES
- A 20% RATED GROUND BUS IS PROVIDED.
- A FULL RATED NEUTRAL CONNECTION FOR EACH SOURCE AND THE LOAD IS OPTIONAL. WHEN PROVIDED IT IS IN ONE OF THE FOLLOWING FORMATS AS SPECIFIED BY THE CATALOG NO. NEUTRAL TYPE:  
TYPE A: SOLID NEUTRAL BUS  
TYPE B: SWITCHED NEUTRAL POLE  
TYPE C: OVERLAPPING NEUTRAL POLE (NOT AVAILABLE ON 7ADTB & 7ACTB UNITS)
- THE STANDARD SWITCH CONFIGURATION IS FOR TOP EMERGENCY, CENTER LOAD, AND BOTTOM NORMAL. OPTIONALLY, THE SWITCH MAY BE SUPPLIED WITH REVERSE SOURCES.  
(REFER TO THE WIRING DIAGRAM FURNISHED WITH EACH TRANSFER SWITCH TO DETERMINE TERMINATION)

11.  CENTER OF GRAVITY (CG)

## TERMINATIONS

- ALL SIZES SUPPLIED STANDARD WITH MECHANICAL (SCREW TYPE) LUGS.  
A. LUG MATERIAL: ALUMINUM ALLOY 6061-T6 WITH ELECTRO TIN PLATED FINISH.  
B. SCREW MATERIAL: ALUMINUM ALLOY 6262-T9 WITH ELECTRO TIN PLATED FINISH.  
C. UL LISTED, CSA CERTIFIED.  
D. LUG SCREW TIGHTENING TORQUE PER UL 486B: 19 FT-LBS.  
E. SUITABLE WIRE BENDING SPACE IS PROVIDED.
- OPTIONAL COPPER CRIMP LUGS MAY BE SUPPLIED.  
A. LUG MATERIAL: HIGH CONDUCTIVITY WROUGHT COPPER FINISH, ELECTRO TIN PLATED.  
B. UL LISTED, CSA CERTIFIED.  
C. LUG MOUNTING HARDWARE TIGHTENING TORQUE: (REFER TO WITHSTAND CURRENT RATING LABEL PROVIDED ON EACH TRANSFER SWITCH).  
D. SUITABLE WIRE BENDING SPACE IS PROVIDED.
- CONSULT FACTORY FOR OTHER TERMINATION REQUIREMENTS.

## CABLING NOTES 600 AMP SWITCHES

- SUPPLIED WITH STANDARD MECHANICAL (SCREW TYPE) LUGS ON THE NORMAL, EMERGENCY & LOAD BUS STABS. ONE (1) LUG PER PHASE AND NEUTRAL EACH SUITABLE FOR CONNECTION OF TWO (2) #2 -600MCM CU/AL CABLE (SEE NOTE "E" BELOW).  
E. SUITABLE WIRE BENDING SPACE IS PROVIDED FOR UP TO TWO (2) 600MCM CABLES PER TERMINAL PER NEC.
- OPTIONAL COPPER CRIMP LUGS MAY BE SUPPLIED. UP TO TWO (2) TWO HOLE, LONG BARREL CU CRIMP LUGS RATED FOR UP TO 600MCM. (REFER TO CRIMP LUG INSTALLATION DATA PROVIDED WITH UNIT FOR FULL INSTALLATION DETAILS).  
D. SUITABLE WIRE BENDING SPACE IS PROVIDED FOR UP TO TWO (2) 600MCM CABLES PER TERMINAL PER NEC.
- GROUND LUGS ARE PROVIDED STANDARD AS FOLLOWS;  
(6) 1/0 - 750MCM CU/AL CABLE CONNECTIONS.

## CABLING NOTES 800-1000 AMP SWITCHES

- SUPPLIED WITH STANDARD MECHANICAL (SCREW TYPE) LUGS ON THE NORMAL, EMERGENCY & LOAD BUS STABS. ONE (1) LUG PER PHASE AND NEUTRAL EACH SUITABLE FOR CONNECTION OF FOUR (4) 1/0 -750MCM CU/AL CABLE (SEE NOTE "E" BELOW).  
E. SUITABLE WIRE BENDING SPACE IS PROVIDED FOR UP TO FOUR (4) 600MCM CABLES PER TERMINAL PER NEC.
- OPTIONAL COPPER CRIMP LUGS MAY BE SUPPLIED. UP TO FOUR (4) TWO HOLE, LONG BARREL CU CRIMP LUGS RATED FOR UP TO 600MCM. (REFER TO CRIMP LUG INSTALLATION DATA PROVIDED WITH UNIT FOR FULL INSTALLATION DETAILS).  
D. SUITABLE WIRE BENDING SPACE IS PROVIDED FOR UP TO FOUR (4) 600MCM CABLES PER TERMINAL PER NEC.
- GROUND LUGS ARE PROVIDED STANDARD AS FOLLOWS;  
(12) 1/0 - 750MCM CU/AL CABLE CONNECTIONS.

B	283654		RN	3-4-20	
	SEE ECN				
	259966	SG	RN	03/18/16	
	SEE ECN				
A	247235		SM	RN	03/14/14
—	NEW ISSUE				

PROJECT NAME:			REV. TO SHEET	ECN NO.	BY	APP.	DATE
---------------	--	--	---------------	---------	----	------	------

OUTLINE			MOUNTING		
HATB 600A — 1000A					
TYPE 4/4X, 97 X 44 X 60					

BY			DATE		MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005		ASSEMB. REF. NO.	
DRAWN BY			SM		03/14/14			
CHECKED					PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.			
PROJECT APPROVAL								
FINAL APPROVAL								

COMPUTER GENERATED DRAWING			
SCALE 3/32" = 1" SIZE DS			
DWG. NO.			
749416-009			
DRAWING B		ECN NO. 283654	SHEET 1 OF 1

THIRD ANGLE PROJECTION	
------------------------	--

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

D

C

B

A



THREE PHASE WIRING FOR ASCO® 7000 SERIES AUTOMATIC TRANSFER & BYPASS-ISOLATION SWITCHES TYPE H7ATB RATED 600-1200 AMPERES

FEATURES, SETTINGS, OPERATION, ACCESSORIES & 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).

MOTOR LOAD TRANSFER FEATURE

FEAT. 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 VIA THE GROUP 5 CONTROL PANEL USER INTERFACE (TRANSFER CONTROL CENTER) BY SELECTING "IN-PHASE MONITOR ENABLE" = YES. AN ADJUSTABLE DELAY (0.0-3.0 sec, FACTORY SET TO 1.5 sec, IN INCREMENTS OF 0.1 sec) DELAYS SENSING TO PERMIT STABILIZATION OF THE SOURCES PRIOR TO SENSING. FACTORY SETTING IS DISABLED UNLESS SPECIFIED TO BE FACTORY ACTIVATED AT THE TIME OF ORDER.

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

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	
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 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 14AG & 14BG - TRANSFER SWITCH AUXILIARY POSITION INDICATING CONTACTS. EIGHT (8) FORM C CONTACTS TO INDICATE CONNECTION OF THE TRANSFER SWITCH TO NORMAL (14A) AND EIGHT (8) 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.

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.

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

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)

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

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					
				A B C D E F G H J K L M N P Q				CODE	DESCRIPTION	CODE	NOMINAL VOLTAGE	CODE	TYPE	DESCRIPTION			
								BLANK	NONE	A	115	BLANK			OPEN TYPE (NO ENCLOSURE)		
								A	SOLID	B	120	C	1		GENERAL PURPOSE, INDOOR		
								B	SWITCHING	C	208	E	2		INDOOR, WATER & DUST RESISTANT		
								C	OVERLAPPING	D	220	F	3R		OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT		
										E	230	G	4		INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT		
										F	240	H	4X		TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL)		
										G	277	J	4X		TYPE 4 PLUS CORROSION RESISTANCE (FIBERGLASS)		
										H	380	K	7		EXPLOSION PROOF		
										J	400	L	12		INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT		
										K	415						
										L	440						
										M	460	M	3R		(SECURE ENCLOSURES)		
										N	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)		
											600				INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT		

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.

ACCESSORIES

ACC. 31BG QTY 2 FORM C CONTACTS THAT OPERATE WHEN EMERGENCY SOURCE VOLTAGE IS ACCEPTABLE AT TRANSFER SWITCH TERMINALS.

QTY 2 FORM C CONTACTS THAT OPERATE WHEN NORMAL SOURCE VOLTAGE IS ACCEPTABLE AT TRANSFER SWITCH TERMINALS

QTY 2 FORM C CONTACTS FOR LOAD DISCONNECT. PROVIDING A PRE-TRANSFER AND/OR POST TRANSFER SIGNAL WHEN TRANSFERRING FROM EMERGENCY TO NORMAL AND/OR NORMAL TO EMERGENCY. ADDITIONALLY, THE SIGNAL CAN BE PROGRAMMED TO OCCUR DURING ALL TRANSFERS OR ONLY WHEN THE TRANSFER IS OCCURRING BETWEEN TWO LIVE SOURCES. THE LENGTH OF THE PRE AND POST TRANSFER DELAYS CAN BE SET TO 0-5 MINUTES, 59 SECONDS.

FACTORY SETTINGS:

.....PARAMETER.....SETTING..  
PRE-TRANSFER N>E (31F TIMER) 3 SEC  
POST TRANSFER N>E (31M TIMER) 3 SEC  
BYPASS 31F & 31M ON SOURCE FAIL NO  
PRE-TRANSFER E>N (31G TIMER) 3 SEC  
POST TRANSFER E>N (31N TIMER) 3 SEC  
BYPASS 31G & 31N ON SOURCE FAIL NO

REFER TO GROUP 5 CONTROL PANEL USER'S GUIDE (PN 381333-126).

ACC. 135L ASCO "DIGITAL POWER METER" MONITORING THE LOAD SOURCE. FOR MEASUREMENT OF VOLTAGE, FREQUENCY & CURRENT AND CALCULATION OF POWER, ENERGY & POWER FACTOR. THE "DIGITAL POWER METER" CAN COMMUNICATE DATA TO HOST DEVICES WHICH ARE PART OF ASCO COMMUNICATIONS SYSTEMS VIA AN OPTIONAL ACC-72EE2 MODULE. THE "DIGITAL POWER METER" IS CONNECTED TO MEASURE SINGLE PHASE 2 OR 3 WIRE OR THREE PHASE 3 OR 4 WIRE SYSTEMS BASED ON THE CONFIGURATION OF THE TRANSFER SWITCH SPECIFIED. SUFFIX A1 INCLUDES NEUTRAL CONDUCTOR CURRENT MONITORING.

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 HANDLE POSITION (AUX4)	
		EMERG (OUT)	NORMAL (IN)
137-138	●		
137-139	●		
140-141	●		
140-142	●		

BYPASS SWITCH OPERATOR AUXILIARY CONTACTS

BP AUXILIARY CONTACT	STATUS (*)	BP HANDLE POSITION (AUX5)		
		OFF	<> ±10°	BYPASS (±90°)
143-144	●			
143-145	●			
146-147	●			
146-148	●			

ISOLATION (TRANSFER SWITCH CARRIAGE POSITION) AUXILIARY CONTACTS

IS AUXILIARY CONTACT	STATUS (*)	TRANSFER SWITCH CARRIAGE POSITION			
		CONNECT	>	TEST	>
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	●				
26-27	●				
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!

CATALOG NUMBER \_\_\_\_\_

ASCO® CERTIFIED TO

S.O. \_\_\_\_\_

BY \_\_\_\_\_

DATE \_\_\_\_\_

FORM REV L

PROJECT NAME:

WIRING

DIAGRAM

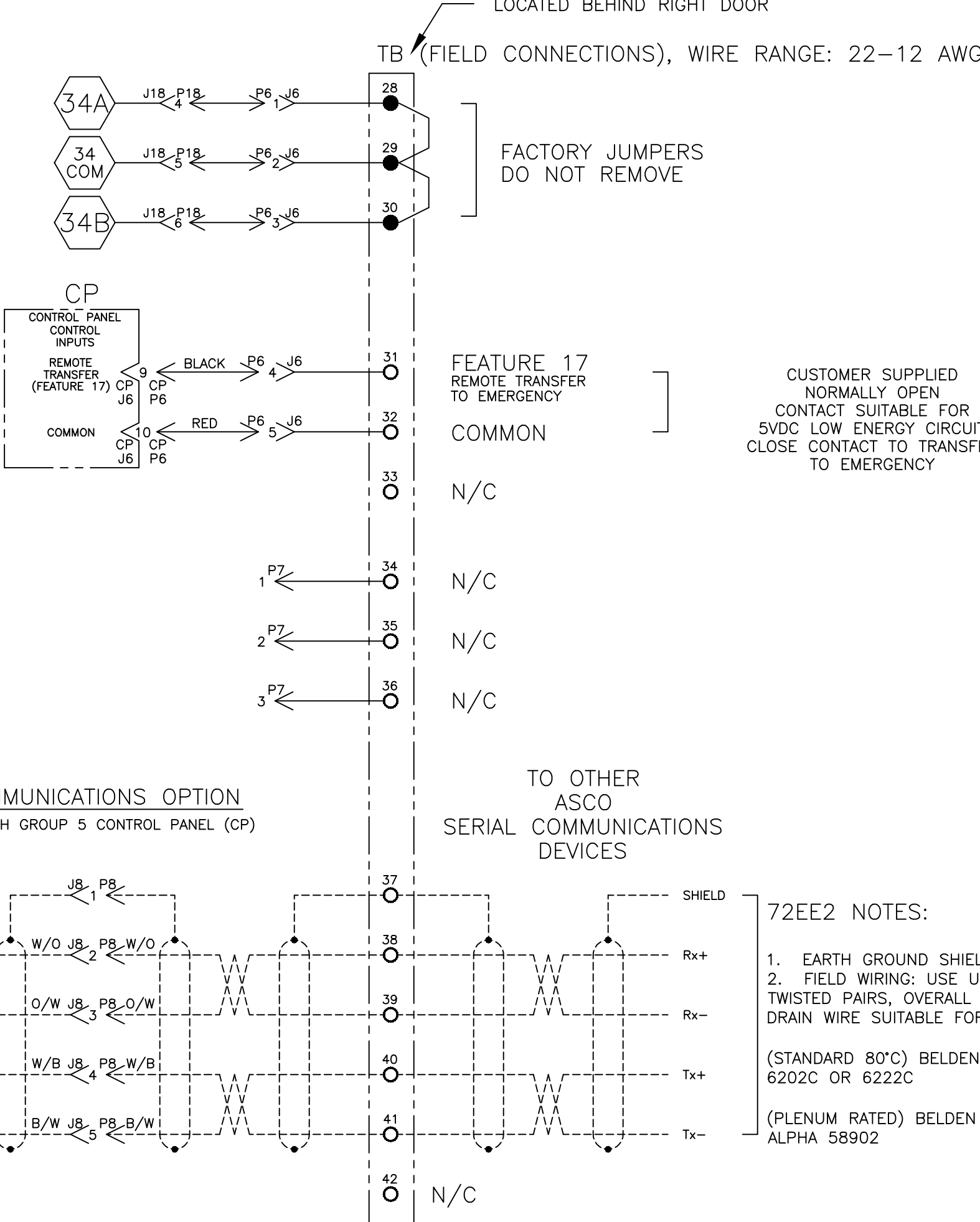
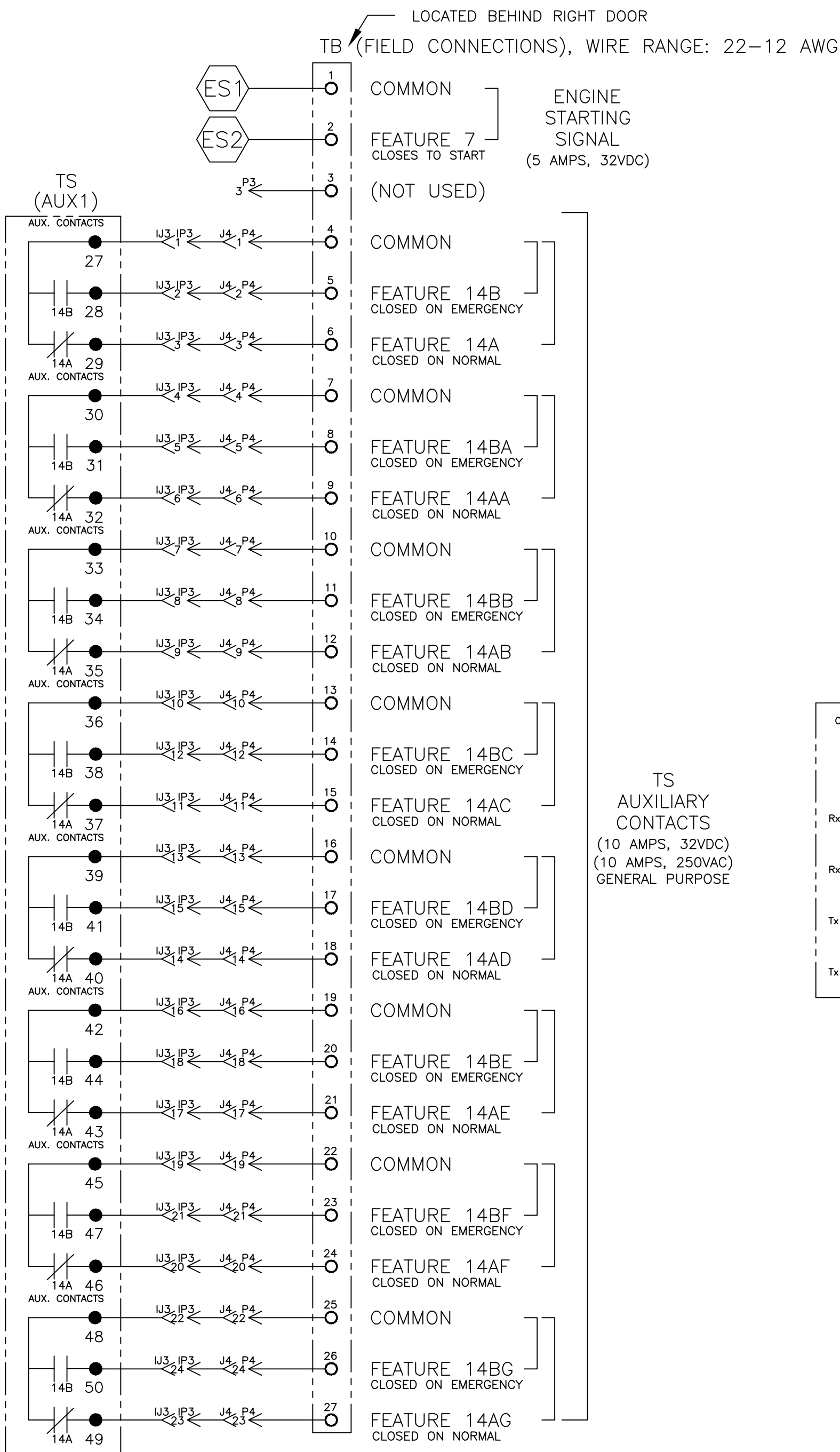
7000 SERIES (H7ATB) 3PH 600-1200 AMPS

"H" FRAME, GROUP 5 CONTROLS

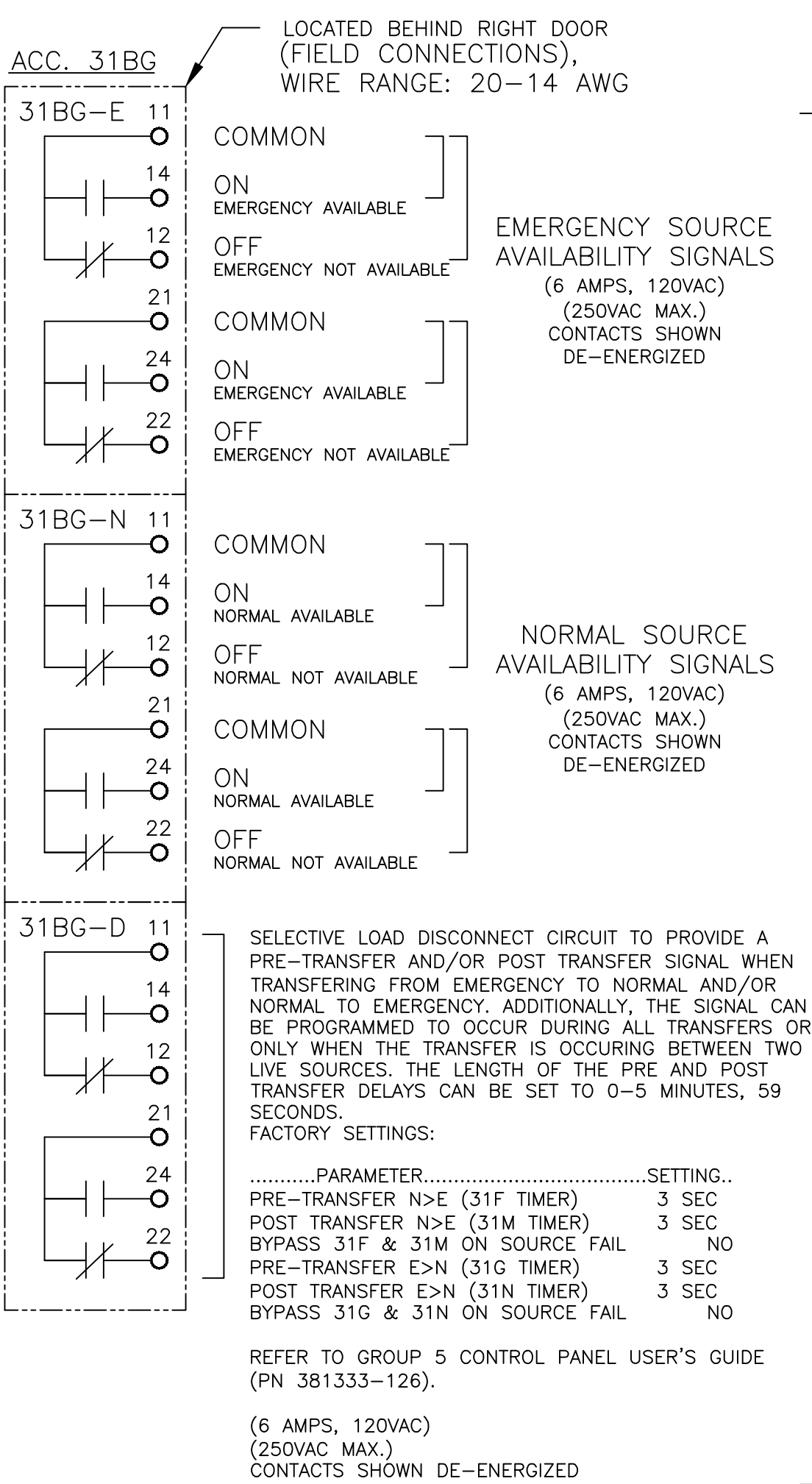
DRAWN BY



FIELD CONNECTIONS



- 72EE2 NOTES:
1. EARTH GROUND SHIELD AT HOST DEVICE ONLY.
  2. 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



PROJECT NAME:		289991		AVK	MS	06/18/21
WIRING		DIAGRAM		ISSUE		
7000 SERIES (H7ATB) 3PH 600-1200 AMPS		THIRD ANGLE PROJECTION		REV. TO SHEET		
"H" FRAME, GROUP 5 CONTROLS		BY		APP.	DATE	
DRAWN BY		RB	08/26/21	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055		ASSEM. REF. NO.
CHECKED		MS	08/26/21	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		COMPUTER GENERATED DRAWING
PROJECT APPROVAL		NS	08/26/21	SCALE		NONE
FINAL APPROVAL				SIZE		DS
				DWG. NO.		735259-1879
				DRAWING REV.		ECN NO. 289991
						2 OF 10



D

C

B

A

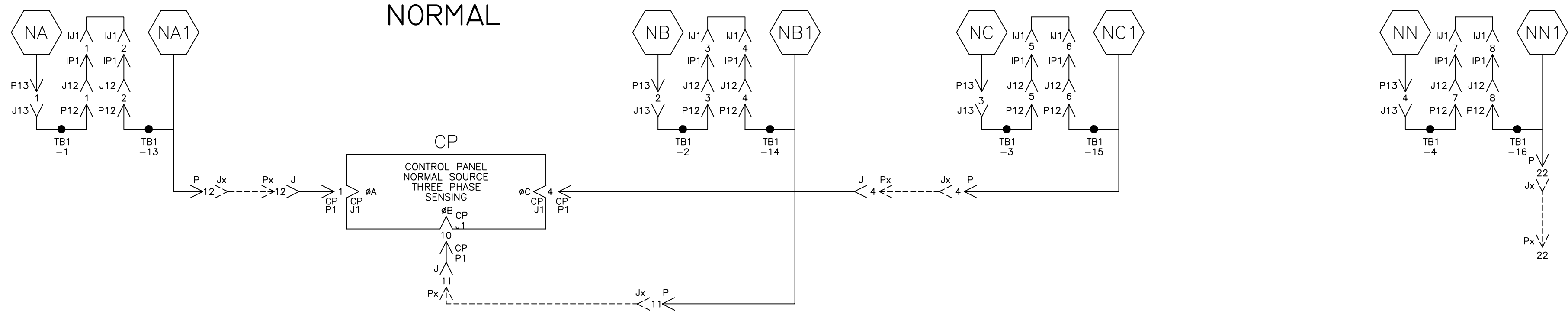
D

C

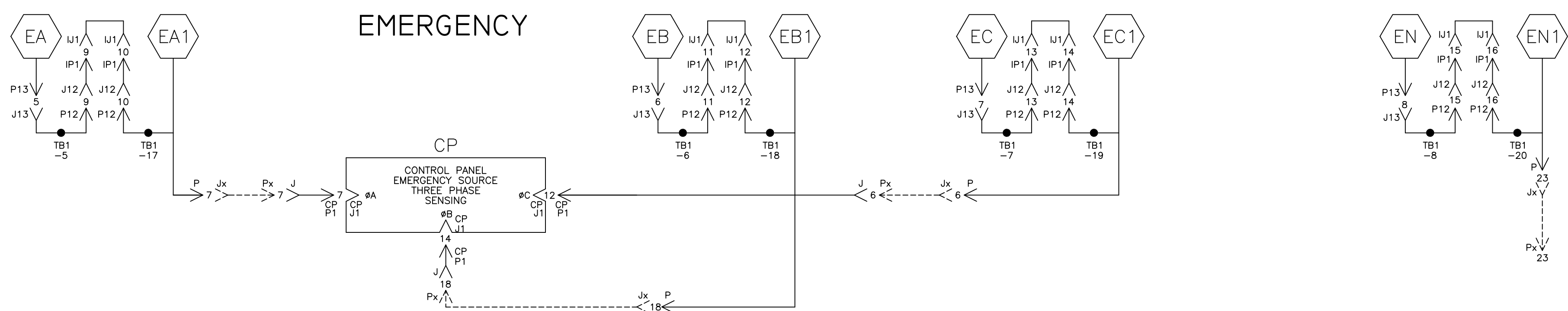
B

A

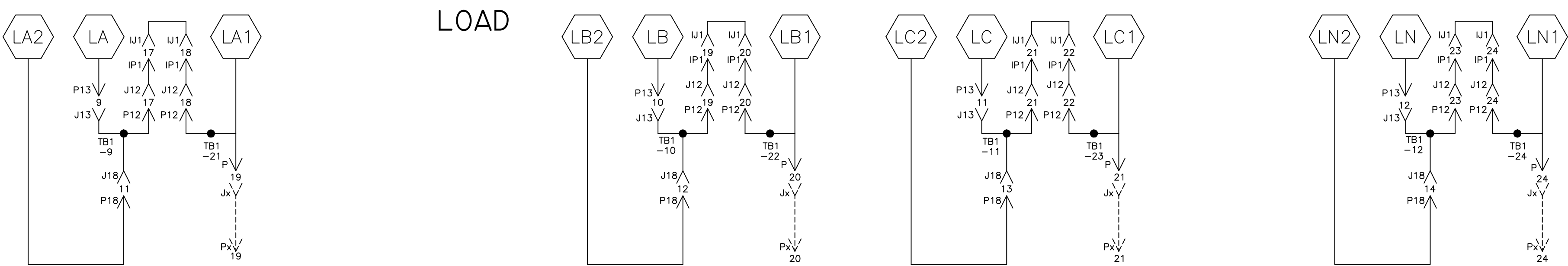
NORMAL SOURCE CIRCUITS



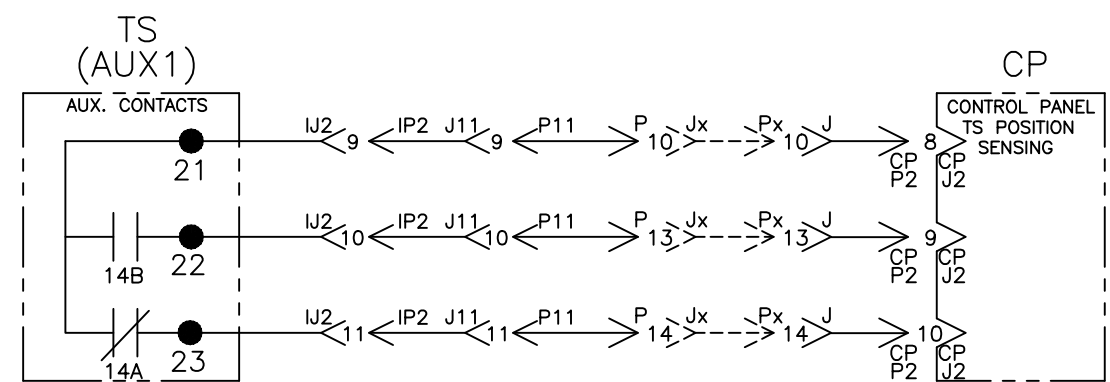
EMERGENCY SOURCE CIRCUITS



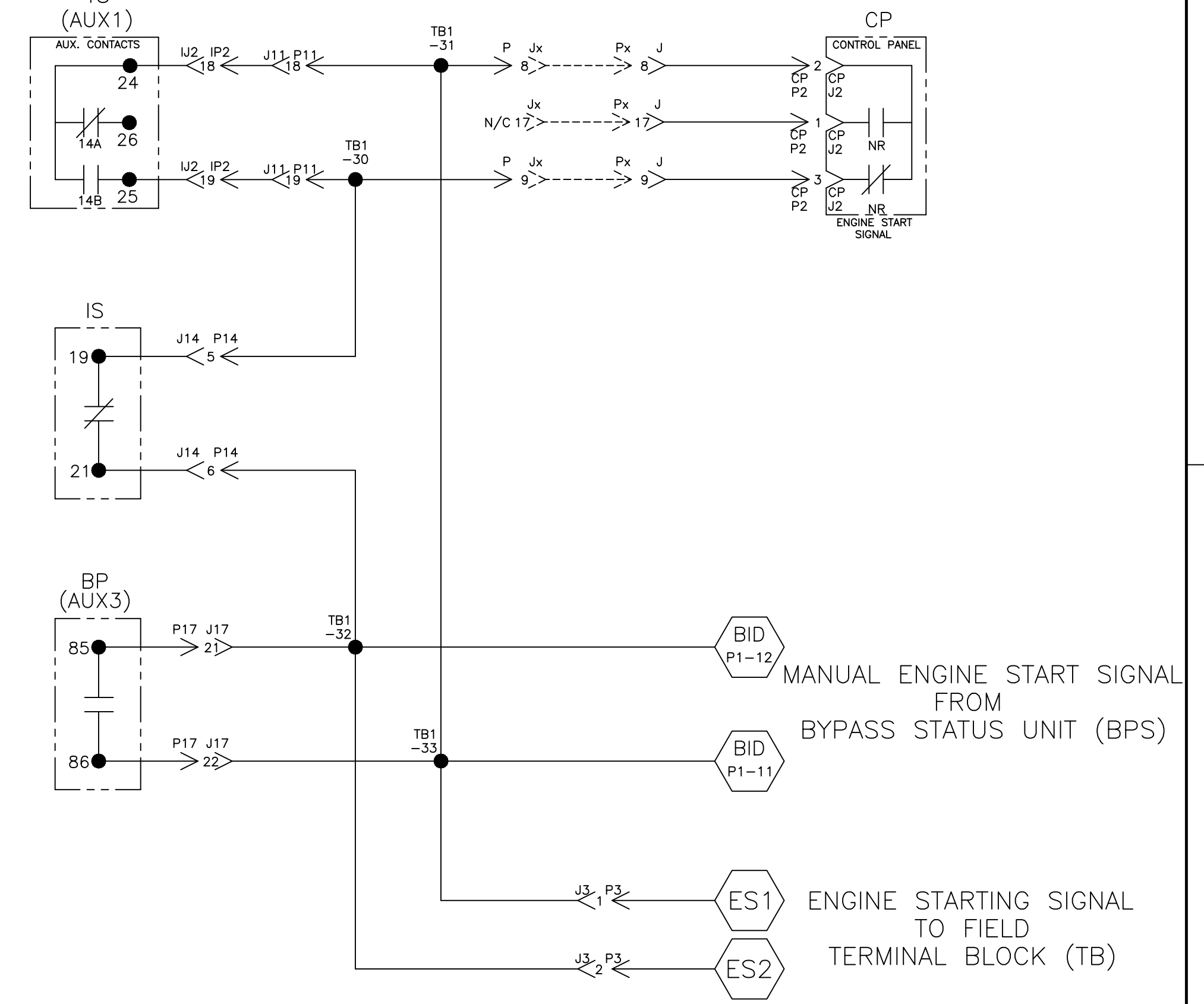
LOAD TERMINAL CIRCUITS



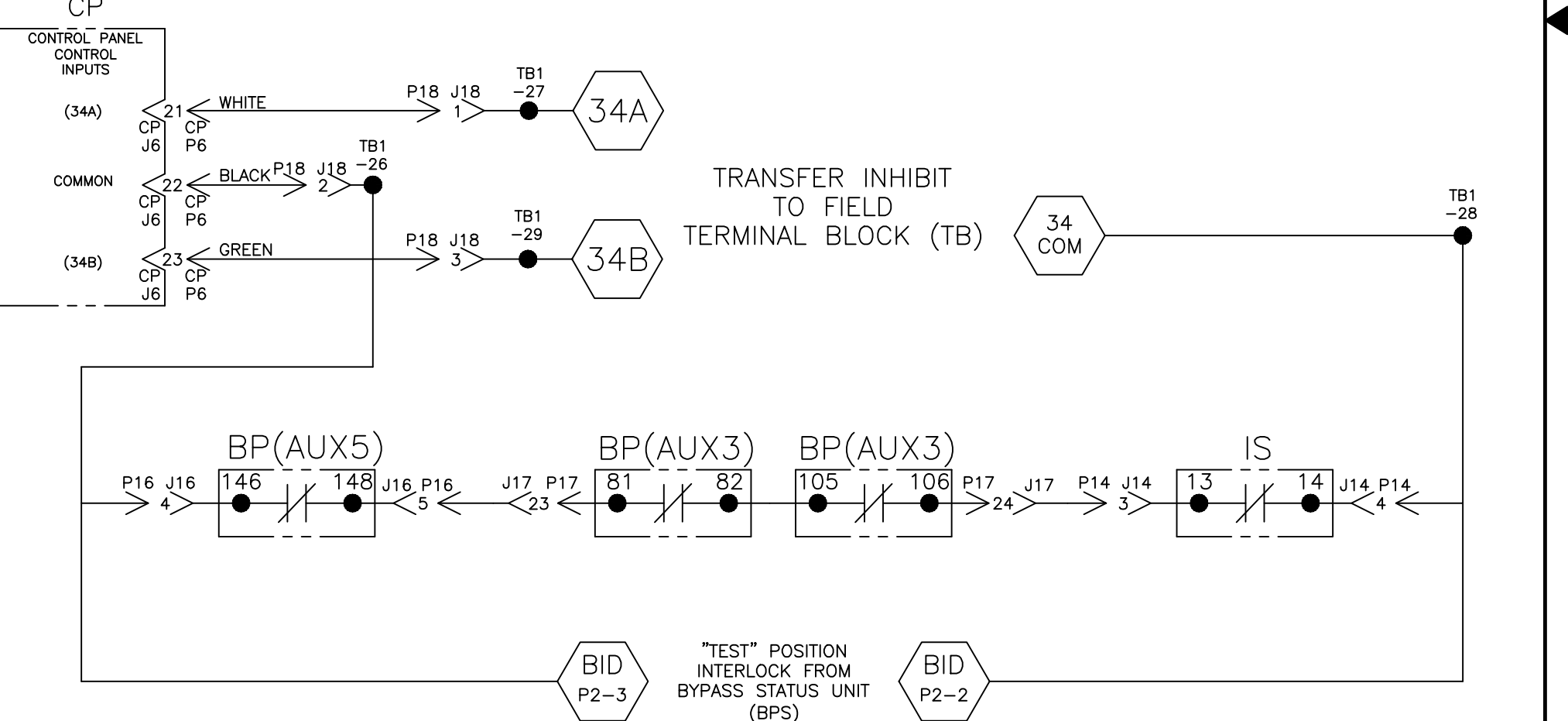
CONTROL SIGNALS & INDICATION



ENGINE START CIRCUIT



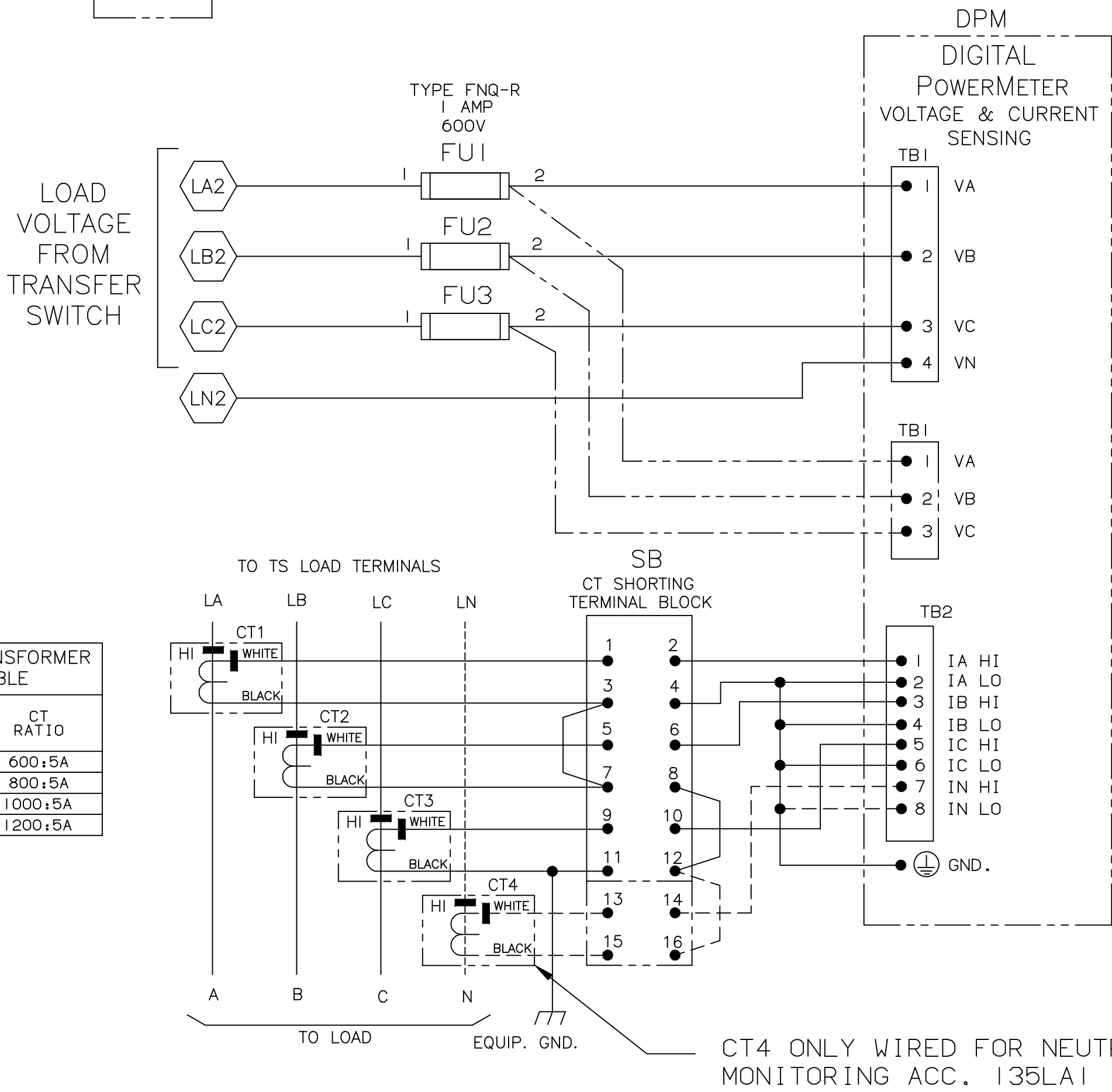
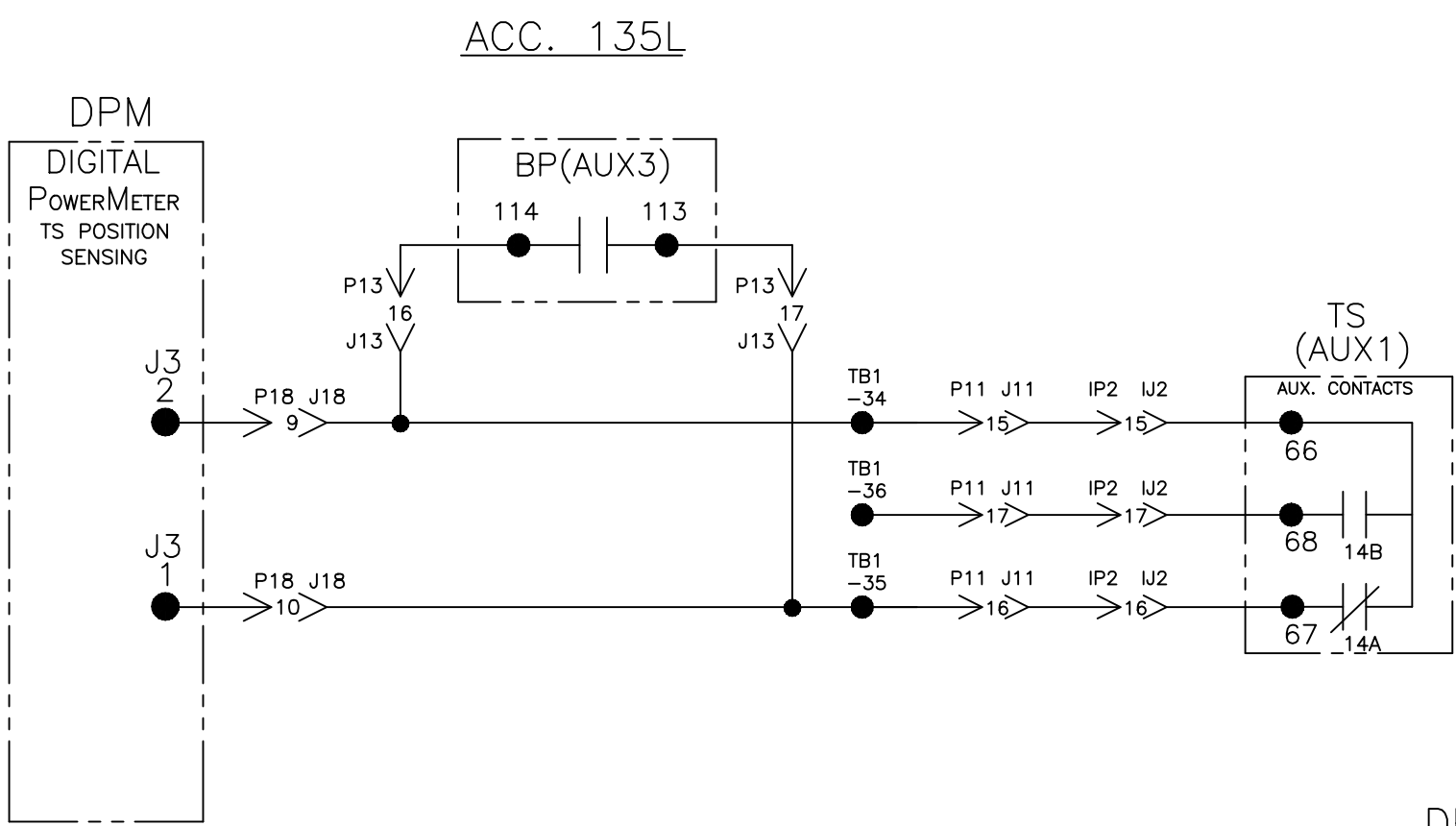
CONTROL PANEL/BYPASS-ISOLATION INTERLOCKS



PROJECT NAME:		289991		AVK	MS	06/18/21
WIRING		DIAGRAM		ISSUE		
7000 SERIES (H7ATB) 3PH 600-1200 AMPS		"H" FRAME, GROUP 5 CONTROLS		REV. TO SHEET		
DRAWN BY		RB	08/26/21	BY		DATE
CHECKED		MS	08/26/21	BY		DATE
PROJECT APPROVAL		NS	08/26/21	BY		DATE
FINAL APPROVAL				BY		DATE
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		
PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		SCALE		NONE	SIZE	DS
ASCOTM ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.		DWG. NO.		735259-1879		
REV.		DRAWING		SHEET		
		NO.		4 OF 10		



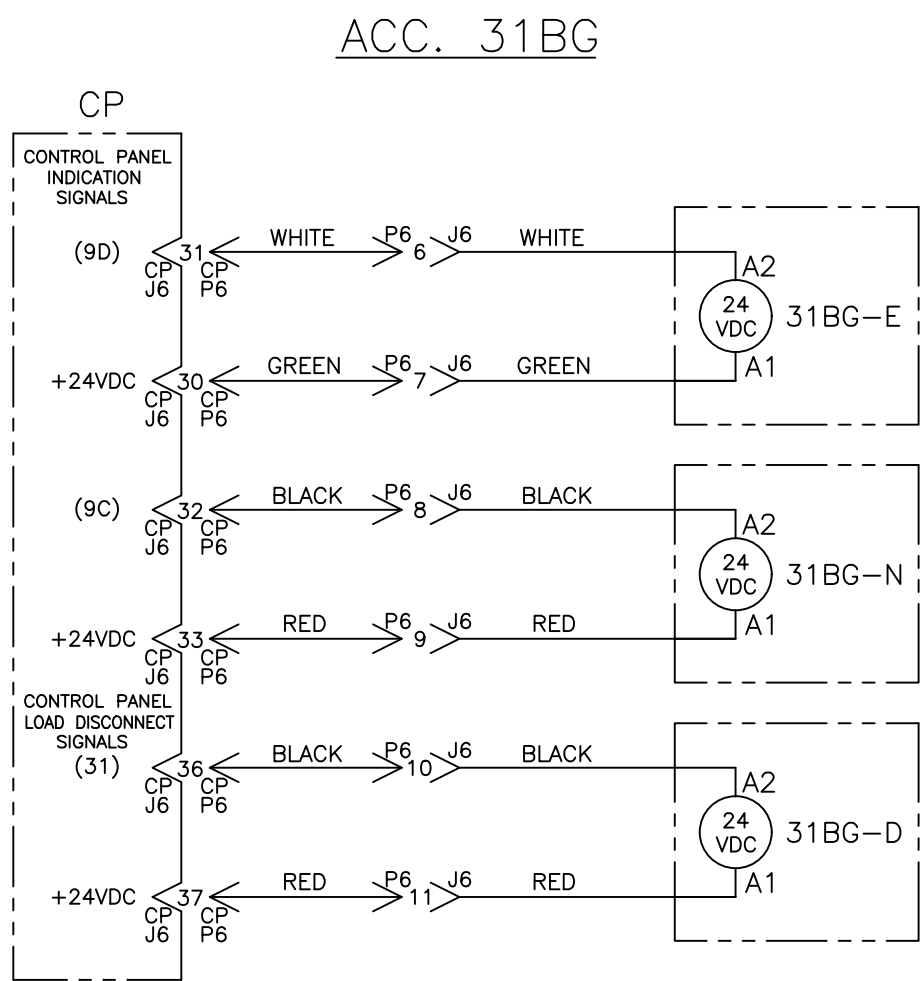
ADDITIONAL CIRCUITS



CURRENT TRANSFORMER RATIO TABLE	
SWITCH RATING	CT RATIO
600A	600:5A
800A	800:5A
1000A	1000:5A
1200A	1200:5A

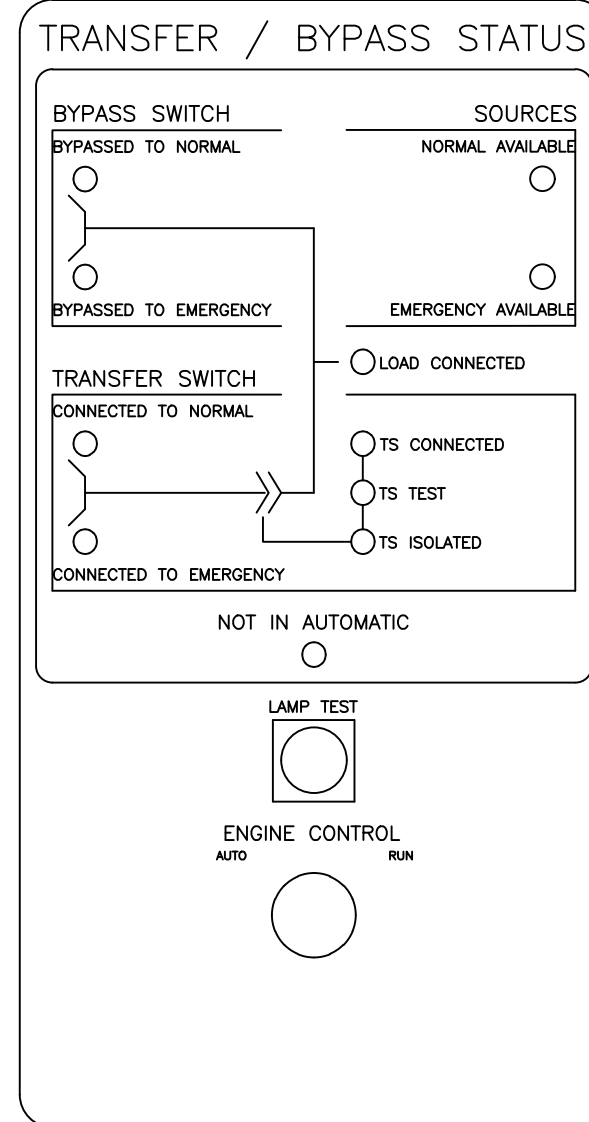
DIGITAL POWERMETER (TB1) WIRING NOTES:

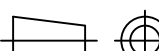

1. TB1 MUST BE WIRED IN A DELTA (SHOWN IN PHANTOM) IN ALL CASES WHERE THE SWITCH IS NOT SUPPLIED WITH A NEUTRAL (CATALOG NUMBER DOES NOT CONTAIN A3, B3 OR C3).
2. TB1 MUST BE WIRED IN A WYE (SHOWN IN CONTINUOUS) IN ALL CASES WHERE THE SWITCH IS SUPPLIED WITH A NEUTRAL (CATALOG NUMBER CONTAINS A3, B3 OR C3).
3. REFER TO ADDITIONAL WIRING (135L) WIRE RUN LISTING.



PROJECT NAME:		289991		AVK	MS	06/18/21
WIRING		DIAGRAM		ISSUE		
7000 SERIES (H7ATB) 3PH 600-1200 AMPS		7000 SERIES (H7ATB) 3PH 600-1200 AMPS		THIRD ANGLE PROJECTION		
7000 SERIES (H7ATB) 3PH 600-1200 AMPS		7000 SERIES (H7ATB) 3PH 600-1200 AMPS		THIRD ANGLE PROJECTION		
DRAWN BY RB		DATE 08/26/21		MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055		
CHECKED MS		DATE 08/26/21		PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		
PROJECT APPROVAL NS		DATE 08/26/21		ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.		
FINAL APPROVAL		DATE		ASCO		
DWG. NO. 735259-1879		SCALE NONE		SIZE DS		
DRAWING REV.		ECN NO. 289991		SHEET 5 OF 10		

## ADDITIONAL CIRCUITS



		289991		AVK	MS	06/28/21
		ISSUE				
PROJECT NAME:		REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING		DIAGRAM		 THIRD ANGLE PROJECTION		
7000 SERIES (H7ATB) 3PH 600-1200 AMPS						
"H" FRAME, GROUP 5 CONTROLS						
	BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-003.		ASSEM. REF. NO.	
DRAWN BY	RB	08/26/21				
CHECKED	MS	08/26/21	COMPUTER GENERATED DRAWING			
PROJECT APPROVAL	NS	08/26/21	PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		SCALE	NONE
					SIZE	DS
					DWG. NO.	735259-1879
FINAL APPROVAL			 ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.		DRAWING -	ECN 289991
					SHEET	6 OF 10

PHYSICAL DIAGRAM

D

C

B

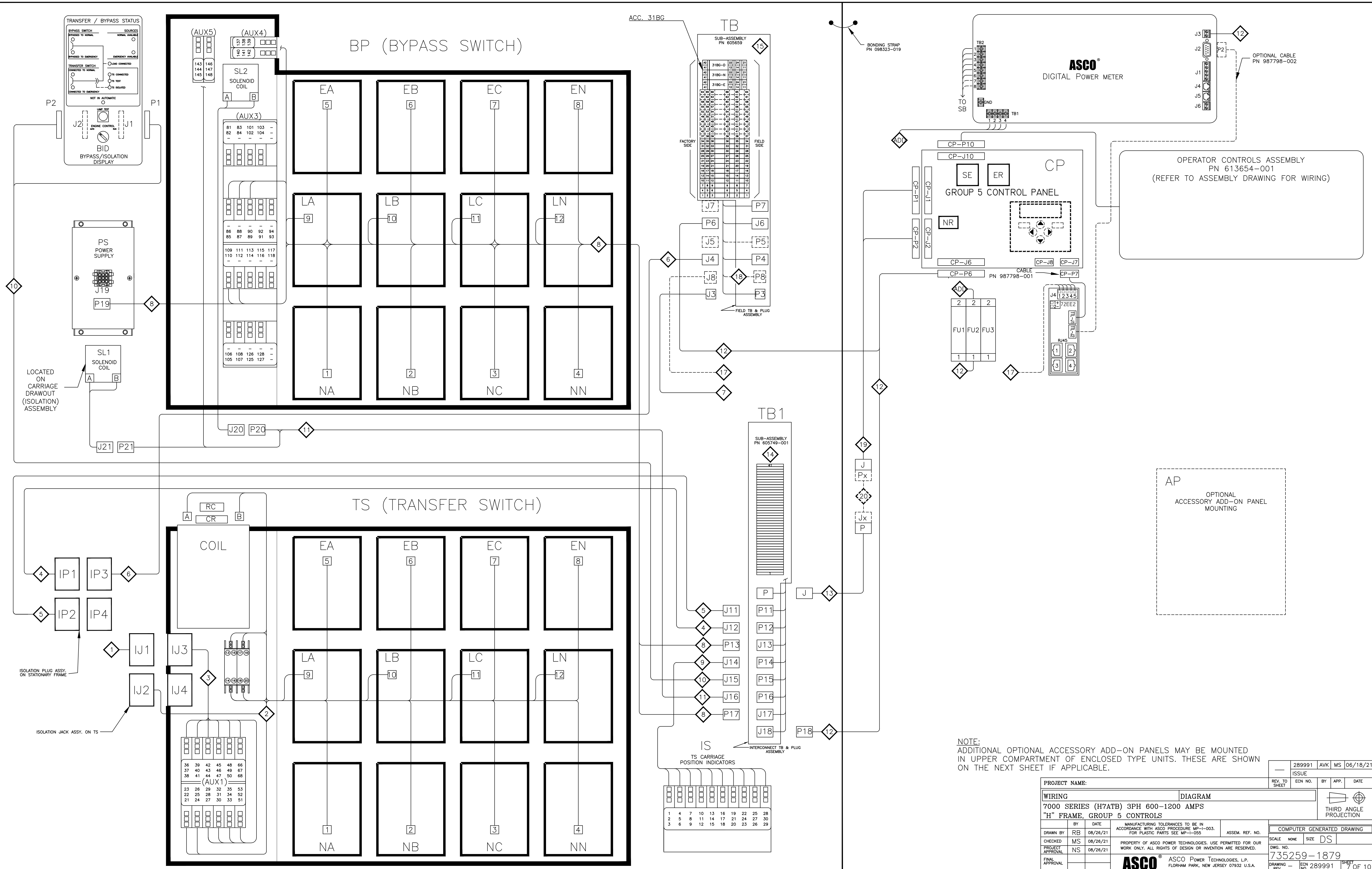
A

D

C

B

A



NOTE:  
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.

PROJECT NAME: **WIRING** **DIAGRAM**

7000 SERIES (H7ATB) 3PH 600-1200 AMPS  
"H" FRAME, GROUP 5 CONTROLS

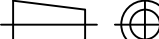

REV.	TO SHEET	DATE	BY	APP.	DATE
1		08/26/21	RB		
2		08/26/21	MS		
3		08/26/21	NS		

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
RB	08/26/21			SCALE: NONE SIZE: DS
MS	08/26/21			DWG. NO. 735259-1879
NS	08/26/21			DRAWING REV. ECN NO. 289991 SHEET 7 OF 10

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






		289991		AVK	MS	06/28/21
		ISSUE				
PROJECT NAME:		REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING		DIAGRAM			 THIRD ANGLE PROJECTION	
7000 SERIES (H7ATB) 3PH 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.		COMPUTER GENERATED DRAWING
DRAWN BY	RB	08/26/21				SCALE NONE SIZE DS
CHECKED	MS	08/26/21	PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF PATENT OR INVENTION ARE RESERVED.			DWG. NO.
PROJECT APPROVAL	NS	08/26/21				735259-1879
FINAL APPROVAL			 ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.		DRAWING -	ECN NO. 289991
					SHEET	8 OF 10

# WIRE RUN LISTING

[illegible][illegible][illegible][illegible][illegible][illegible]



 —HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED		<input type="checkbox"/>	
WIRE No.	HARNESS 605674-007-A (J3,TB1) ENGINE START			CLR	AWG
120	J3-1,TB1-33				16
121	J3-2,TB1-32				
ADD WIRES					
122	J3-3				
123	J3-4				

8 — HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	<input checked="" type="checkbox"/>
WIRE No.	HARNESS 736828-003 (P13, P17, P19) BP	CLR	AWG
1	P13-1, BP-1		16
1	BP-1, P19-1		
2	P13-2, BP-2		
3	P13-3, BP-3		
3	BP-3, P19-2		
4	P13-4, BP-4		
5	P13-5, BP-5		
5	BP-5, P19-3		
6	P13-6, BP-6		
7	P13-7, BP-7		
7	BP-7, P19-4		
8	P13-8, BP-8		
9	P13-9, BP-9		
10	P13-10, BP-10		
11	P13-11, BP-11		
12	P13-12, BP-12		
31	P17-1, BP(AUX3)-111		
170	P17-2, P19-6		
171	P17-3, P19-5		
172	P17-4, P19-7		
177	P17-9, BP(AUX3)-90		
176	P17-10, BP(AUX3)-112		
32	P17-11, BP(AUX3)-110		
32	BP(AUX3)-110, BP(AUX4)-137		
33	P17-12, BP(AUX3)-88		
33	BP(AUX3)-88, BP(AUX4)-140		
149	P17-13, BP(AUX3)-87		
149	BP(AUX3)-87, BP(AUX3)-109		
190	P17-17, BP(AUX4)-136		
190	BP(AUX4)-136, BP(AUX4)-141		
121	P17-21, BP(AUX3)-85		
120	P17-22, BP(AUX3)-86		
31	P19-9, BP(AUX3)-89		
31	BP(AUX3)-89, BP(AUX3)-111		
150	BP(AUX3)-82, BP(AUX3)-105		
150	P17-23, BP(AUX3)-81		
150	P17-24, BP(AUX3)-106		

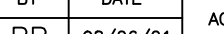
[illegible][illegible][illegible]


10	← HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	<input type="checkbox"/>
WIRE No.	HARNESS 736883 (J15, BID-P1, BID-P2) BYPASS ISOLATION DISPLAY		CLR	AWG
121	J15-1,BID-P1-12			22
120	J15-2,BID-P1-11			
31	J15-3,BID-P1-10			
170	J15-4,BID-P1-9			
171	J15-5,BID-P1-8			
172	J15-6,BID-P1-7			
389	J15-7			
390	J15-8			
391	J15-9			
176	J15-10,BID-P1-3			
177	J15-11,BID-P1-2			
32	J15-12,BID-P1-1			
33	J15-13,BID-P2-12			
395	J15-14			
155	J15-15,BID-P2-10			
156	J15-16			
157	J15-17,BID-P2-8			
158	J15-18,BID-P2-7			
154	J15-19,BID-P2-6			
149	J15-20,BID-P2-5			
152	J15-21,BID-P2-4			
191	J15-22,BID-P2-3			
151	J15-23,BID-P2-2			
405	J15-24			

[illegible][illegible][illegible]

				289991		AVK	MS	06/18/21
				ISSUE				
PROJECT NAME:				REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING				DIAGRAM				 THIRD ANGLE PROJECTION
7000 SERIES (H7ATB) 3PH 600-1200 AMPS								
"H" FRAME, GROUP 5 CONTROLS								
MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005.								
DRAWN BY	MS	06/26/21	ASSEM. REF. NO.			COMPUTER GENERATED DRAWING		
CHECKED	RB	08/26/21	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	NS	08/26/21				DWG. NO. 735259-1879		
FINAL APPROVAL						DRAWING - ECN NO. 289991 SHEET 9 OF 10		
			 ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.					

PROJECT NAME:				REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING 7000 SERIES (H7ATB) 3PH 600-1200 AMPS "H" FRAME, GROUP 5 CONTROLS				DIAGRAM THIRD ANGLE PROJECTION				
DRAWN BY: RB CHECKED: MS APPROVAL: NS FINAL APPROVAL:		DATE: 08/26/21 08/26/21 08/26/21	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003, FOR PLASTIC PARTS SEE MP-1-055  PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		ASSEM. REF. NO.  COMPUTER GENERATED DRAWING		SCALE: NONE SIZE: DS  DWG. NO. 735259-1879 DRAWING: ECN NO. 289991 SHEET 9 OF 10	
ASCO POWER TECHNOLOGIES, L.P. FLOORM PARK, NEW JERSEY U.S.A.								

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	MS	08/26/21	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	NS	08/26/21				DWG. NO.		735259-1879		
FINAL APPROVAL			 <b>ASCO</b> <sup>®</sup> ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.			DRAWING REV.		—	ECN NO.	289991
								SHEET		9

APPROVAL	NS	06/26/21	 <b>ASCO®</b> ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.	735259-1879		
FINAL APPROVAL				DRAWING REV. — ECN NO. 289991	SHEET 9 OF 10	

WIRE RUN LISTING

14	- HARNESS LOCATOR	<div>BOX CHECKED IF HARNESS IS MODIFIED</div>	
WIRE No.	SUB-ASSEMBLY 605749-001 (TB1,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-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		
150	J17-23,P16-5		
150	J17-24,P14-3		

4	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			
	ADD WIRES			
312	P-17			
41	P11-22			
42	P11-23			
43	P11-24			
26	J13-13			
140	J13-14			
27	J13-15			
34	J13-16,TB1-34			
35	J13-17,TB1-35			
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			
153	P16-3			
150	P16-5			
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			
189	J17-16			
155	J17-18			
420	J17-19			
421	J17-20			
215	J18-7			
216	J18-8			
34	J18-9,TB1-34			
35	J18-10,TB1-35			
9	J18-11,TB1-9			
10	J18-12,TB1-10			
11	J18-13,TB1-11			
12	J18-14,TB1-12			
223	J18-15			
224	J18-16			
225	J18-17			
226	J18-18			
227	J18-19			
228	J18-20			
229	J18-21			
120	J18-22			
121	J18-23			
232	J18-24			

15	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			
	</			

16	HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	<input type="checkbox"/>
WIRE No.	(J7)	HARNESS 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			

17	HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	
WIRE No.	HARNESS 605454-005 (J8) OPTIONAL SERIAL I/O	CLR	AWG	
300	J8-1,72EE2-5	SHLD	24	
301	J8-2,72EE2-1	WHT/ORG	(4 COND)	
302	J8-3,72EE2-2	ORG/WHT	SHIELDED	
303	J8-4,72EE2-3	WHT/BLU	TTTT	
304	J8-5,72EE2-4	BLU/WHT		
305	J8-6			
306	J8-7			
307	J8-8			
308	J8-9			

18	HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	
WIRE No.	HARNESS 605454-007 (P8,TB) OPTIONAL SERIAL I/O	CLR	AWG	
300	P8-1,TB-37	SHLD	24 (4 COND) SHIELDED TTTT	
301	P8-2,TB-38	WHT/ORG		
302	P8-3,TB-39	ORG/WHT		
303	P8-4,TB-40	WHT/BLU		
304	P8-5,TB-41	BLU/WHT		
305	P8-6			
306	P8-7			
307	P8-8			
308	P8-9			

19	HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	<input type="checkbox"/>
WIRE No.	HARNESS 483763 (J,CP-P1,CP-P2) CONTROL PANEL		CLR	AWG
310	J-1,CP-P1-8			16
1	J-2,CP-P1-15			
21	J-3,CP-P1-2			
3	J-4,CP-P1-4			
5	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			
			</	

<div><div>20</div></div>	← HARNESS LOCATOR		<div>BOX CHECKED IF HARNESS IS MODIFIED</div>	<div></div>
WIRE No.	HARNESS 309320-005 OPTIONAL 8 IN. EXTENSION HARNESS	CLR	AWG	
310	Jx-1,Px-1		16	
1	Jx-2,Px-2			
21	Jx-3,Px-3			
3	Jx-4,Px-4			
5	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			



# Brandy Branch Generating Station

## Transfer Switch Details

#2	ATS	AMPS: 0600	QTY: 1
Product	: 7000 Series Bypass Transfer Switches	Catalog Number	: J07ATBA30600N5XC
Service Voltage / Hz	: 480V/60Hz	Optional Accessories	: 31BG,135LA1
Bypass Isolation	: YES	Product Description	: 7000 Series, Automatic Open Transition ByPass Switch
No. of Switched Poles	: 3	Neutral Configuration	: Solid [A] <b>No Neutral Needed</b>
Withstand Rating:	: See WCR Table Below	No. of Cables & Lug Size	: See applicable outline drawing
Frame = J, Switch Rating = 0600, Series = 7000			
Enclosure	: 1(C)-UL Type 1 Enclosure	Service	: Three Phase, 4-wire <b>3P, 3W</b>
Extended Warranty	: Not Included	Markings	: Item1: B50-EE21-001

#	ACCESSORY DESCRIPTIONS	
	Accessory Code	Description
1	31BG	Status Relay Bundle - Provides 1 relay (3 total) for each of the following statuses, Normal Source Acceptability, Emergency Source Acceptability, Pre & Post Transfer Signal. Each relay has 2 NO/NC (Form C) sets of contacts rated for 6A at 120Vac, 250Vac Max.
2	135LA1	ASCO "Digital Power Meter" monitoring the load source for measurement of voltage, frequency, and current. Calculation of Power, Energy, and Power Factor.

OUTLINE & MOUNTING FOR **ASCO**® 7000 SERIES FRONT CONNECTED AUTOMATIC TRANSFER & BYPASS-ISOLATION SWITCHES TYPES J7ATB, J7ACTB & J7ADTB RATED 150-600 AMPS

GENERAL NOTES

1. TYPE 1 ENCLOSURES, FREE STANDING, FLOOR MOUNTED, 12 GAUGE FORMED FRAME CONSTRUCTION.
2. NEC STANDARD GAUGE PAN TYPE DOORS WITH LOCKABLE HANDLES AND REMOVABLE COVERS.
3. FINISH: ANSI 61 GRAY, POLYESTER POWDER. UL RECOGNIZED. OTHER ANSI COLORS AVAILABLE. CONSULT FACTORY.
4. CONSTRUCTION IS IN ACCORDANCE WITH UL 1008.
5. PADLOCKING PROVISIONS ARE INCLUDED.
6. ISOLATION HANDLE: THE TRANSFER SWITCH ISOLATION HANDLE MAY BE PADLOCKED WITH THE TRANSFER SWITCH IN THE FULLY ISOLATED (DISCONNECTED POSITION).
7. UNIT CAN BE ADAPTED FOR CONNECTION OF BUS DUCT FLANGES. (CONSULT FACTORY)
8. A 20% RATED GROUND BUS IS PROVIDED.
9. A FULL RATED NEUTRAL CONNECTION FOR EACH SOURCE AND THE LOAD IS OPTIONAL, WHEN PROVIDED IT IS IN ONE OF THE FOLLOWING FORMATS AS SPECIFIED BY THE CATALOG NO. NEUTRAL TYPE:

TYPE A: SOLID (COPPER BUS) NEUTRAL

TYPE B: SWITCHED NEUTRAL POLE

TYPE C: OVERLAPPING NEUTRAL POLE (NOT AVAILABLE ON 7ADTB & 7ACTB UNITS)

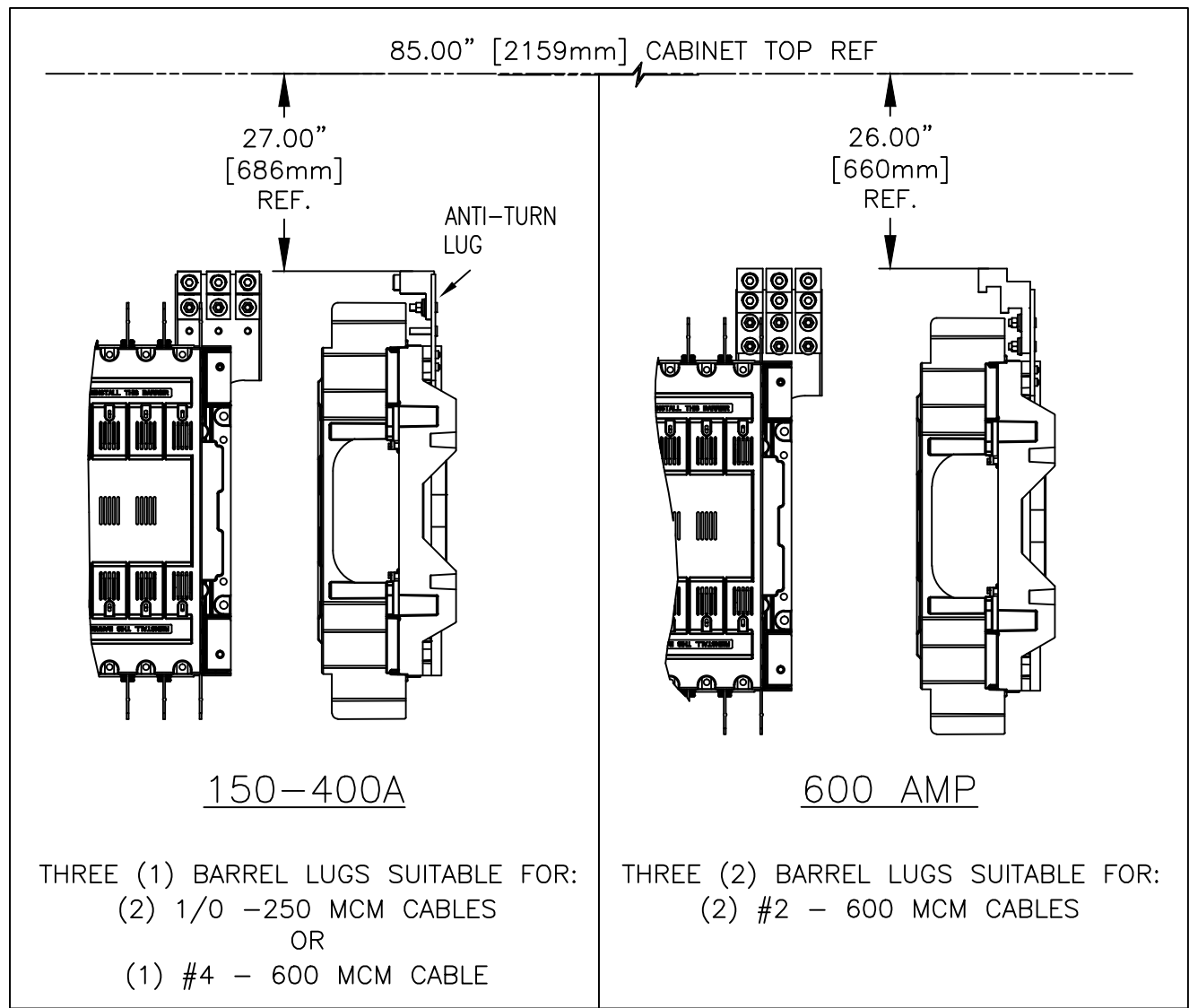
10. APPROXIMATE WEIGHT: 950 LBS [184 Kg].
11. STANDARD OUTLINE FOR A FOUR POLE, 600 AMP TRANSFER SWITCH WITH BYPASS/ISOLATION SWITCH SHOWN. SEE DETAIL "A" FOR LUG CONFIGURATION OF SOLID NEUTRAL.
12. IF A PULL BOX IS PROVIDED THE RIGHT SIDE SKINS ARE REMOVED FROM SWITCH ENCLOSURE AND (4) MOUNTING BLOCKS P/N 757047 ARE USED TO CONNECT THE TWO SECTIONS TOGETHER. REFER TO DRAWING 805550 FOR PULL BOX DETAILS. PULL BOX AND SWITCH ENCLOSURE CAN BE SHIPPED AS ONE UNIT OR PULL BOX CAN BE SUPPLIED INDEPENDENTLY.
13. BOTH BYPASS SWITCH MANUAL OPERATION HANDLE & TRANSFER SWITCH CARRIAGE MANUAL CRANK HANDLE CAN BE REMOVED. ALSO NOTE THAT THE TRANSFER SWITCH CARRIAGE MANUAL CRANK HANDLE CAN BE LEFT IN PLACE AND FOLDED DOWN.

14. ● CENTER OF GRAVITY.

CABLING NOTES

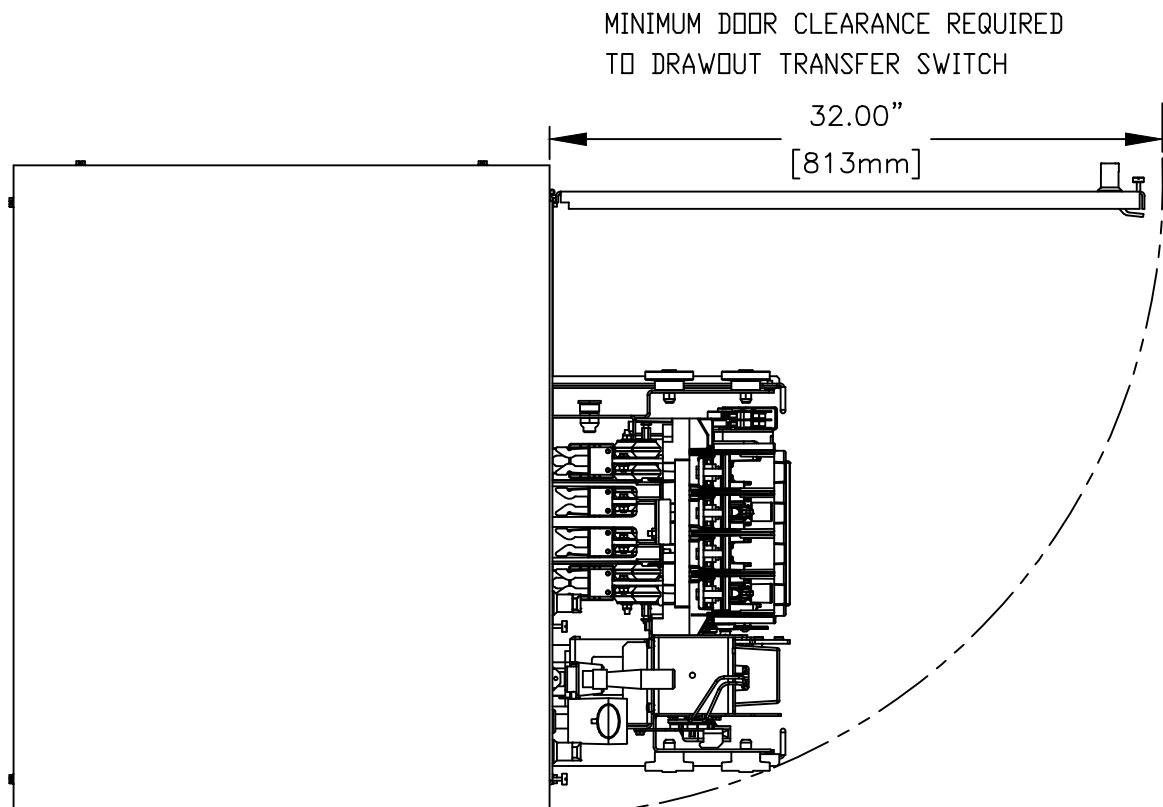
1. ALL SIZES SUPPLIED STANDARD WITH MECHANICAL (SCREW TYPE) LUGS. (SEE AMP SIZE BELOW)
  - A. LUG MATERIAL: ALUMINUM ALLOY 6061-T6 WITH ELECTRO TIN PLATED FINISH.
  - B. SCREW MATERIAL: ALUMINUM ALLOY 6262-T9 WITH ELECTRO TIN PLATED FINISH.
  - C. UL LISTED, CSA CERTIFIED.
  - D. LUG MAX WIRE TIGHTENING TORQUE, PER UL 486B: SEE TABLE BELOW.
2. OPTIONAL COPPER CRIMP LUGS MAY BE SUPPLIED. CONSULT FACTORY.
  - A. LUG MATERIAL: HIGH CONDUCTIVITY WROUGHT COPPER FINISH, ELECTRO TIN PLATED.
  - B. UL LISTED, CSA CERTIFIED.
  - C. LUG MOUNTING HARDWARE TIGHTENING TORQUE: (REFER TO WITHSTAND CURRENT RATING LABEL PROVIDED ON EACH TRANSFER SWITCH).
  - D. SUITABLE WIRE BENDING SPACE IS PROVIDED.
3. GROUND LUGS ARE PROVIDED STANDARD AS FOLLOWS:
  - (6) #4-600MCM AL/CU CABLES FOR 600 AMP.
  - (3) 1/0-250MCM AL/CU CABLES FOR 150-400 AMP.
4. CONSULT FACTORY FOR OTHER TERMINATION REQUIREMENTS.

SIZE	CABLE ACCOMMODATIONS (PER PHASE & NEUTRAL)	LUG TORQUE
150-400	SCREW TYPE (STANDARD)- (2) 1/0 - 250 MCM AL/CU	500 IN.-LBS.
	OR	
	(1) #4 - 600 MCM AL/CU	
600	SCREW TYPE (STANDARD)- (2) #2 - 600 MCM AL/CU	375 IN.-LBS.

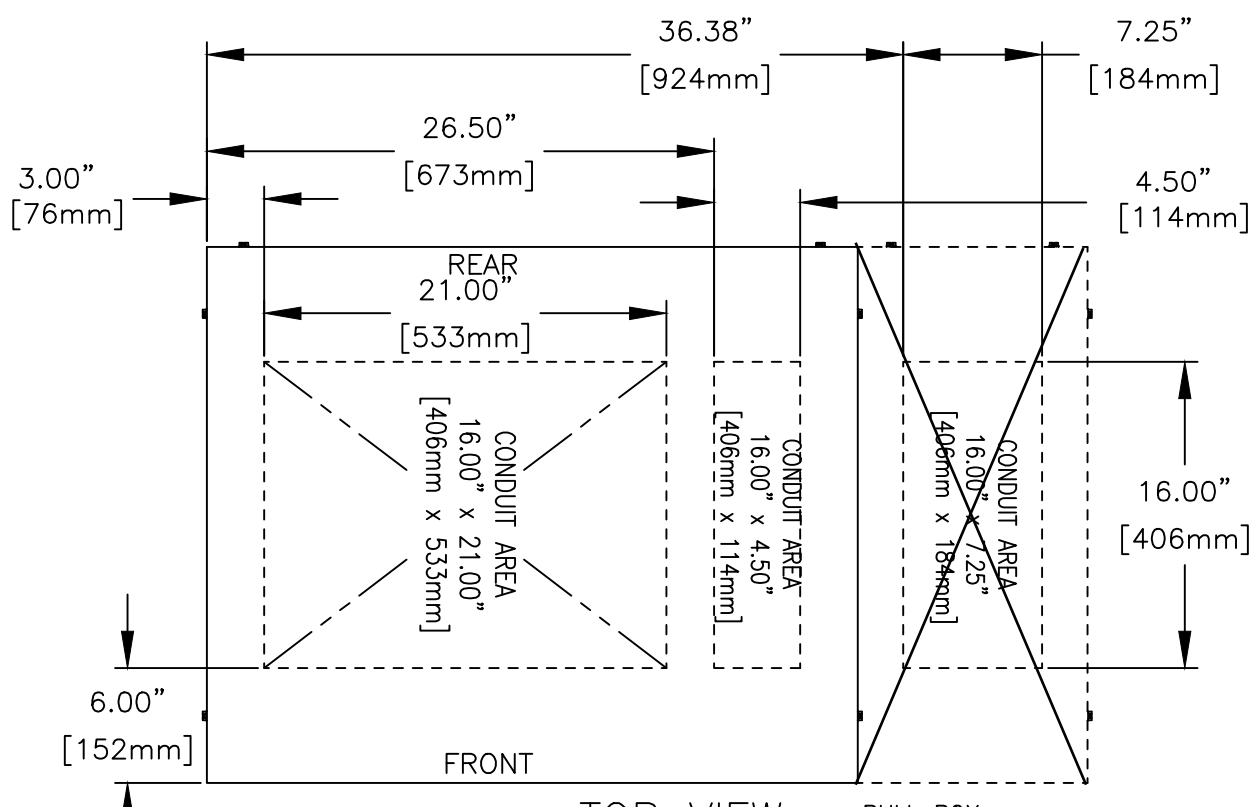


DETAIL "A"  
SOLID NEUTRAL

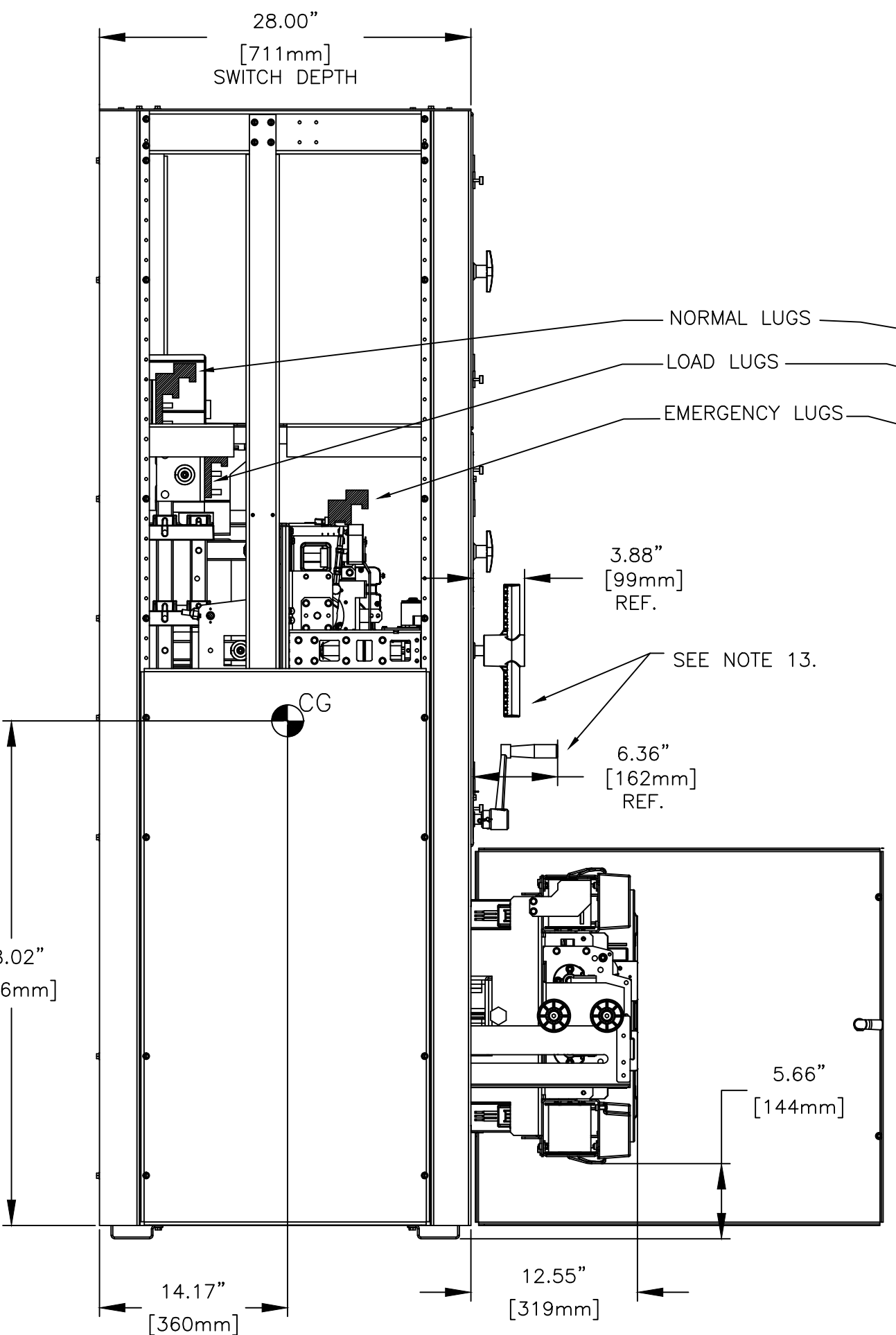
PROJECT NAME:		REV. TO SHEET	ECN NO.	BY	APP.	DATE
OUTLINE		MOUNTING				
JATB 150A-600A						
TYPE 1 85 X 34 X 28						
DRAWN BY	BWM	DATE	7/25/06	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005		
CHECKED				ASSEM. REF. NO.	COMPUTER GENERATED DRAWING	
PROJECT APPROVAL				SCALE	NO.	SIZE DS
FINAL APPROVAL	BWM	DATE	7/25/06	PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		
ASCO®		ASCO POWER TECHNOLOGIES, L.P.		DWG. NO. 802093		
FLORHAM PARK, NEW JERSEY 07932 U.S.A.		DRAWING ID		ECN NO. 289481	SHEET 1 OF 1	



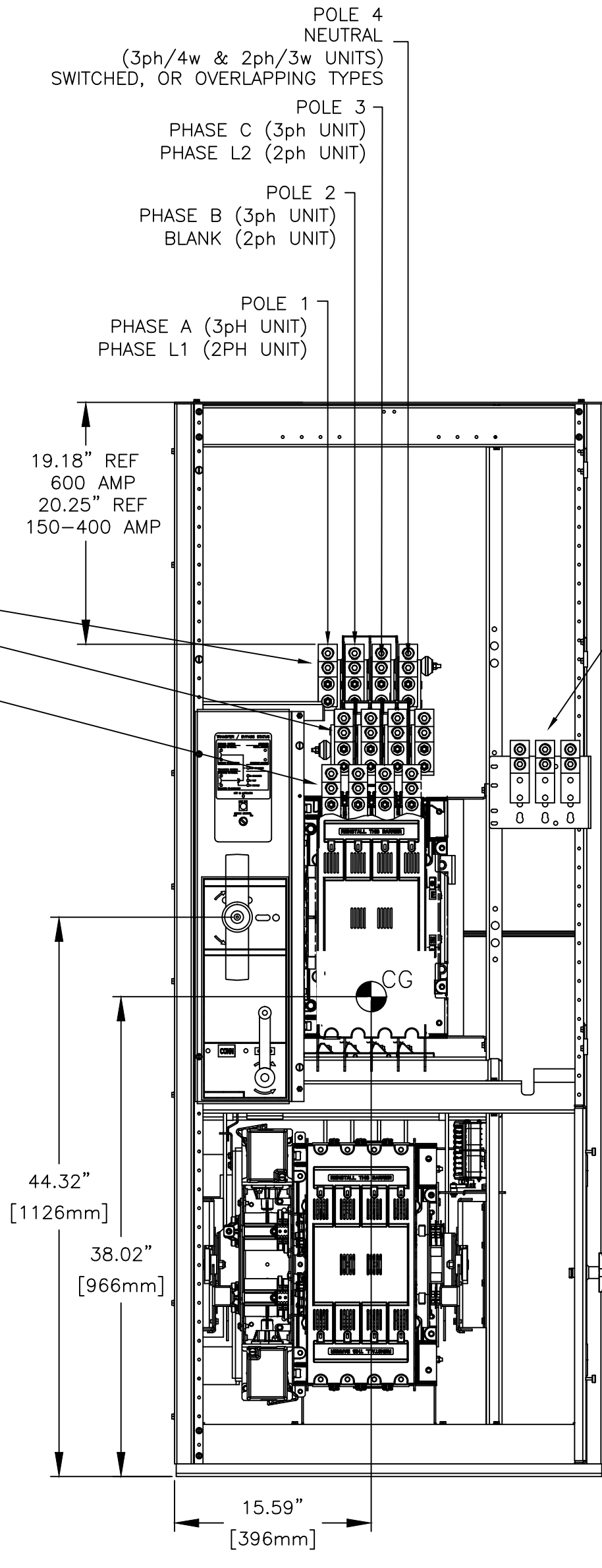
TOP VIEW



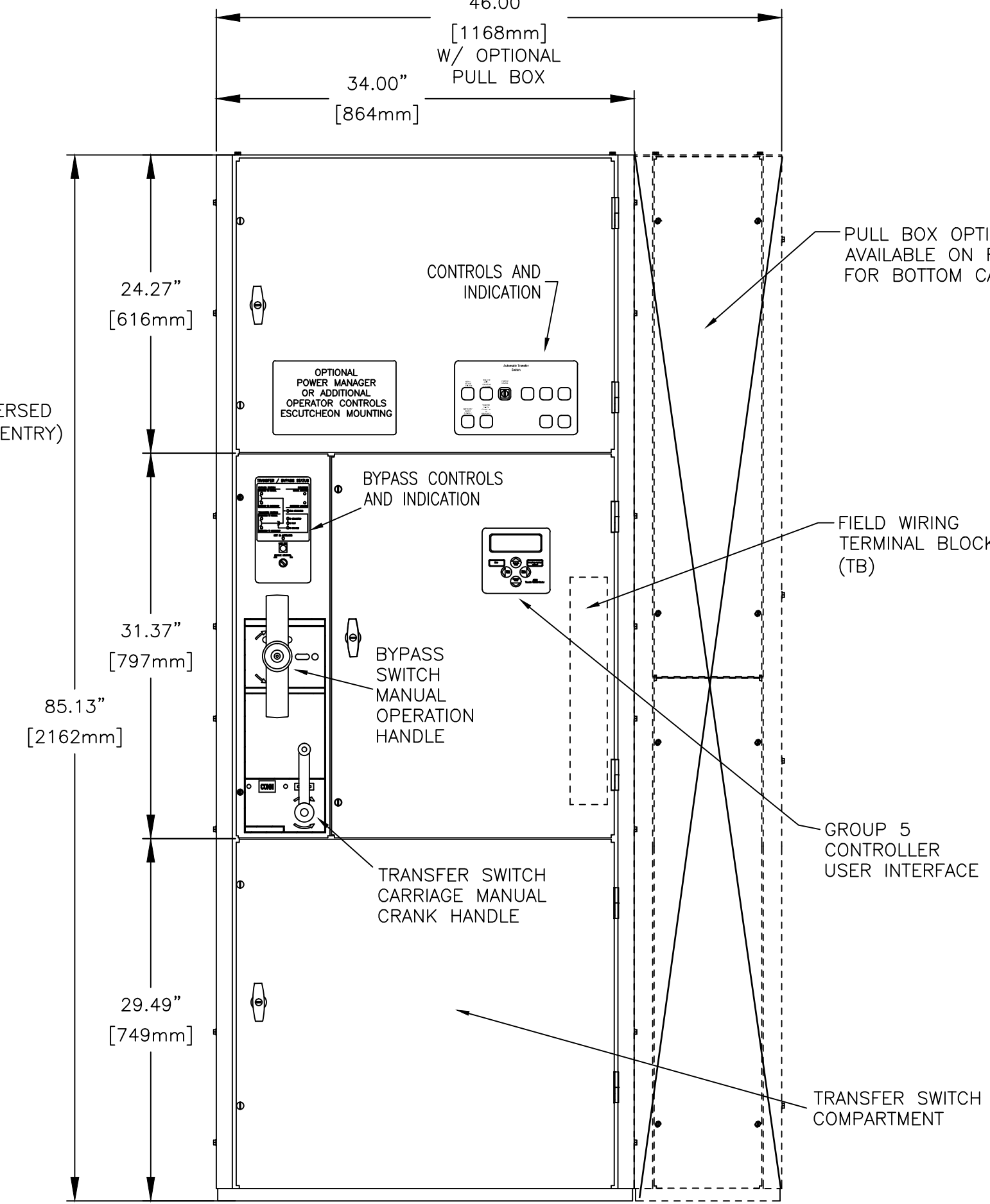
TOP VIEW



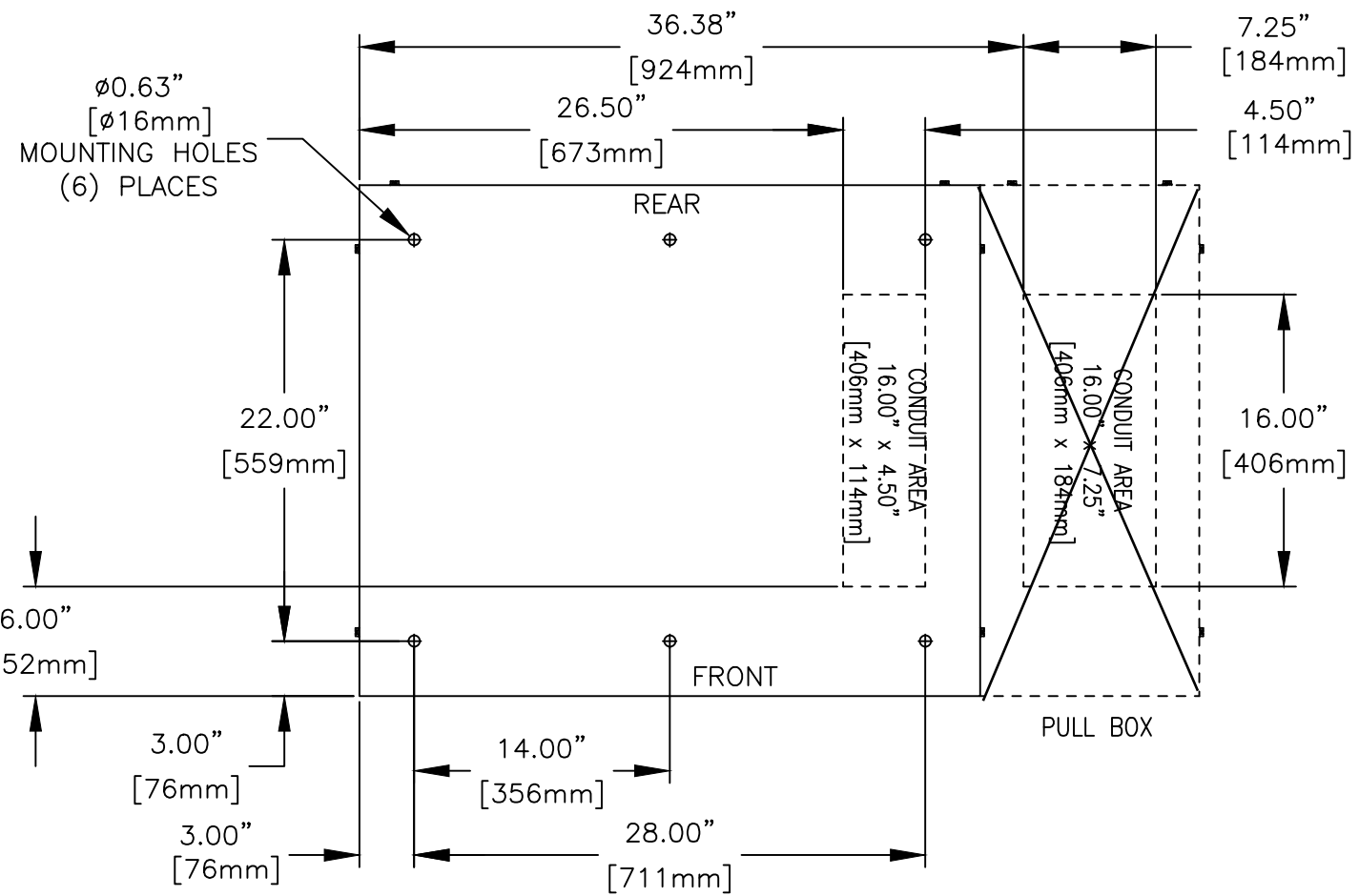
LEFT SIDE VIEW  
(TOP COVER REMOVED, TS DRAWN OUT)



FRONT VIEW  
(COVERS AND DOORS REMOVED)



FRONT VIEW  
(DOORS INSTALLED)



PLAN VIEW

Autodesk Revit MEP Families available on  
ASCO Power Technologies web site







A

461 SHEET 2 OF 2

D

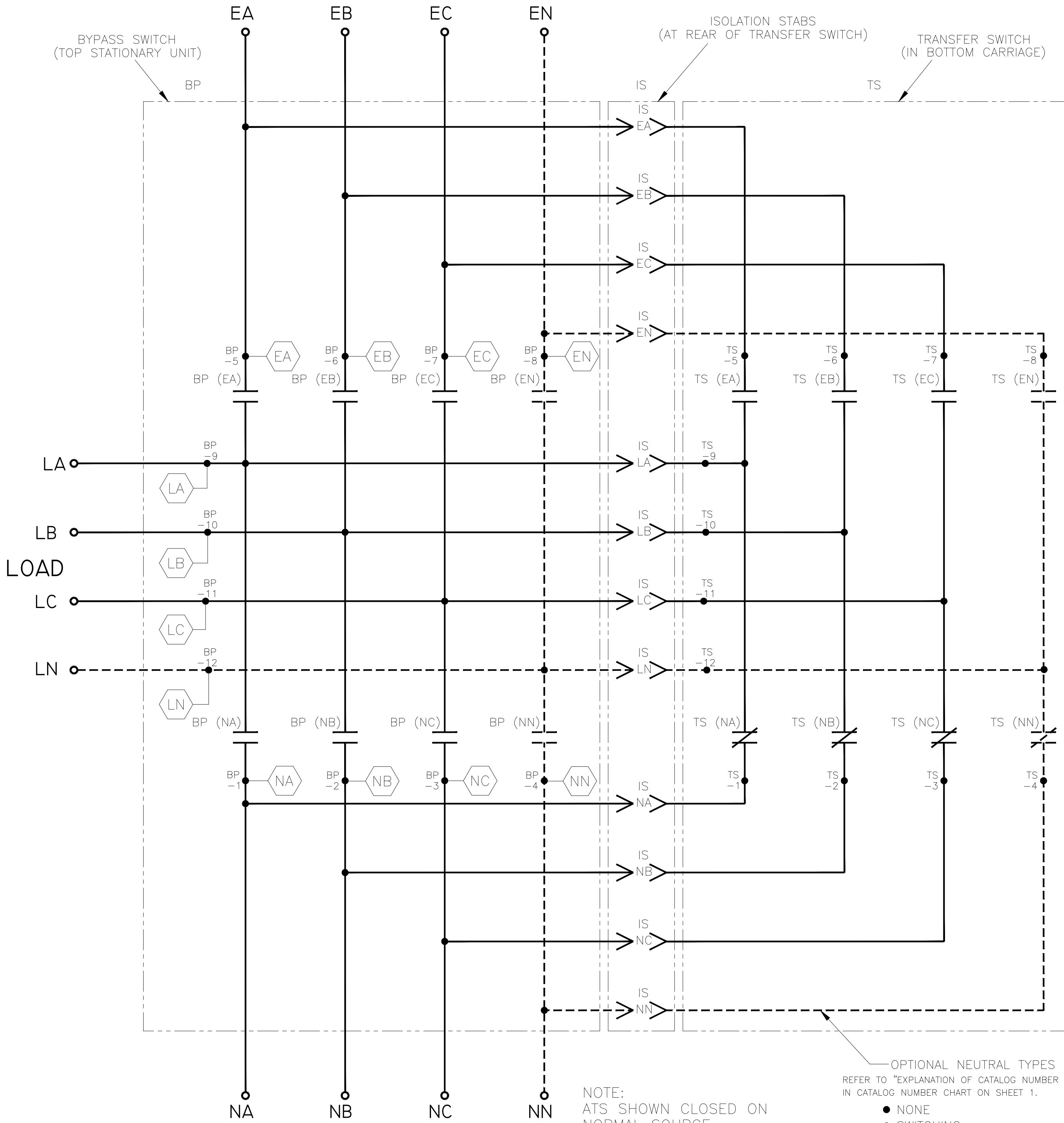
C

B

A

MAIN POWER POLES

EMERGENCY



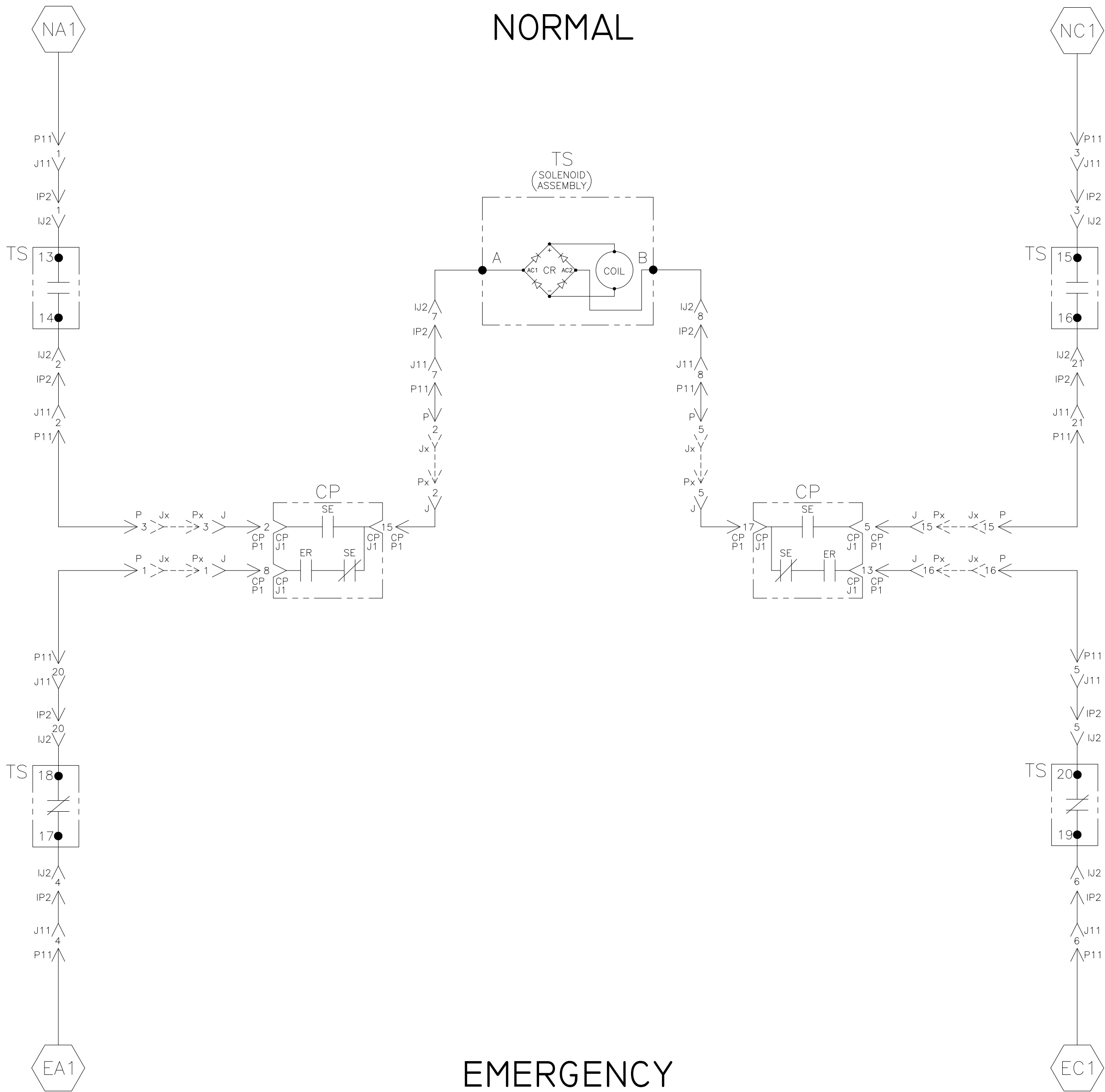
NOTE:  
ATS SHOWN CLOSED ON  
NORMAL SOURCE.  
BYPASS SWITCH IN  
(AUTOMATIC) POSITION.

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

- NONE
- SWITCHING
- OVERLAPPING CONTACTS
- SOLID BUS PLATE

TS OPERATOR CIRCUIT

NORMAL



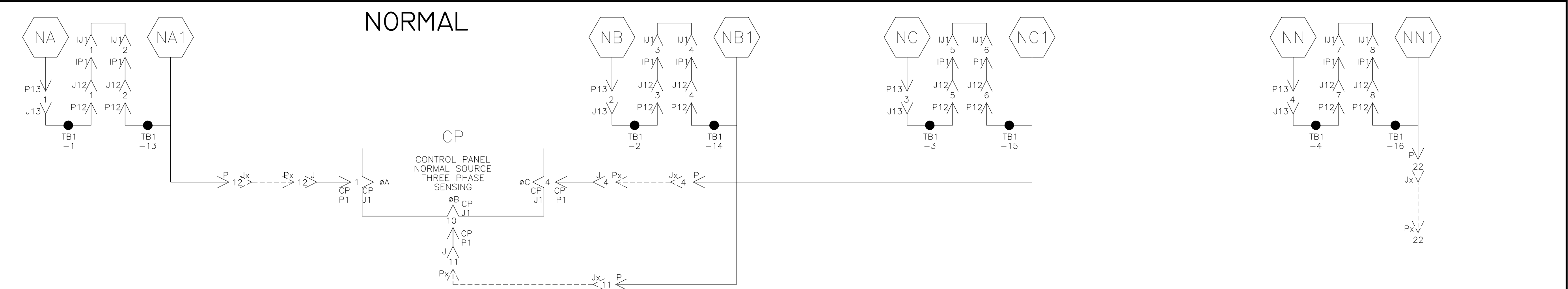
EMERGENCY

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

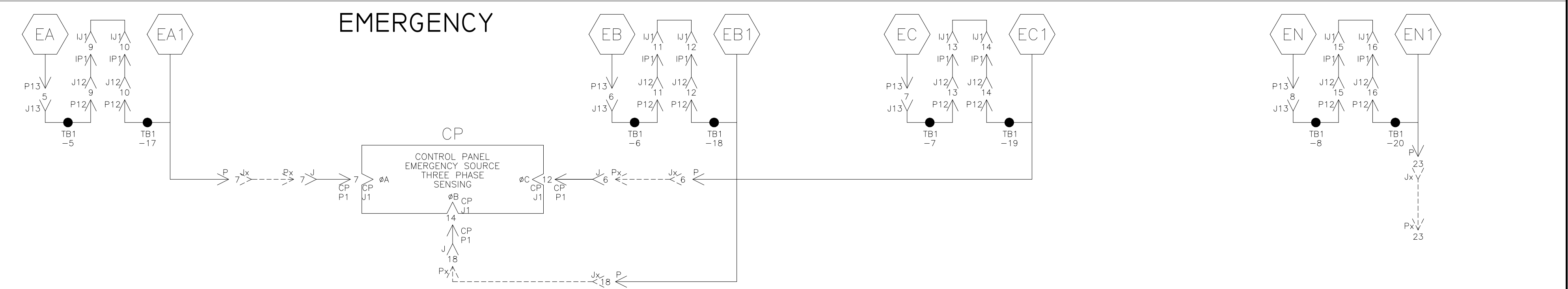
TDC (TOP DEAD CENTER)  
TRANSFER SWITCH TEST & ADJUSTMENT PROCEDURE  
SPECIFIES CONTROL CUT-OFF (CONTACT OPENING)  
SETTING.

PROJECT NAME:		291461		RB	HSL	09/22/21
WIRING		DIAGRAM		ECN NO.		BY APP. DATE
7000 SERIES (J7ATB) 3PH 150-600 AMPS		"J" FRAME, GROUP 5 CONTROLS		SCALE NONE		SIZE DS
DRAWN BY RB	DATE 09/22/21	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 HSL	DATE 09/22/21	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		DWG. NO. 806095-1874		REV. NO. 291461
PROJECT APPROVAL MM	DATE 09/22/21	ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.		SHEET 3 OF 10		

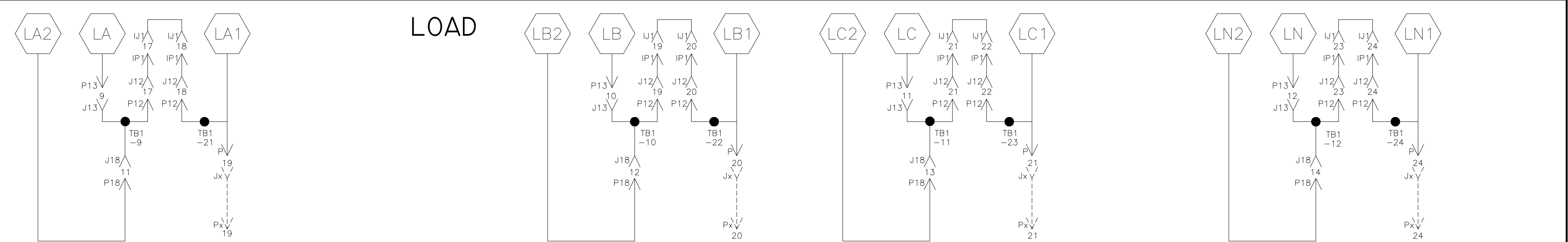
NORMAL SOURCE CIRCUITS



EMERGENCY SOURCE CIRCUITS



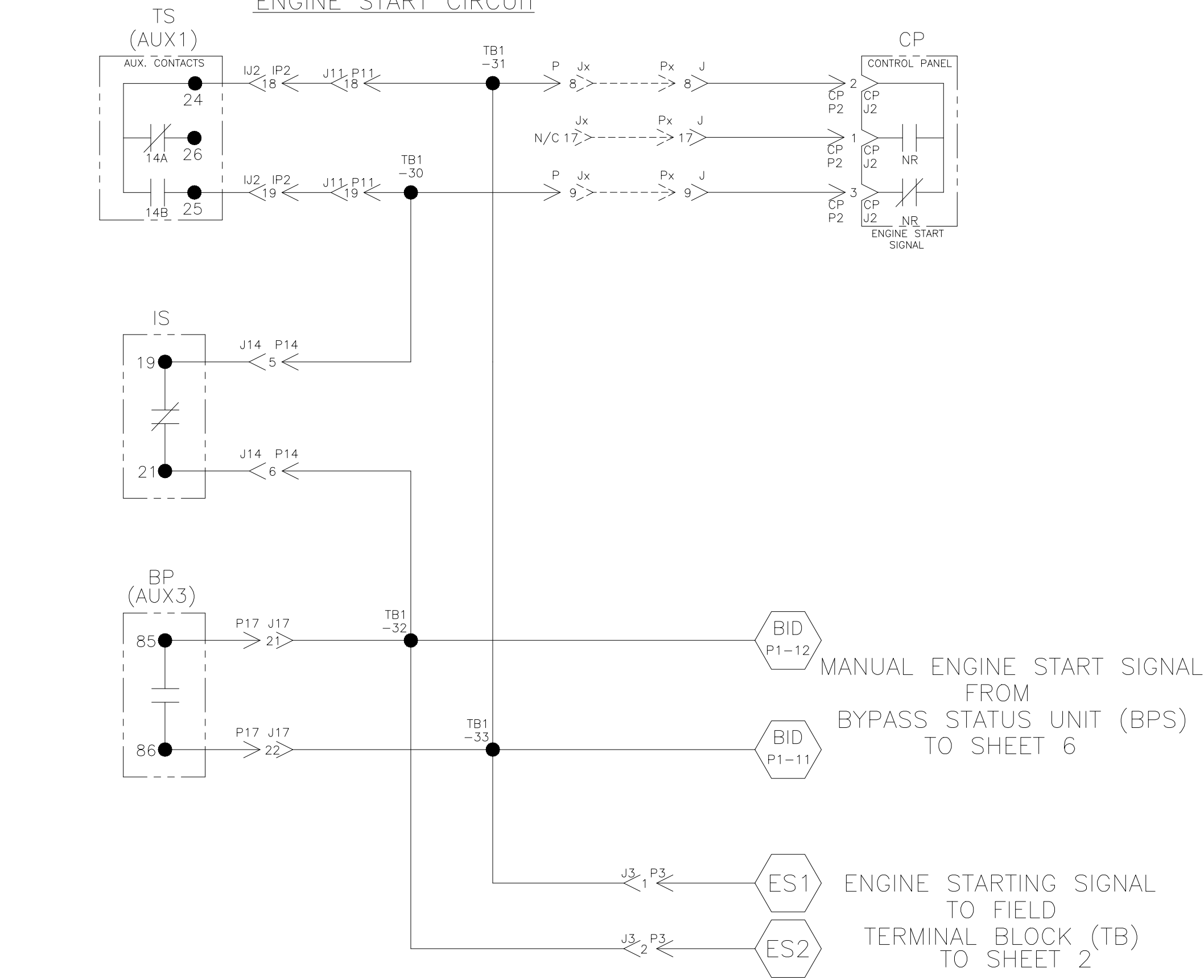
LOAD TERMINAL CIRCUITS



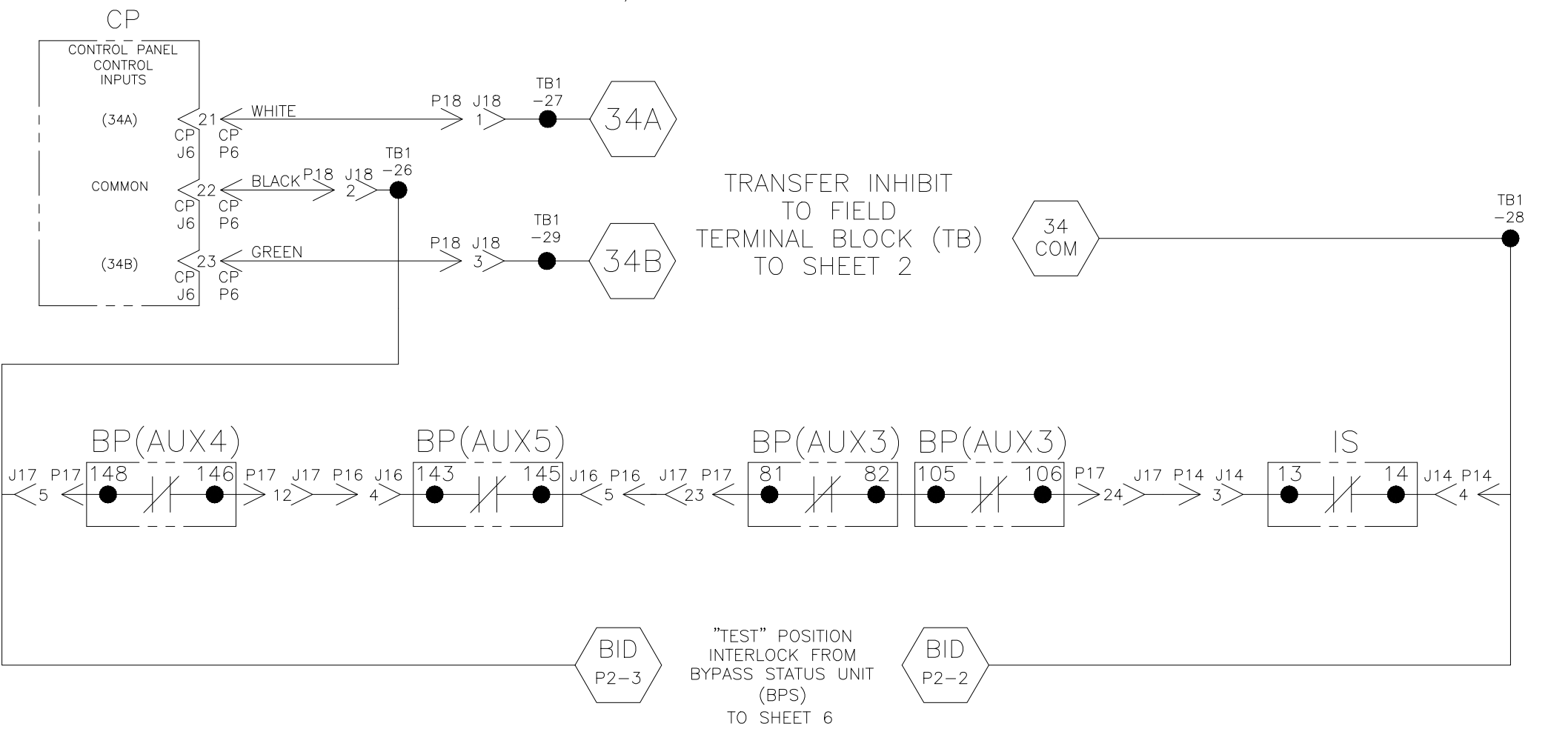
CONTROL SIGNALS & INDICATION



ENGINE START CIRCUIT



CONTROL PANEL/BYPASS-ISOLATION INTERLOCKS



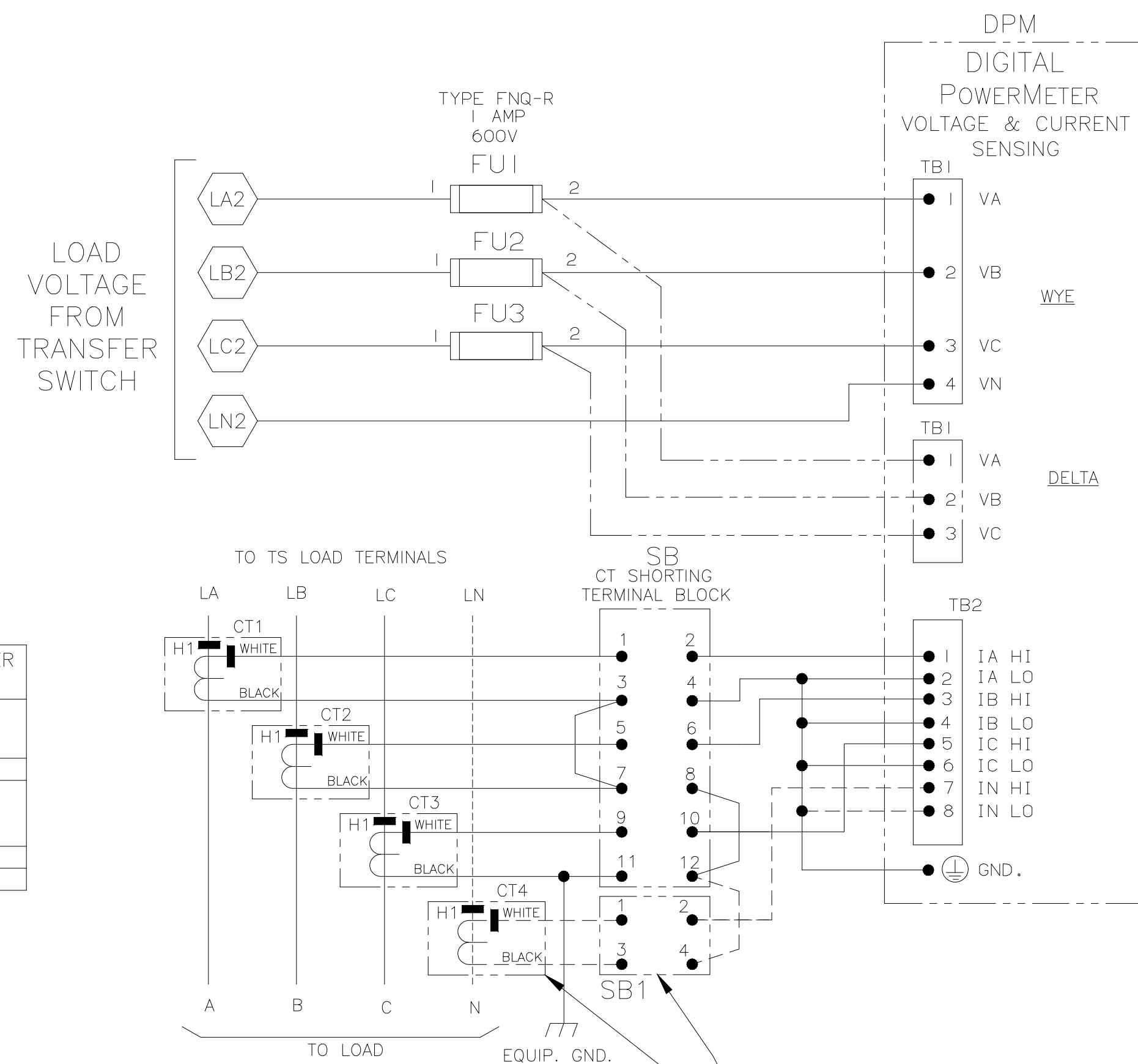
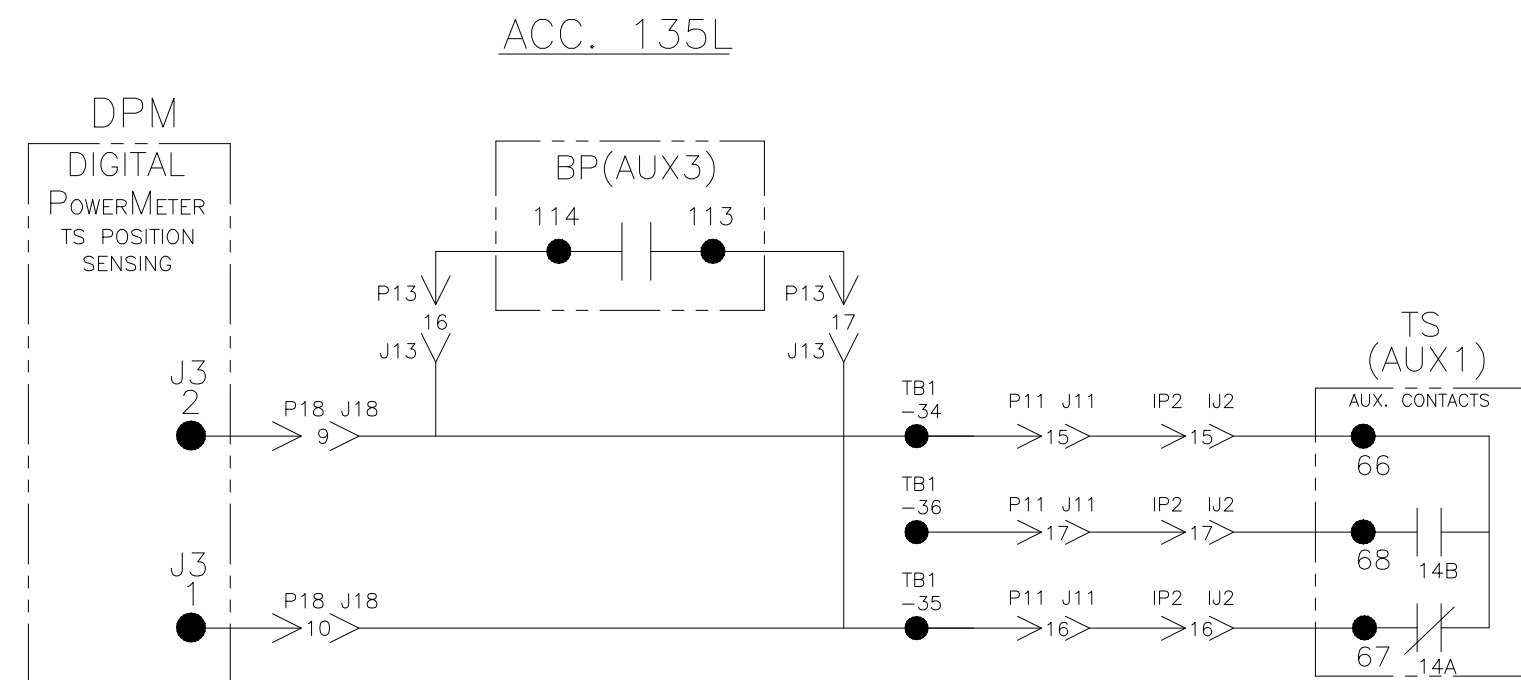
PROJECT NAME:		291461	RB	HSL	09/22/21
WIRING		DIAGRAM			
7000 SERIES (J7ATB) 3PH 150-600 AMPS					
"J" FRAME, GROUP 5 CONTROLS					
DRAWN BY	RB	DATE	09/22/21	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055	ASSEM. REF. NO.
CHECKED	HSL	DATE	09/22/21	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.	COMPUTER GENERATED DRAWING
PROJECT APPROVAL	MM	DATE	09/22/21		SCALE NONE SIZE DS
FINAL APPROVAL		DATE			DWG. NO. 806095-1874
				ASCOPower Technologies, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.	SHEET 4 OF 10



## ADDITIONAL CIRCUITS

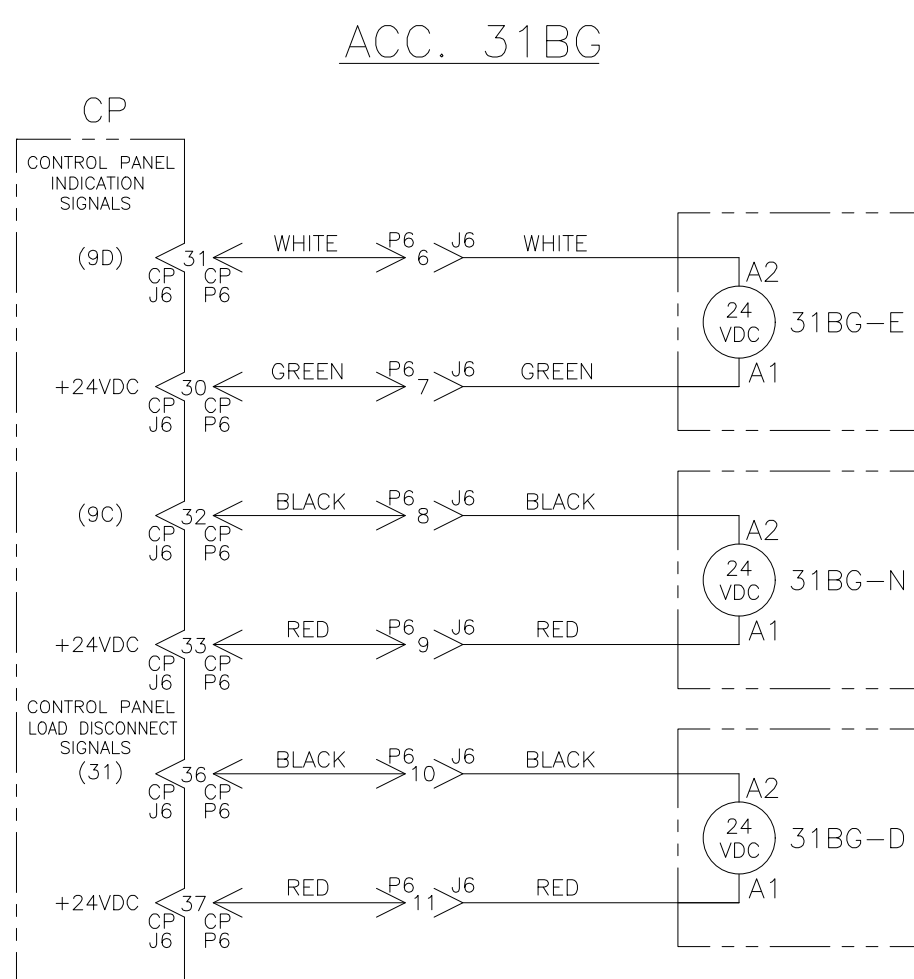
### DIGITAL POWERMETER (TB1) WIRING NOTES:

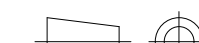

1. TB1 MUST BE WIRED IN A DELTA (SHOWN IN PHANTOM) IN ALL CASES WHERE THE SWITCH IS NOT SUPPLIED WITH A NEUTRAL (CATALOG NUMBER DOES NOT CONTAIN A3, B3 OR C3).
2. TB1 MUST BE WIRED IN A WYE (SHOWN IN CONTINUOUS) IN ALL CASES WHERE THE SWITCH IS SUPPLIED WITH A NEUTRAL (CATALOG NUMBER CONTAINS A3, B3 OR C3).
3. REFER TO ADDITIONAL WIRING (135L) WIRE RUN LISTING.



CURRENT TRANSFORMER RATIO TABLE	
SWITCH RATING	CT RATIO
150A	150:5A
200A	300:5A
230A	
260A	
400A	400:5A
600A	600:5A

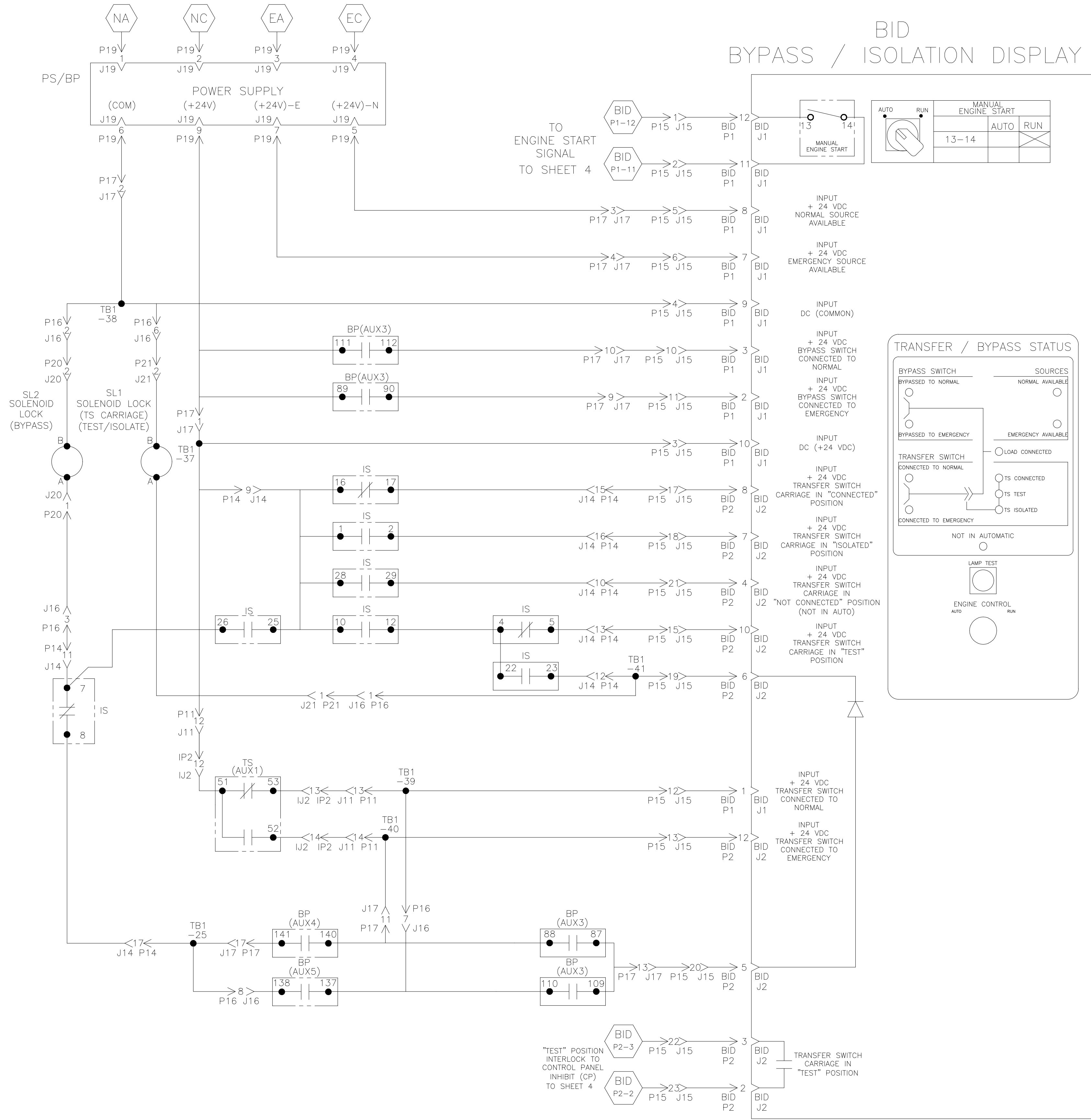
-CT4 AND SHORTING BLOCK SB1 WIRED ONLY  
FOR NEUTRAL MONITORING ACC. 135LA1



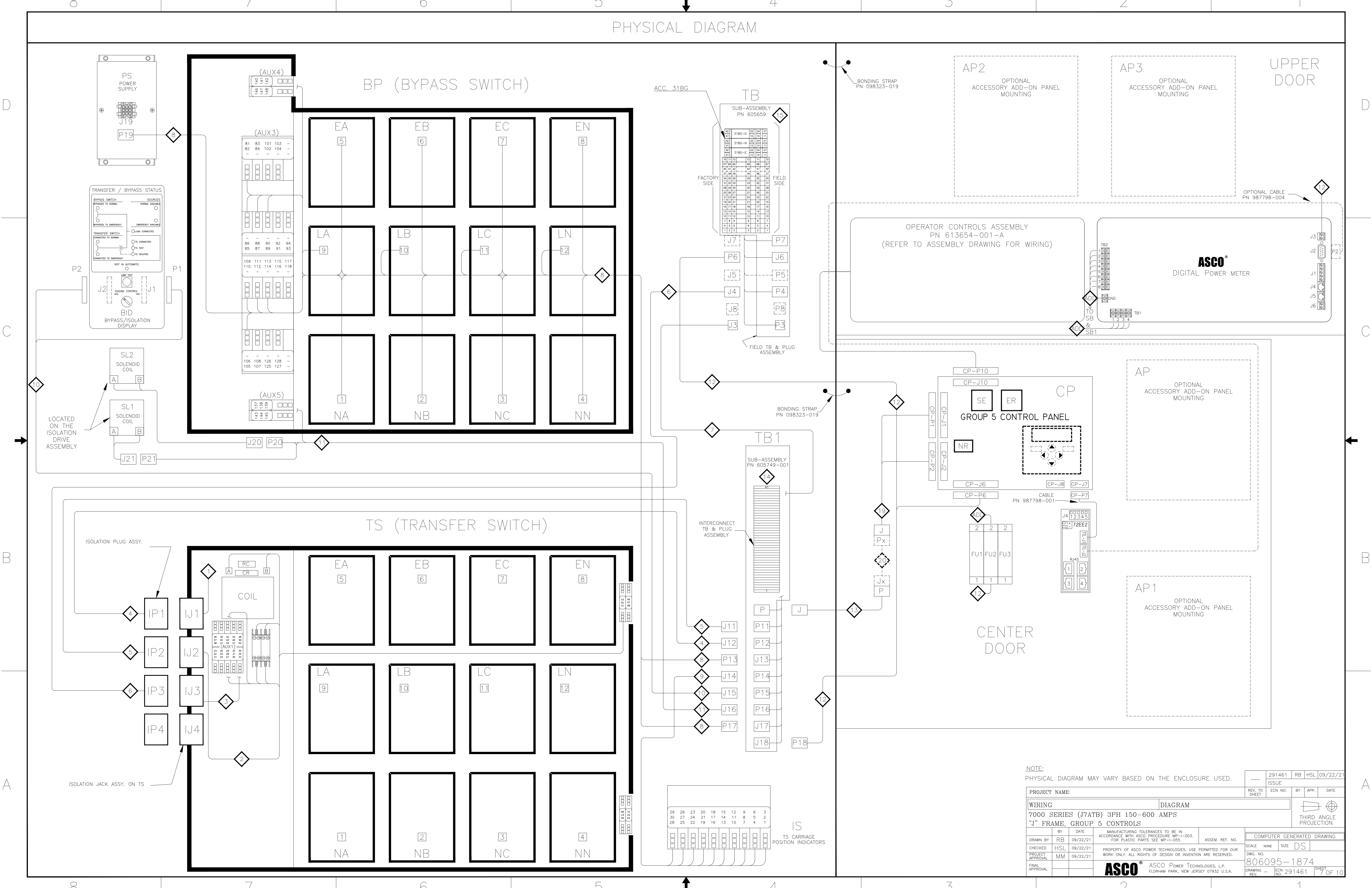
		291461		RB	HSL	09/22/21
PROJECT NAME:		REV. TO SHEET		ECN NO.	BY	APP. DATE
WIRING		DIAGRAM		 THIRD ANGLE PROJECTION		
7000 SERIES (J7ATB) 3PH 150-600 AMPS						
"J" FRAME, GROUP 5 CONTROLS						
BY		DATE		MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-055. FOR PLASTIC PARTS SEE MP-1-055.		ASSEM. REF. NO.
DRAWN BY	RB	09/22/21				
CHECKED	HSL	09/22/21		PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		
PROJECT APPROVAL	MM	09/22/21				
FINAL APPROVAL						
 ASCO <sup>®</sup> ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.				COMPUTER GENERATED DRAWING SCALE NONE SIZE DS DWG. NO. <b>806095-1874</b> DRAWING — REV. — ECN NO. 291461 SHEET 5 OF 10		

BYPASS / ISOLATION INTERLOCKING & INDICATION

BID  
BYPASS / ISOLATION DISPLAY



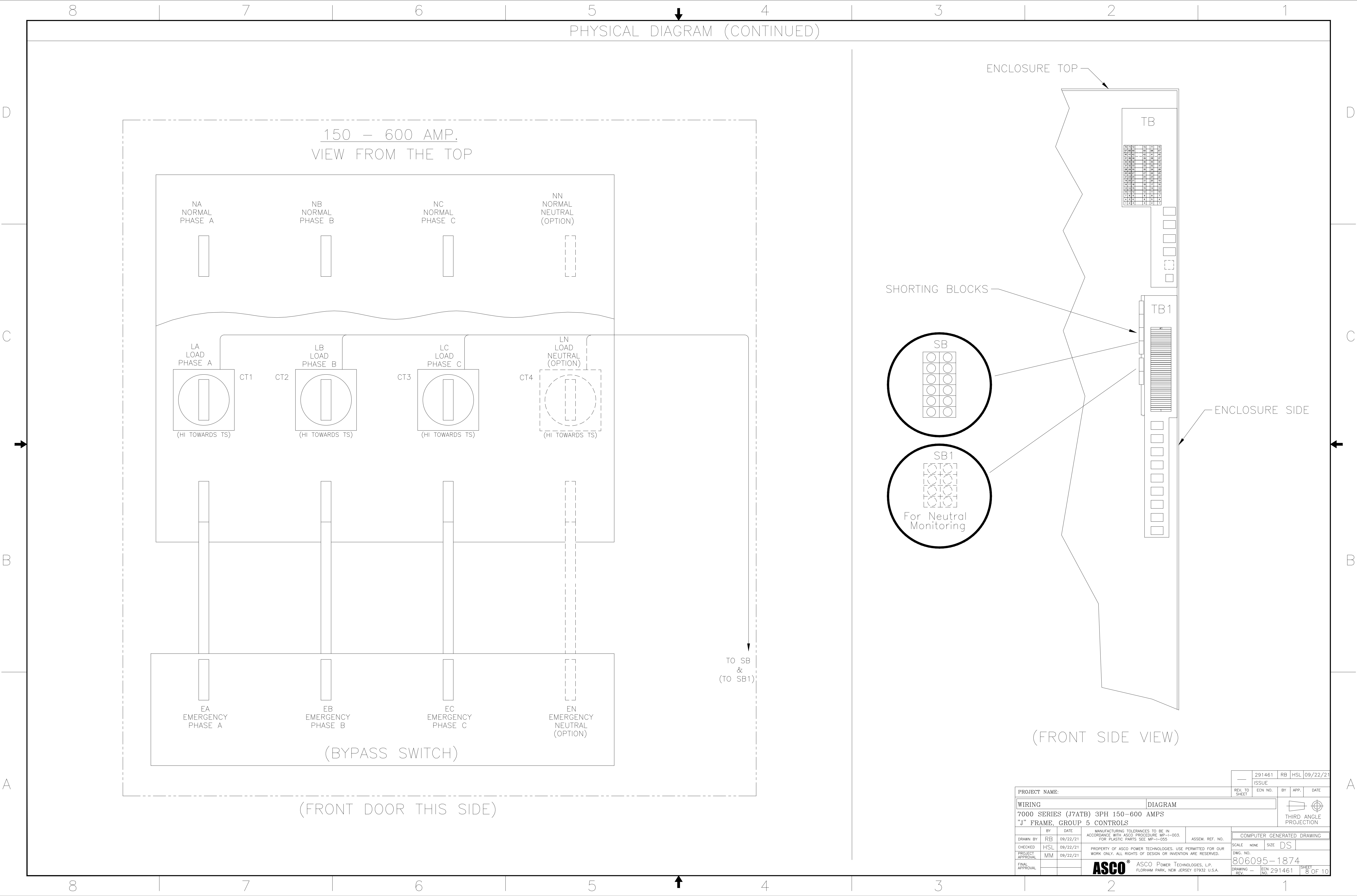
PROJECT NAME:		291461	RB	HSL	09/22/21
WIRING		DIAGRAM			
7000 SERIES (J7ATB) 3PH 150-600 AMPS					
"J" FRAME, GROUP 5 CONTROLS					
DRAWN BY	RB	09/22/21	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055		
CHECKED	HSL	09/22/21	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		
PROJECT APPROVAL	MM	09/22/21	ASCOPower Technologies, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.		
FINAL APPROVAL					
COMPUTER GENERATED DRAWING		SCALE	NONE	SIZE	DS
DWG. NO.		806095-1874			
DRAWING REV.		ECN NO.	291461	SHEET	6 OF 10



NOTE:  
PHYSICAL DIAGRAM MAY VARY BASED ON THE ENCLOSURE USED.


291461	RB	HSL	09/22/21
REV. TO SHEET	ECN NO.	BY	APP. DATE
PROJECT NAME: WIRING			
7000 SERIES (J7ATB) 3PH 150-600 AMPS			
"J" FRAME, GROUP 5 CONTROLS			
DRAWN BY RB	DATE 09/22/21	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055	ASSEM. REF. NO.
CHECKED HSL	DATE 09/22/21	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.	COMPUTER GENERATED DRAWING
PROJECT APPROVAL MM	DATE 09/22/21		SCALE NONE SIZE DS
FINAL APPROVAL			DWG. NO. 806095-1874
			DRAWING - REV. 1
			ASCO® ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.
			ECN NO. 291461






## WIRE RUN LISTING

<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;">1</div> <div style="font-size: 24px; margin-right: 5px;">←</div> <div>HARNESS LOCATOR</div> </div>		<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;">BOX CHECKED IF HARNESS IS WOUNDED</div> <div style="border: 1px solid black; width: 20px; height: 20px; margin-left: 10px;"></div> </div>	
WIRE No.	HARNESS 605674--001 (U1) TS	CLR	AWG
1	U1-1,U1-2		16
2	U1-3,U1-4		
3	U1-5,U1-6		
4	U1-7,U1-8		
5	U1-9,U1-10		
6	U1-11,U1-12		
7	U1-13,U1-14		
8	U1-15,U1-16		
9	U1-17,U1-18		
10	U1-19,U1-20		
11	U1-21,U1-22		
12	U1-23,U1-24		

2  HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	<input type="checkbox"/>
WIRE No.	HARNESS 806064-001 (J2) TS	CLR	AWG
1	J2-1,TS-13		16
21	J2-2,TS-14		
3	J2-3,TS-15		
5	J2-4,TS-17		
24	J2-5,TS-20		
7	J2-6,TS-19		
14	J2-7,TS-CR-AC1		
15	J2-8,TS-CR-AC2		
28	J2-9,TS(AUX1)-21		
30	J2-10,TS(AUX1)-22		
29	J2-11,TS(AUX1)-23		
31	J2-12,TS(AUX1)-51		
32	J2-13,TS(AUX1)-53		
33	J2-14,TS(AUX1)-52		
34	J2-15,TS(AUX1)-66		
35	J2-16,TS(AUX1)-67		
36	J2-17,TS(AUX1)-68		
120	J2-18,TS(AUX1)-24		
38	J2-19,TS(AUX1)-25		
39	J2-20,TS-18		
40	J2-21,TS-16		


[illegible]

3  HARNESS LOCATOR		BOX CHECKED IF HARNESS IS WIRING	<input type="checkbox"/>
WIRE No.	HARNESS 806064-002 (J3) ST. STD. AUX. CONTACTS	CLR	AWG
50	J3-1,TS(AUX1)-27		16
51	J3-2,TS(AUX1)-28		
52	J3-3,TS(AUX1)-29		
53	J3-4,TS(AUX1)-30		
54	J3-5,TS(AUX1)-31		
55	J3-6,TS(AUX1)-32		
56	J3-7,TS(AUX1)-33		
57	J3-8,TS(AUX1)-34		
58	J3-9,TS(AUX1)-35		
59	J3-10,TS(AUX1)-36		
60	J3-11,TS(AUX1)-37		
61	J3-12,TS(AUX1)-38		
62	J3-13,TS(AUX1)-39		
63	J3-14,TS(AUX1)-40		
64	J3-15,TS(AUX1)-41		
65	J3-16,TS(AUX1)-42		
66	J3-17,TS(AUX1)-43		
67	J3-18,TS(AUX1)-44		
68	J3-19,TS(AUX1)-45		
69	J3-20,TS(AUX1)-46		
70	J3-21,TS(AUX1)-47		
71	J3-22,TS(AUX1)-48		
72	J3-23,TS(AUX1)-49		
73	J3-24,TS(AUX1)-50		

[illegible][illegible]

5	HARNESS LOCATOR		BOY CHECKED F. HARNESS IS MOORED	<input type="checkbox"/>
WIRE No.	HARNESS 605674-006-D (IP2,J11)	STATIONARY FRAME	CLR	AWG
1	IP2-1,J11-1			16
2	IP2-2,J11-2			
3	IP2-3,J11-3			
5	IP2-4,J11-4			
24	IP2-5,J11-5			
17	IP2-6,J11-6			
14	IP2-7,J11-7			
15	IP2-8,J11-8			
28	IP2-9,J11-9			
30	IP2-10,J11-10			
29	IP2-11,J11-11			
31	IP2-12,J11-12			
32	IP2-13,J11-13			
33	IP2-14,J11-14			
34	IP2-15,J11-15			
35	IP2-16,J11-16			
36	IP2-17,J11-17			
120	IP2-18,J11-18			
38	IP2-19,J11-19			
39	IP2-20,J11-20			
40	IP2-21,J11-21			
41	IP2-22,J11-22			
42	IP2-23,J11-23			
43	IP2-24,J11-24			

[illegible]


6  — HARNESS LOCATOR		BOY CHECKED IF HARNESS IS MOVED	<input type="checkbox"/>	
WIRE No.	HARNESS 605674-006-C (IP3,J4)	STATIONARY FRAME	CLR	AWG
50	IP3-1,J4-1			16
51	IP3-2,J4-2			
52	IP3-3,J4-3			
53	IP3-4,J4-4			
54	IP3-5,J4-5			
55	IP3-6,J4-6			
56	IP3-7,J4-7			
57	IP3-8,J4-8			
58	IP3-9,J4-9			
59	IP3-10,J4-10			
60	IP3-11,J4-11			
61	IP3-12,J4-12			
62	IP3-13,J4-13			
63	IP3-14,J4-14			
64	IP3-15,J4-15			
65	IP3-16,J4-16			
66	IP3-17,J4-17			
67	IP3-18,J4-18			
68	IP3-19,J4-19			
69	IP3-20,J4-20			
70	IP3-21,J4-21			
71	IP3-22,J4-22			
72	IP3-23,J4-23			
73	IP3-24,J4-24			

[illegible]


8	— HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	<input checked="" type="checkbox"/>
WIRE No.	HARNESS 806064-004 (P13, P17, P19, BP)	BP	CLR	AWG
1	P13-1, BP-1			16
1	BP-1, P19-1			
2	P13-2, BP-2			
3	P13-3, BP-3			
3	BP-3, P19-2			
4	P13-4, BP-4			
5	P13-5, BP-5			
5	BP-5, P19-3			
6	P13-6, BP-6			
7	P13-7, BP-7			
7	BP-7, P19-4			
8	P13-8, BP-8			
9	P13-9, BP-9			
10	P13-10, BP-10			
11	P13-11, BP-11			
12	P13-12, BP-12			
31	P17-1, BP(AUX3)-111			
170	P17-2, P19-6			
171	P17-3, P19-5			
172	P17-4, P19-7			
191	P17-5, BP(AUX4)-148			
177	P17-9, BP(AUX3)-90			
176	P17-10, BP(AUX3)-112			
33	P17-11, BP(AUX3)-88			
33	BP(AUX3)-88, BP(AUX4)-140			
173	P17-12, BP(AUX4)-146			
32	BP(AUX3)-110, BP(AUX5)-137			
149	P17-13, BP(AUX3)-87			
149	BP(AUX3)-87, BP(AUX3)-109			
190	P17-17, BP(AUX4)-141			
121	P17-21, BP(AUX3)-85			
120	P17-22, BP(AUX3)-86			
31	P19-9, BP(AUX3)-89			
31	BP(AUX3)-89, BP(AUX3)-111			
501	BP(AUX3)-82, BP(AUX3)-105			
500	P17-23, BP(AUX3)-81			
150	P17-24, BP(AUX3)-106			

		REMOVE WIRES	
		ADD WIRES	
26	P13-13		
140	P13-14		
27	P13-15		
34	P13-16, BP(AUX3)-114		
35	P13-17, BP(AUX3)-113		
342	P13-18		
343	P13-19		
344	P13-20		
345	P13-21		
346	P13-22		
347	P13-23		
348	P13-24		

174	P17-6		
504	P17-7		
175	P17-8		
178	P17-14		
505	P17-15		
189	P17-16		
506	P17-18		
420	P17-19		
421	P17-20		

9  — HARNESS LOCATOR		BOX CHECKED IF HARNESS IS WOURED	<input type="checkbox"/>
WIRE No.	HARNESS 806064-007 (J14,IS) ISOLATION AUX. CONTACTS	CLR	AWG
150	J14-3,IS-13		16
151	J14-4,IS-14		
38	J14-5,IS-19		
121	J14-6,IS-21		
31	J14-9,IS-10		
152	J14-10,IS-29		
153	J14-11,IS-28		
154	J14-12,IS-23		
155	J14-13,IS-5		
157	J14-15,IS-17		
158	J14-16,IS-2		
190	J14-17,IS-8		
31	IS-10,IS-1		
31	IS-1,IS-16		
31	IS-16,IS-25		
31	IS-25,IS-28		
159	IS-12,IS-22		
159	IS-12,IS-4		
153	IS-7,IS-26		
REMOVE WIRES			
ADD WIRES			
507	J14-1		
160	J14-2		
169	J14-7		
168	J14-8		
156	J14-14		
161	J14-18		
162	J14-19		
163	J14-20		
164	J14-21		
165	J14-22		
166	J14-23		
167	J14-24		



[illegible]

 — HARNESS LOCATOR		BOX CHECKED IF HARNESS IS WORN <input type="checkbox"/>	
WIRE No.	HARNESS 806064-006 (J16, P20, P21) BP/IS INTERLOCKS	CLR	AWG
154	J16-1,P21-1		16
170	J16-2,P20-2		
153	J16-3,P20-1		
173	J16-4,BP(AUX5)-143		
500	J16-5,BP(AUX5)-145		
170	J16-6,P21-2		
32	J16-7,BP(AUX5)-137		
190	J16-8,BP(AUX5)-138		

ADD WIRES		
524	J16-9	
525	J16-10	
526	J16-11	
527	J16-12	
528	J16-13	
529	J16-14	
530	J16-15	
531	J16-16	
532	J16-17	
533	J16-18	
534	J16-19	
535	J16-20	
536	J16-21	
537	J16-22	
538	J16-23	
539	J16-24	

[illegible]

<div> <div>3</div> <div> <div></div> <div>HARNESS LOCATOR</div> </div> </div> <div> <div>BOX CHECKED IF HARNESS IS MOVED</div> <div><input type="checkbox"/></div> </div>		
WIRE No.	HARNESS 309320-006 (P.J.) CONTROL PANEL EXTENSION	CLR      AWG
39	P-1,J-1	16
14	P-2,J-2	
21	P-3,J-3	
3	P-4,J-4	
15	P-5,J-5	
7	P-6,J-6	
5	P-7,J-7	
120	P-8,J-8	
38	P-9,J-9	
28	P-10,J-10	
2	P-11,J-11	
1	P-12,J-12	
30	P-13,J-13	
29	P-14,J-14	
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	

		291461		RB	HSL	09/22/21	
		ISSUE					
PROJECT NAME:		REV. TO SHEET	ECN NO.	BY	APP.	DATE	
WIRING		DIAGRAM				 THIRD ANGLE PROJECTION	
7000 SERIES (J7ATB) 3PH 150-600 AMPS							
"J" FRAME, GROUP 5 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.		COMPUTER GENERATED DRAWING	
DRAWN BY	HSB	09/22/21				SCALE	NONE
CHECKED	RL	09/22/21	PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.			SIZE	DS
PROJECT APPROVAL	MM	09/22/21				DWG. NO.	806095-1874
FINAL APPROVAL			 ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.		DRAWING	ECN NO.	291461
					SHEET	9 OF 10	

WIRE RUN LISTING

14 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,TB1-22				
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				
500	J17-23,P16-5				
150	J17-24,P14-3				

14 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				
34	J13-16,TB1-34				
35	J13-17,TB1-35				
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				
421	J17-20				
215	J18-7				
216	J18-8				
34	J18-9,TB1-34				
35	J18-10,TB1-35				
9	J18-11,TB1-9				
10	J18-12,TB1-10				
11	J18-13,TB1-11				
12	J18-14,TB1-12				
324	J18-15				
325	J18-16				
36	J18-17				
35	J18-18				
228	J18-19				
229	J18-20				
320	J18-21				
120	J18-22				
121	J18-23				
323	J18-24				

15 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				
241	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	J6-6,31BG-E-A2	WHT			
246	J6-7,31BG-E-A1	GRN	22		
247	J6-8,31BG-N-A2	BLK	(4 COND)		
248	J6-9,31BG-N-A1	RED			
249	J6-10,31BG-D-A2	BLK	22		
250	J6-11,31BG-D-A1	RED	(2 COND)		
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				

16 HARNESS LOCATOR				BOX CHECKED IF HARNESS IS MODIFIED	
WIRE No.	HARNESS 483763 (J7) OPTIONAL FIELD OUTPUTS	CLR	AWG		
270	J7-1		16		
271	J7-2				
272	J7-3				
273	J7-4				
274	J7-5				



# Brandy Branch Generating Station

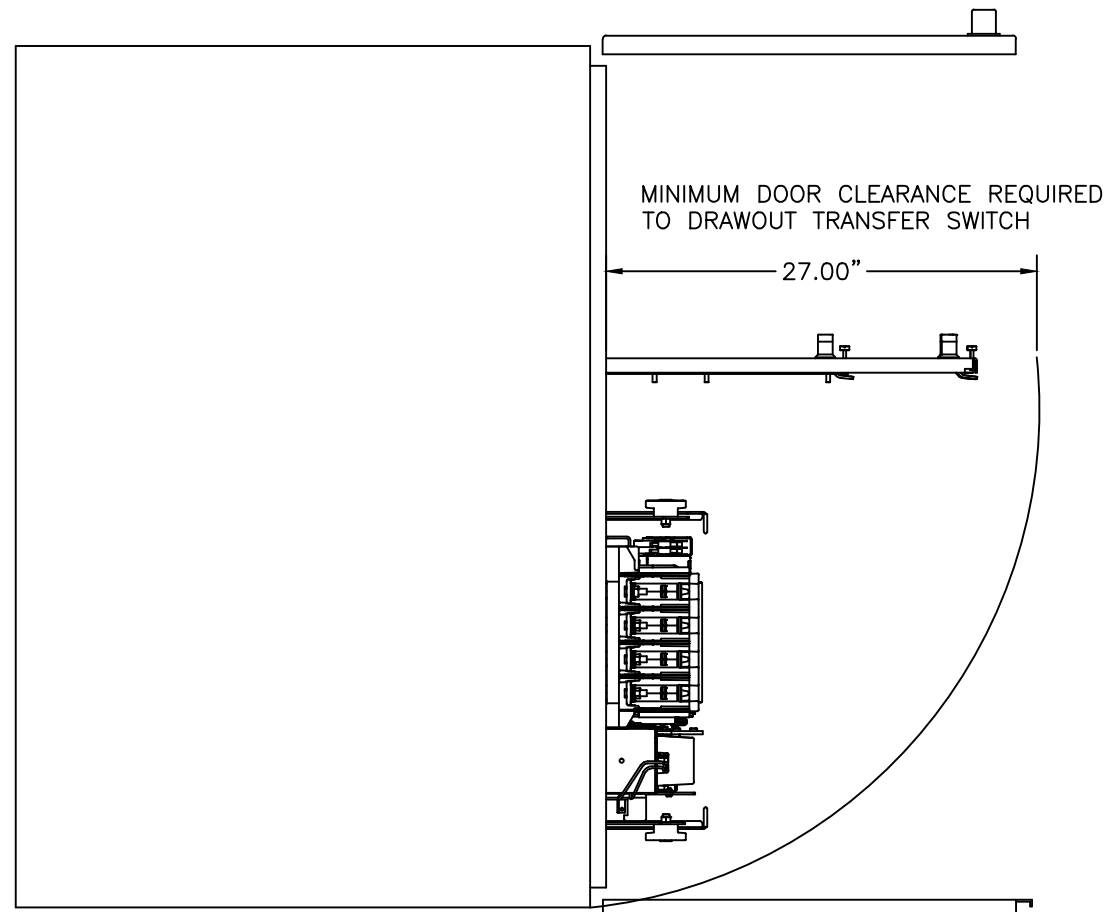
## Transfer Switch Details

#3	ATS	AMPS: 0600	QTY: 3
Product	: 7000 Series Bypass Transfer Switches	Catalog Number	: J07ATBA30600N5XP
Service Voltage / Hz	: 480V/60Hz	Optional Accessories	: 31BG,44G,135LA1
Bypass Isolation	: YES	Product Description	: 7000 Series, Automatic Open Transition ByPass Switch
No. of Switched Poles	: 3	Neutral Configuration	: Solid [A] <b>No Neutral Needed</b>
Withstand Rating:	: See WCR Table Below	No. of Cables & Lug Size	: See applicable outline drawing
Frame = J, Switch Rating = 0600, Series = 7000			
Enclosure	: 4X(P)-UL Type 4X - 304 Stainless Steel Secure	Service	: Three Phase, 4-wire <b>3P, 3W</b>
Extended Warranty	: Not Included	Markings	Item1: B51-EE21-001 Item2: B52-EE21-001 Item3: B53-EE21-001

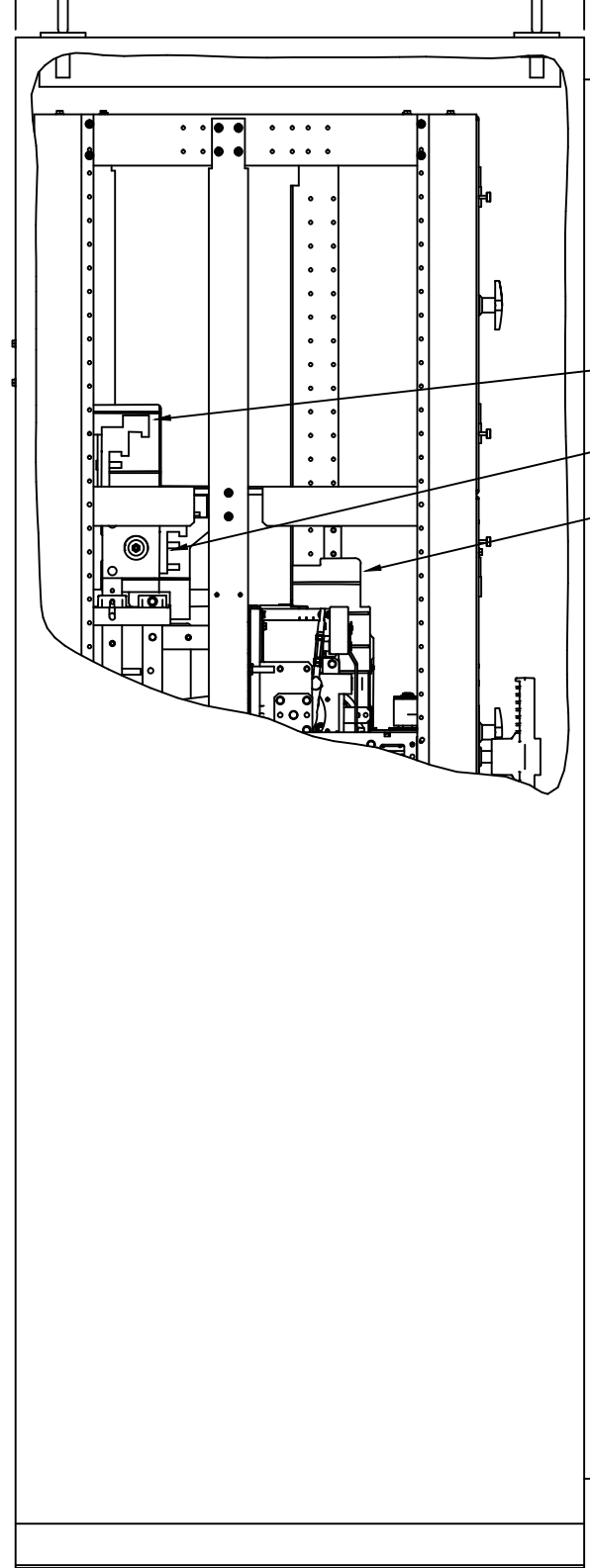
#	ACCESSORY DESCRIPTIONS	
	Accessory Code	Description
1	31BG	Status Relay Bundle - Provides 1 relay (3 total) for each of the following statuses, Normal Source Acceptability, Emergency Source Acceptability, Pre & Post Transfer Signal. Each relay has 2 NO/NC (Form C) sets of contacts rated for 6A at 120Vac, 250Vac Max.
2	44G	208-240VAC and or 440-480VAC Accessory 44 Strip heater is designed to keep humidity and or temperature within the ATS enclosure at acceptable levels. This accessory consists of a mounting bracket with strip heater, thermostat and terminal block.
3	135LA1	ASCO "Digital Power Meter" monitoring the load source for measurement of voltage, frequency, and current. Calculation of Power, Energy, and Power Factor.

OUTLINE & MOUNTING FOR **ASCO**® FRONT CONNECTED AUTOMATIC TRANSFER & BYPASS-ISOLATION SWITCHES TYPES J7ATB, J7ACTB & J7ADTB RATED 150-600 AMPS

D



TOP VIEW W/ DOORS OPEN



LEFT SIDE VIEW W/ DOORS CLOSED

POLE 4  
NEUTRAL  
(3ph/4w & 2ph/3w UNITS)  
SWITCHED, OR OVERLAPPING TYPES

POLE 3  
PHASE C (3ph UNIT)  
PHASE L2 (2ph UNIT)

POLE 2  
PHASE B (3ph UNIT)  
BLANK (2ph UNIT)

POLE 1  
PHASE A (3ph UNIT)  
PHASE L1 (2ph UNIT)

NORMAL LUGS

LOAD LUGS

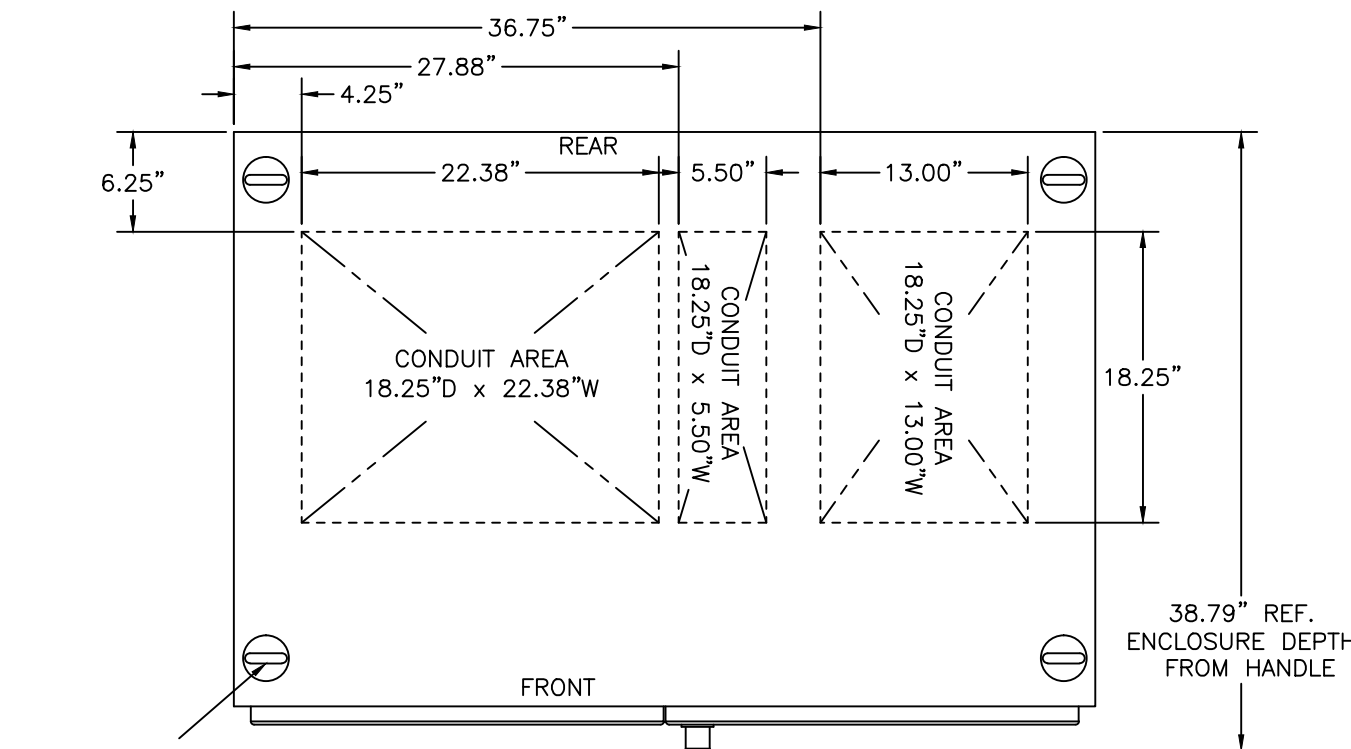
EMERGENCY LUGS

23.75" REF  
600 AMP

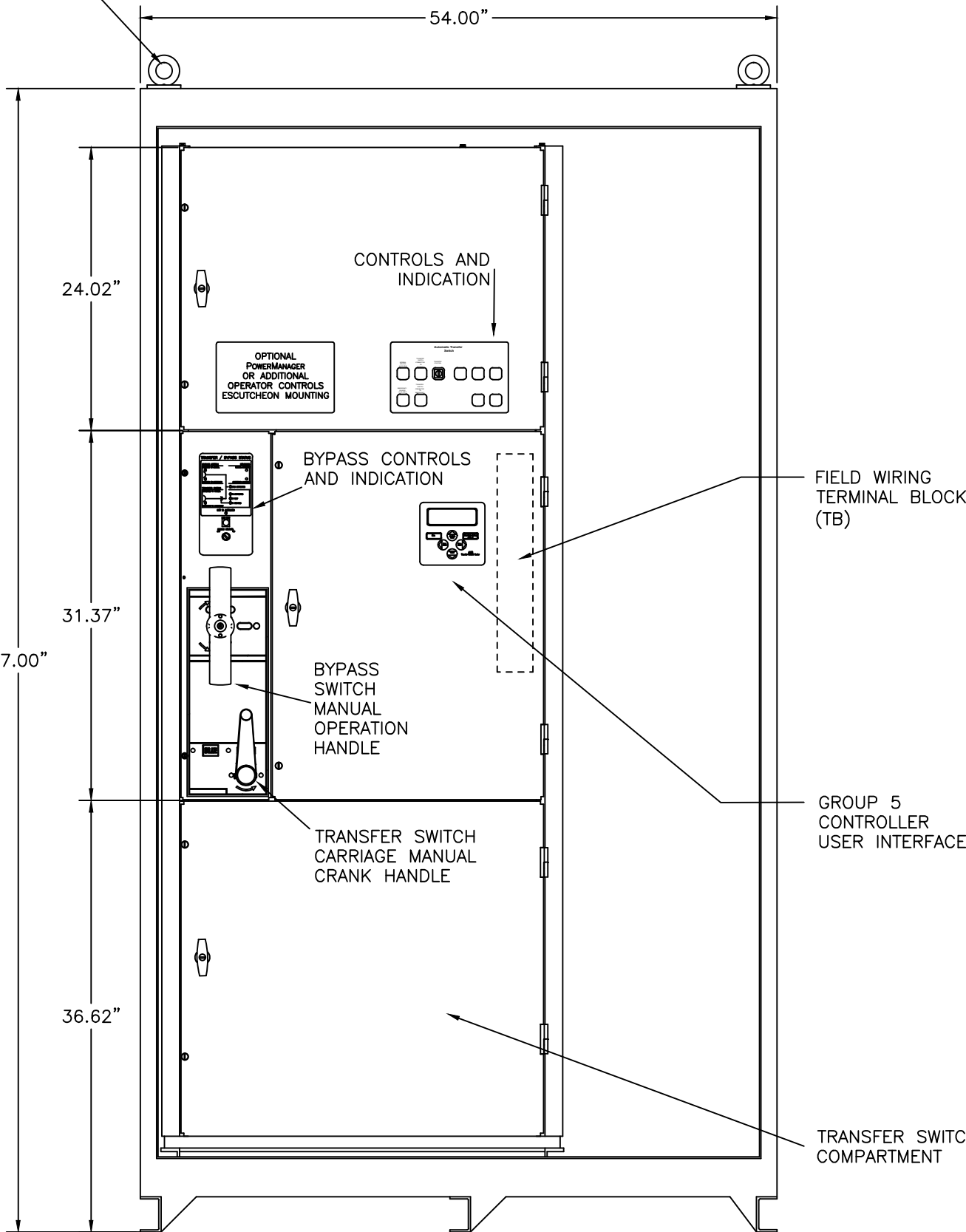
24.75" REF  
150-400 AMP

51.41"

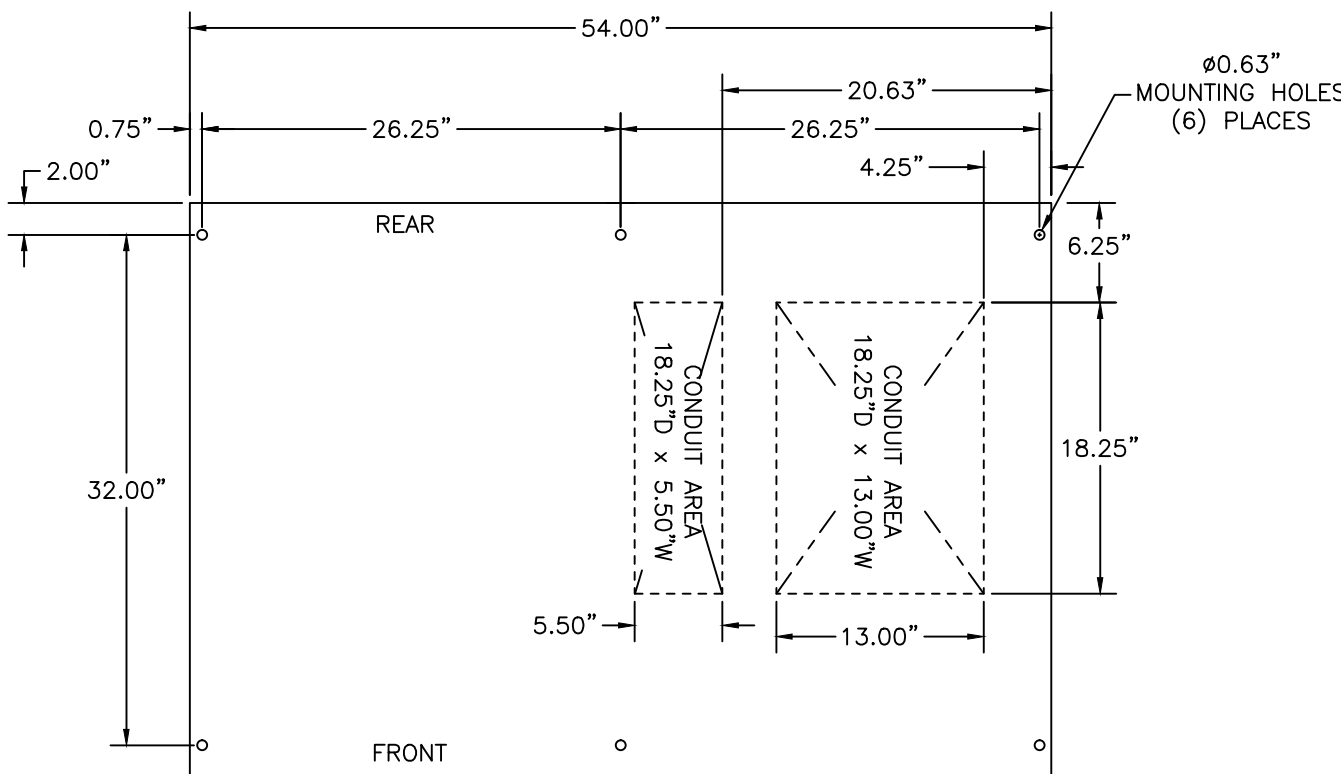
FRONT VIEW  
(COVERS AND DOORS REMOVED)



TOP VIEW



FRONT VIEW  
(DOORS INSTALLED)



PLAN VIEW

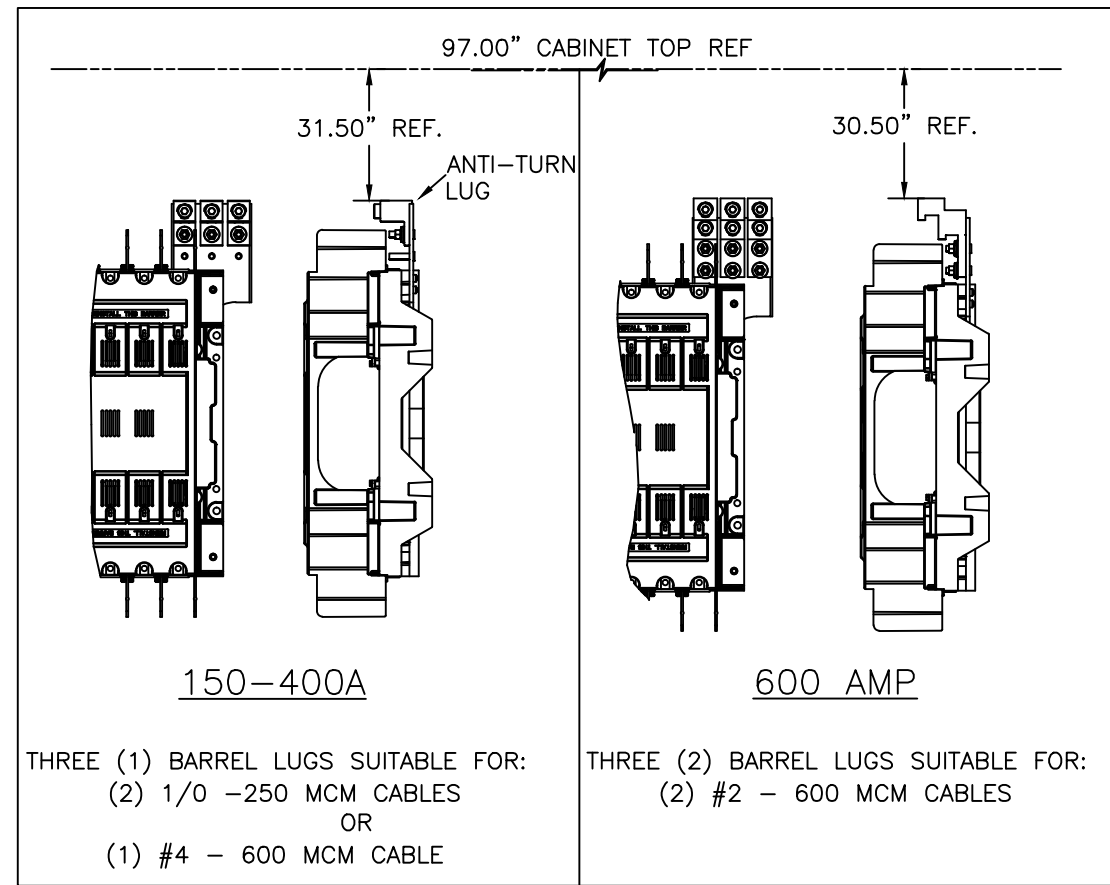
GENERAL NOTES

- TYPE 12/4/4X ENCLOSURE, FREE STANDING, FLOOR MOUNTED.
- MATERIAL: TYPE 12/4 - CARBON STEEL. TYPE 4X - STAINLESS STEEL.
- FINISH: TYPE 4/12: ANSI 61 GRAY POLYESTER SEMI GLOSS ELECTROSTATIC POWDER.  
TYPE 4X (P): EXTERIOR CONSTRUCTED OF CODE GAUGE TYPE 304 STAINLESS STEEL.  
TYPE 4X (V): EXTERIOR CONSTRUCTED OF CODE GAUGE TYPE 316 STAINLESS STEEL.
- CONSTRUCTION IS IN ACCORDANCE WITH UL 1008.
- PADLOCKING PROVISIONS ARE INCLUDED ON TYPE 4/4X; KEY LOCKING LATCHING HANDLES ON TYPE 12: ISOLATION HANDLE: THE TRANSFER SWITCH ISOLATION HANDLE MAY BE PADLOCKED WITH THE TRANSFER SWITCH IN THE FULLY ISOLATED (DISCONNECTED POSITION).
- RECOMMENDED FRONT CLEARANCE: 27.00" INCHES MINIMUM.
- A 20% RATED GROUND BUS IS PROVIDED.
- A FULL RATED NEUTRAL CONNECTION FOR EACH SOURCE AND THE LOAD IS OPTIONAL, WHEN PROVIDED IT IS IN ONE OF THE FOLLOWING FORMATS AS SPECIFIED BY THE CATALOG NO. NEUTRAL TYPE:  
TYPE A: SOLID (COPPER BUS) NEUTRAL  
TYPE B: SWITCHED NEUTRAL POLE  
TYPE C: OVERLAPPING NEUTRAL POLE (NOT AVAILABLE ON 7ADTB & 7ACTB UNITS)
- APPROXIMATE WEIGHT: 1601 LBS.
- STANDARD OUTLINE FOR A FOUR POLE 600 AMP TRANSFER SWITCH WITH BYPASS/ISOLATION SWITCH SHOWN. SEE DETAIL "A" FOR LUG CONFIGURATION OF SOLID NEUTRAL.
- BOTH BYPASS SWITCH MANUAL OPERATION HANDLE & TRANSFER SWITCH CARRIAGE MANUAL CRANK HANDLE CAN BE REMOVED. ALSO NOTE THAT THE TRANSFER SWITCH CARRIAGE MANUAL CRANK HANDLE CAN BE LEFT IN PLACE AND FOLDED DOWN.

CABLING NOTES

- ALL SIZES SUPPLIED STANDARD WITH MECHANICAL (SCREW TYPE) LUGS. (SEE AMP SIZE BELOW)  
A. LUG MATERIAL: ALUMINUM ALLOY 6061-T6 WITH ELECTRO TIN PLATED FINISH.  
B. SCREW MATERIAL: ALUMINUM ALLOY 6262-T9 WITH ELECTRO TIN PLATED FINISH.  
C. UL LISTED, CSA CERTIFIED.  
D. LUG MAX WIRE TIGHTENING TORQUE PER UL 486B: SEE TABLE BELOW.
- OPTIONAL COPPER CRIMP LUGS MAY BE SUPPLIED. CONSULT FACTORY.  
A. LUG MATERIAL: HIGH CONDUCTIVITY WROUGHT COPPER FINISH, ELECTRO TIN PLATED.  
B. UL LISTED, CSA CERTIFIED.  
C. LUG MOUNTING HARDWARE TIGHTENING TORQUE: (REFER TO WITHSTAND CURRENT RATING LABEL PROVIDED ON EACH TRANSFER SWITCH).  
D. SUITABLE WIRE BENDING SPACE IS PROVIDED.
- GROUND LUGS ARE PROVIDED STANDARD AS FOLLOWS:  
(6) 600CMW AL/CU CABLES FOR 600 AMP  
(3) 600CMW AL/CU CABLES FOR 150-400 AMP.
- CONSULT FACTORY FOR OTHER TERMINATION REQUIREMENTS.

SIZE	CABLE ACCOMMODATIONS (PER PHASE & NEUTRAL)	LUG TORQUE
150-400	SCREW TYPE (STANDARD)- (2) 1/0 - 250 MCM AL/CU	500 IN.-LBS.
	OR (1) #4 - 600 MCM AL/CU	
600	SCREW TYPE (STANDARD)- (2) #2 - 600 MCM AL/CU	375 IN.-LBS.



DETAIL "A"  
SOLID NEUTRAL

A

A

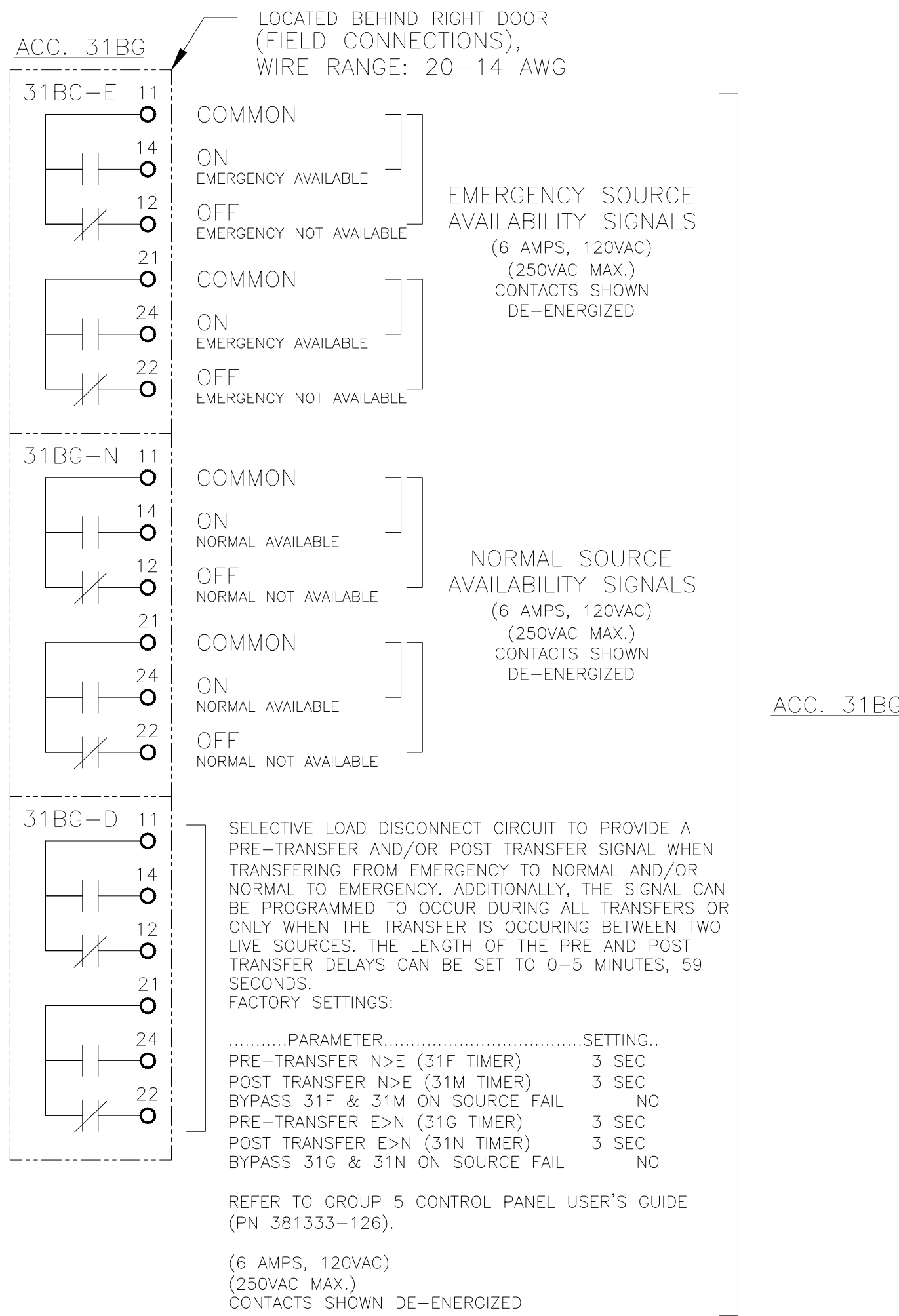
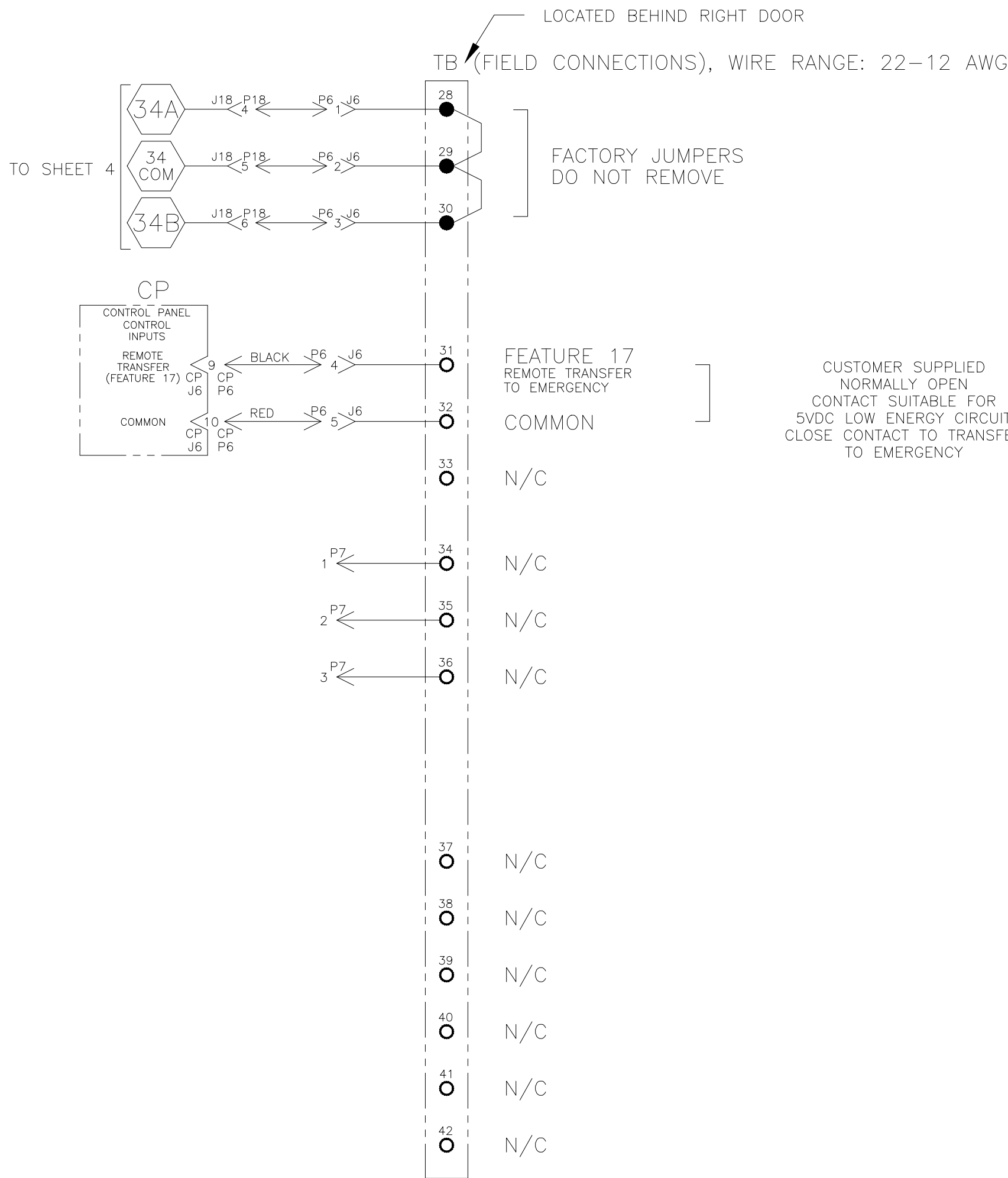
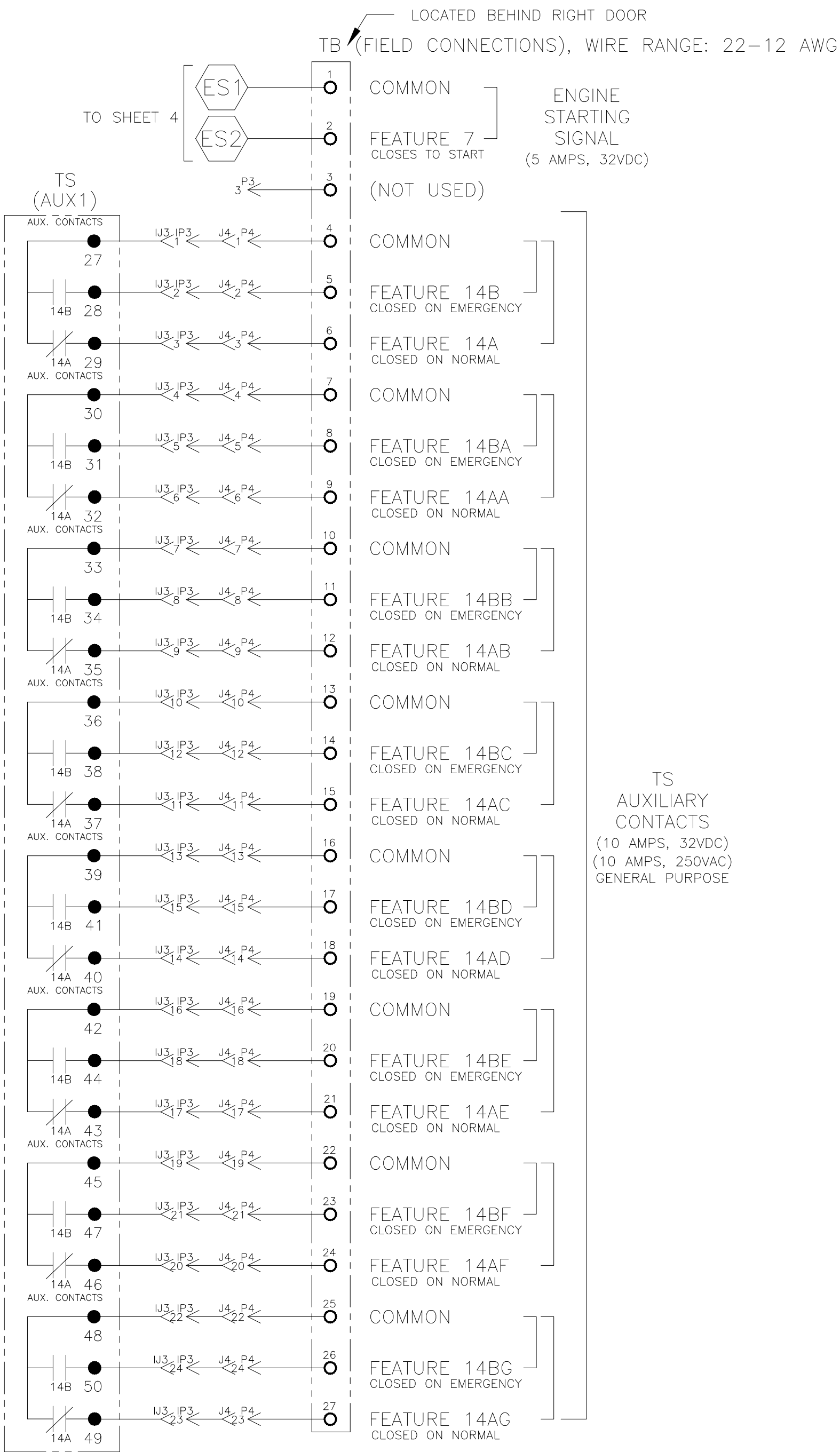
E	234077	TR	WK	10/19/11
	SEE ECN			
D	228792	AE	BK	08/31/10
	SEE ECN			
C	228039	AE	BK	06/30/10
	SEE ECN			
B	217921	WK	BK	04/14/08
	SEE ECN			
A	214439	BWM	BWM	7/26/07
	SEE ECN			
F	213573	BWM	JPB	5/30/07
	ISSUE			
PROJECT NAME:				
REV. TO SHEET				
ECN NO. BY APP. DATE				
THIRD ANGLE PROJECTION				
COMPUTER GENERATED DRAWING				
SCALE NONE SIZE DS				
DWG. NO. 802093-003				
DRAWING H ECN NO. 260997 SHEET 1 OF 1				
PROJECT APPROVAL				
BY DATE				
MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005				
PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.				
ASCO® ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.				







FIELD CONNECTIONS



PROJECT NAME:		291461		RB	HSL	09/22/21
WIRING		DIAGRAM		ISSUE		
7000 SERIES (J7ATB) 3PH 150-600 AMPS		REV. TO SHEET		BY	APP.	DATE
"J" FRAME, GROUP 5 CONTROLS		MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055		ASSEM. REF. NO.		
DRAWN BY RB 09/22/21		CHECKED HSL 09/22/21		PROJECT APPROVAL MM 09/22/21		
FINAL APPROVAL		PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		COMPUTER GENERATED DRAWING		
ASCOTM ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.		SCALE NONE SIZE DS		DWG. NO. 806095-1874		
DRAWING REV.		ECN NO. 291461		SHEET 2 OF 10		



D

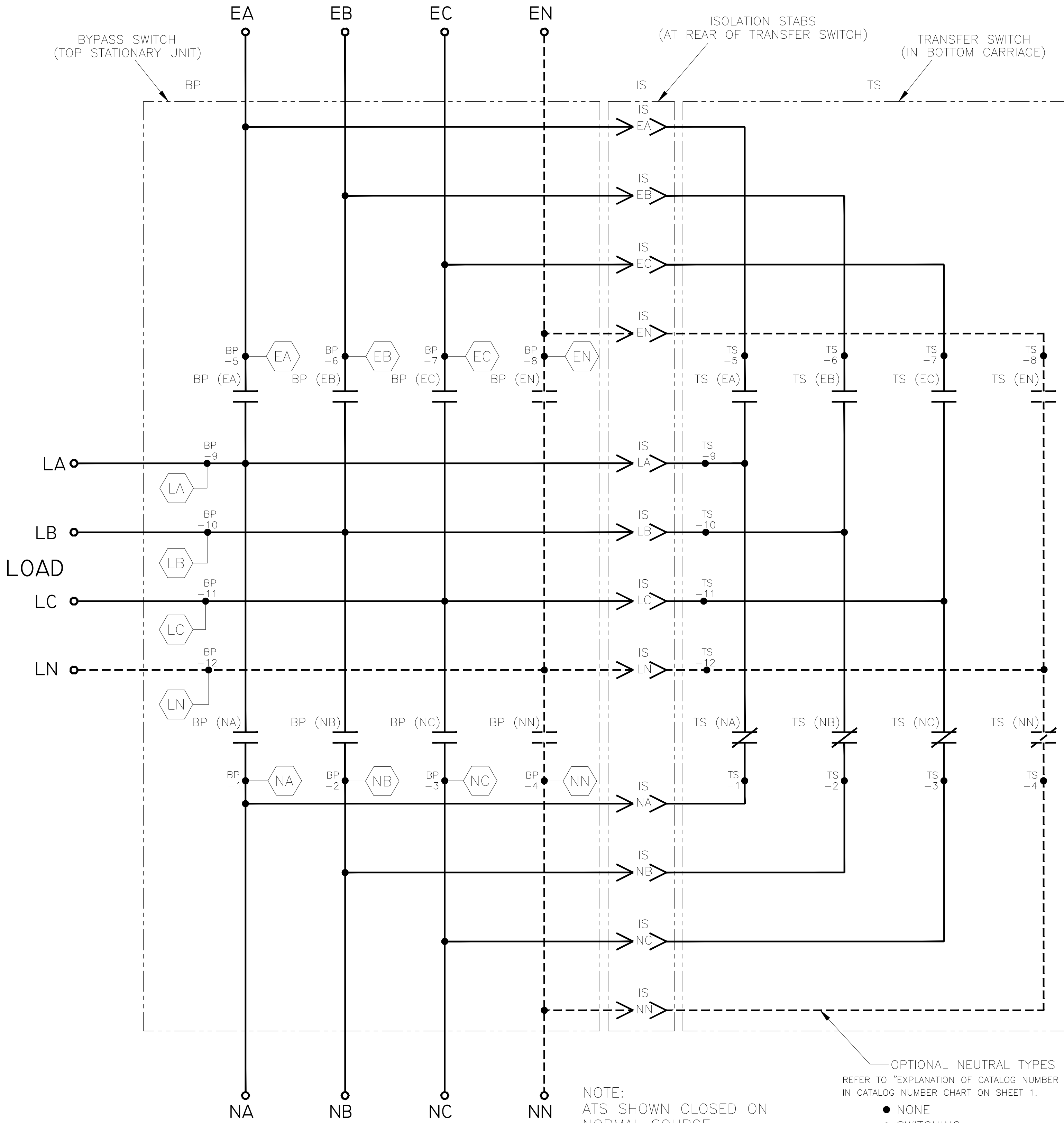
C

B

A

MAIN POWER POLES

EMERGENCY



NOTE:  
ATS SHOWN CLOSED ON  
NORMAL SOURCE.  
BYPASS SWITCH IN  
(AUTOMATIC) POSITION.

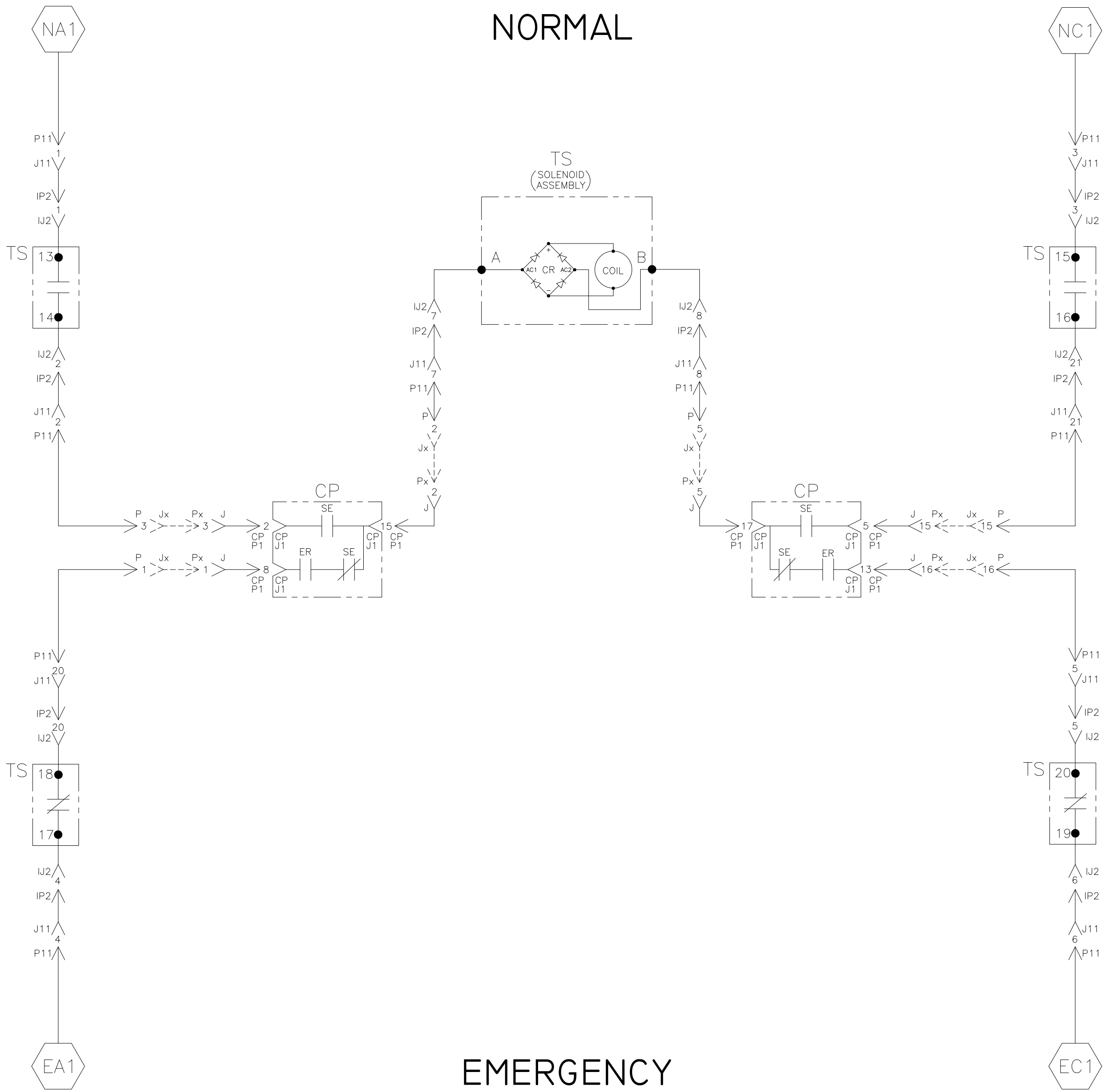
OPTIONAL NEUTRAL TYPES  
REFER TO "EXPLANATION OF CATALOG NUMBER CODES"  
IN CATALOG NUMBER CHART ON SHEET 1.

- NONE
- SWITCHING
- OVERLAPPING CONTACTS
- SOLID BUS PLATE

NORMAL

TS OPERATOR CIRCUIT

NORMAL



EMERGENCY

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

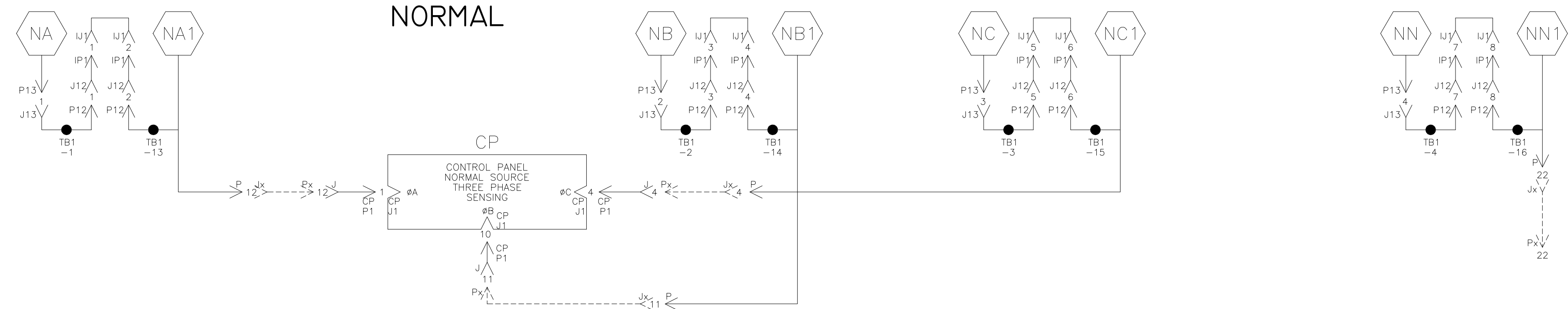
TDC (TOP DEAD CENTER)  
TRANSFER SWITCH TEST & ADJUSTMENT PROCEDURE  
SPECIFIES CONTROL CUT-OFF (CONTACT OPENING)  
SETTING.

PROJECT NAME:		291461		RB	HSL	09/22/21
WIRING		DIAGRAM		ISSUE		
7000 SERIES (J7ATB) 3PH 150-600 AMPS		COMPUTER GENERATED DRAWING		REV. TO SHEET		
"J" FRAME, GROUP 5 CONTROLS		SCALE: NONE		BY: APP: DATE:		
DRAWN BY: RB		DATE: 09/22/21		SIZE: DS		
CHECKED: HSL		DATE: 09/22/21		DWG. NO. 806095-1874		
PROJECT APPROVAL: MM		DATE: 09/22/21		SHEET 3 OF 10		
FINAL APPROVAL:		DATE:		REV.:		

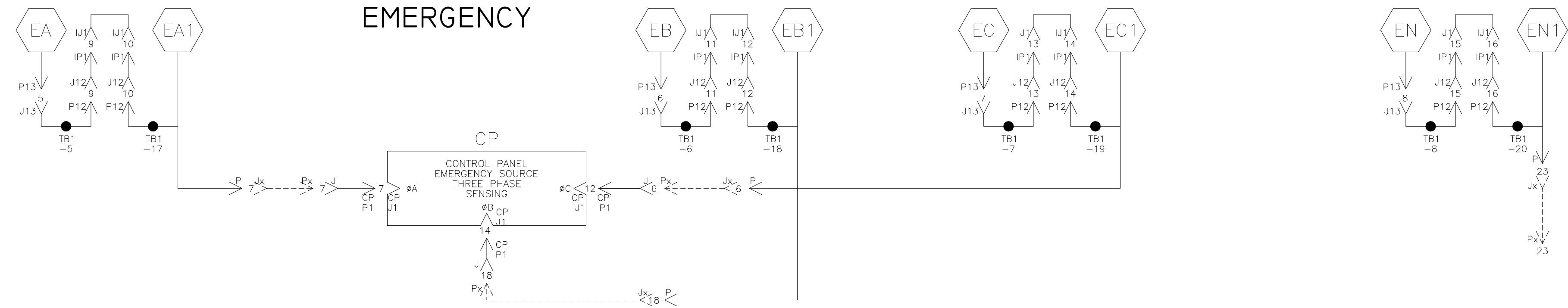
PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.

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

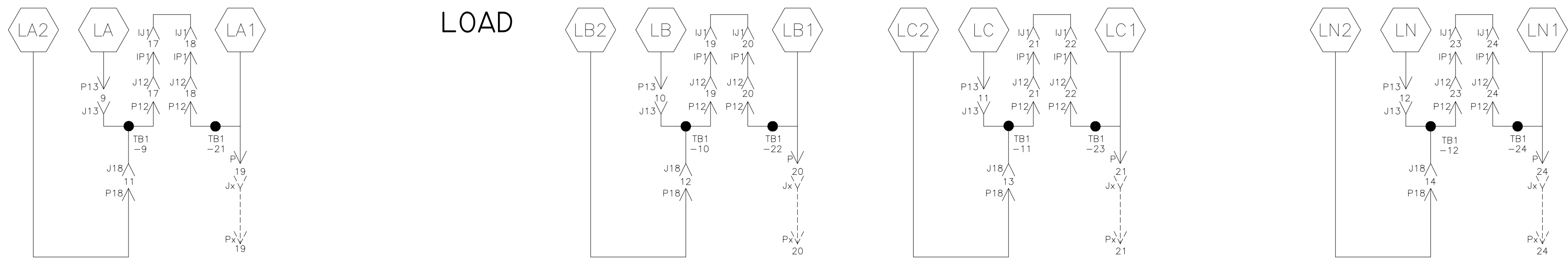
NORMAL SOURCE CIRCUITS



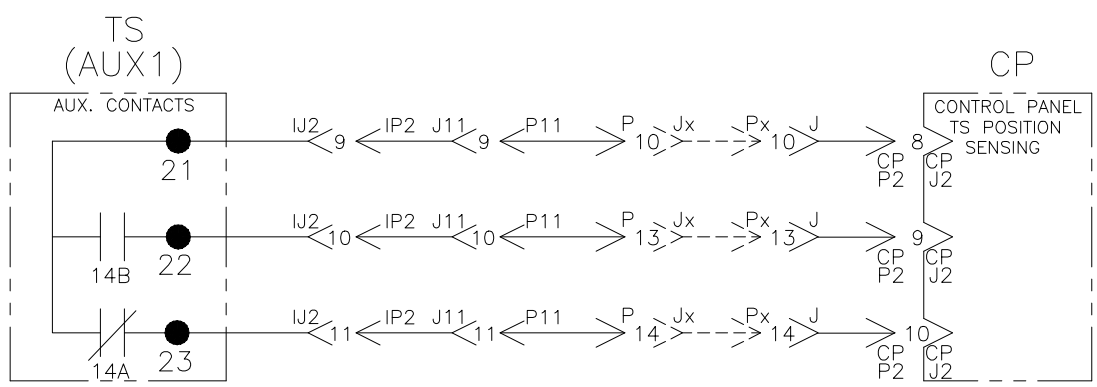
EMERGENCY SOURCE CIRCUITS



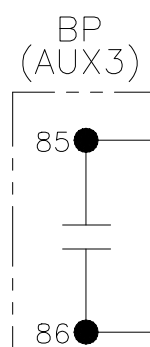
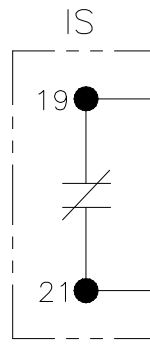
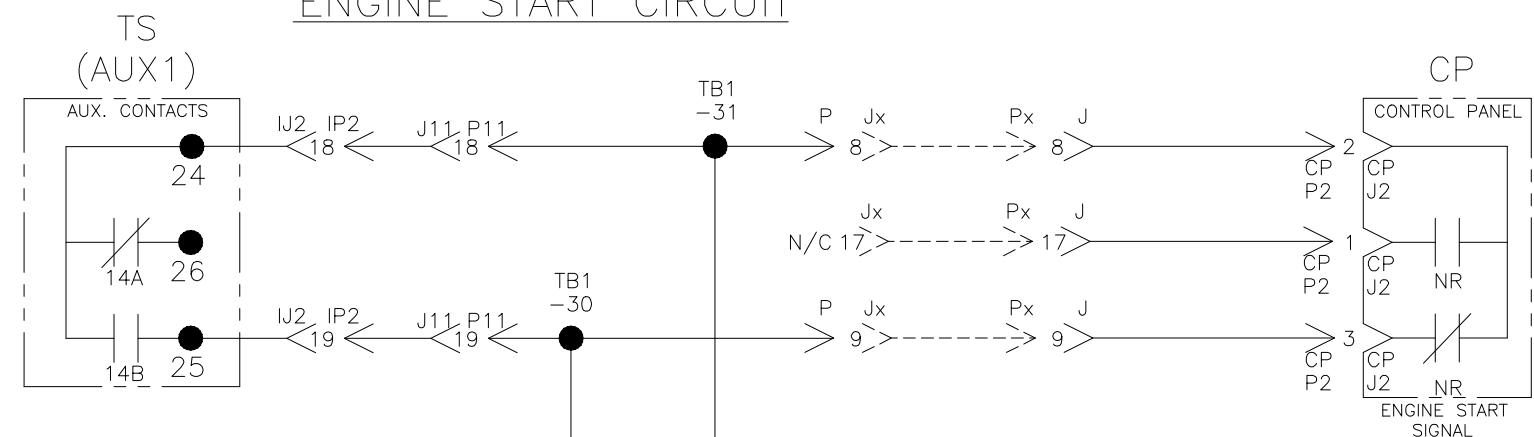
LOAD TERMINAL CIRCUITS



CONTROL SIGNALS & INDICATION



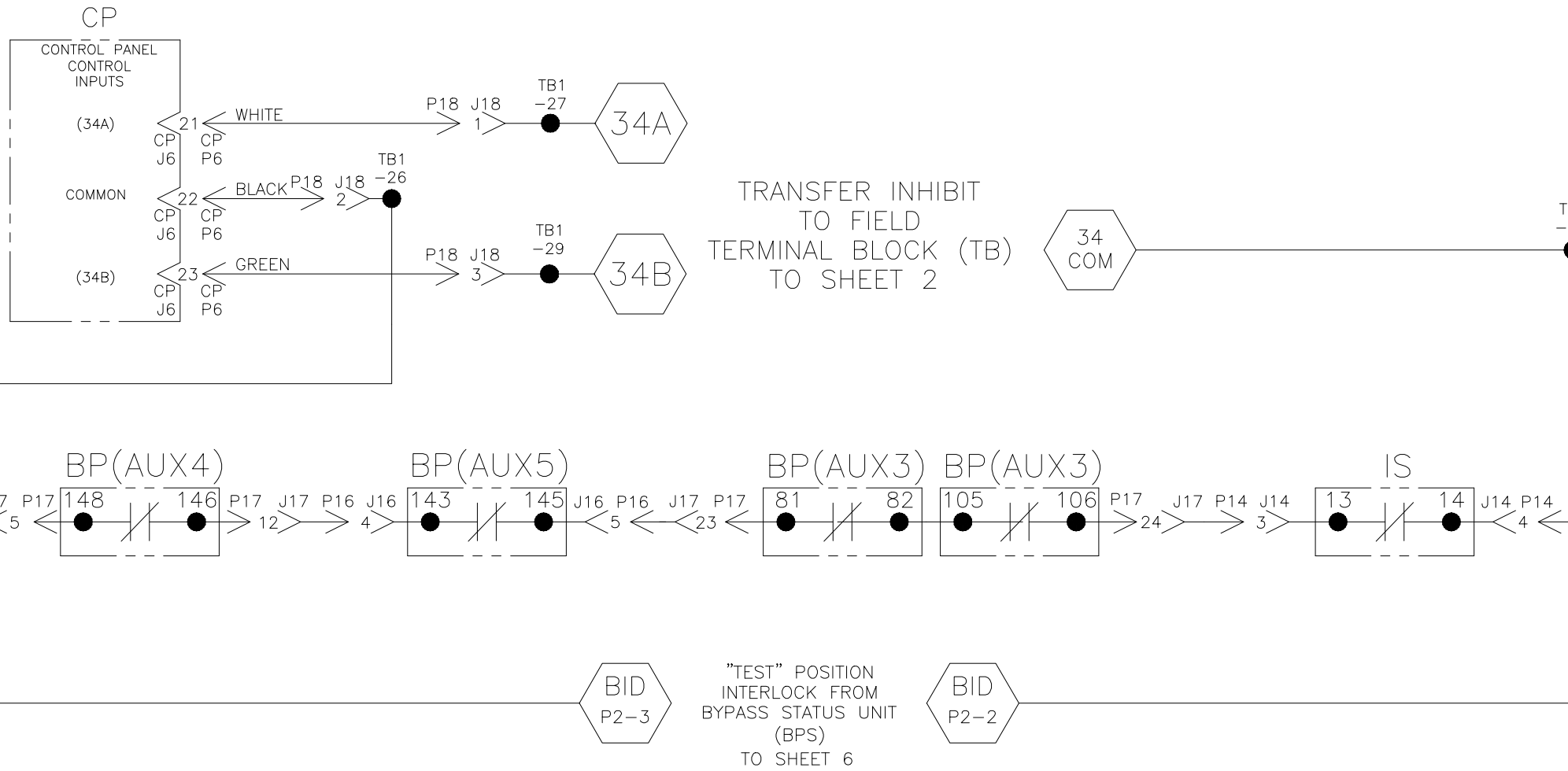
ENGINE START CIRCUIT



MANUAL ENGINE START SIGNAL FROM BYPASS STATUS UNIT (BPS) TO SHEET 6

ENGINE STARTING SIGNAL TO FIELD TERMINAL BLOCK (TB) TO SHEET 2

CONTROL PANEL/BYPASS-ISOLATION INTERLOCKS

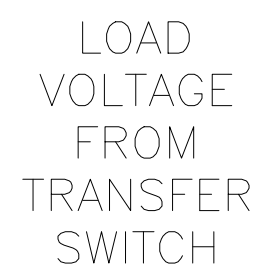
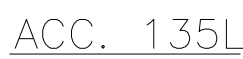


"TEST" POSITION INTERLOCK FROM BYPASS STATUS UNIT (BPS) TO SHEET 6

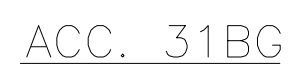
PROJECT NAME:		291461	RB	HSL	09/22/21
WIRING		DIAGRAM		ISSUE	
7000 SERIES (J7ATB) 3PH 150-600 AMPS		"J" FRAME, GROUP 5 CONTROLS		REV. TO SHEET	
BY		DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055		BY
RB		09/22/21	ASSEM. REF. NO.		APP.
HSL		09/22/21	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		DATE
MM		09/22/21	COMPUTER GENERATED DRAWING		
FINAL APPROVAL			SCALE NONE SIZE DS		
			DWG. NO. 806095-1874		
			ASCO® ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.		
			DRAWING REV. ECN NO. 291461		SHEET 4 OF 10



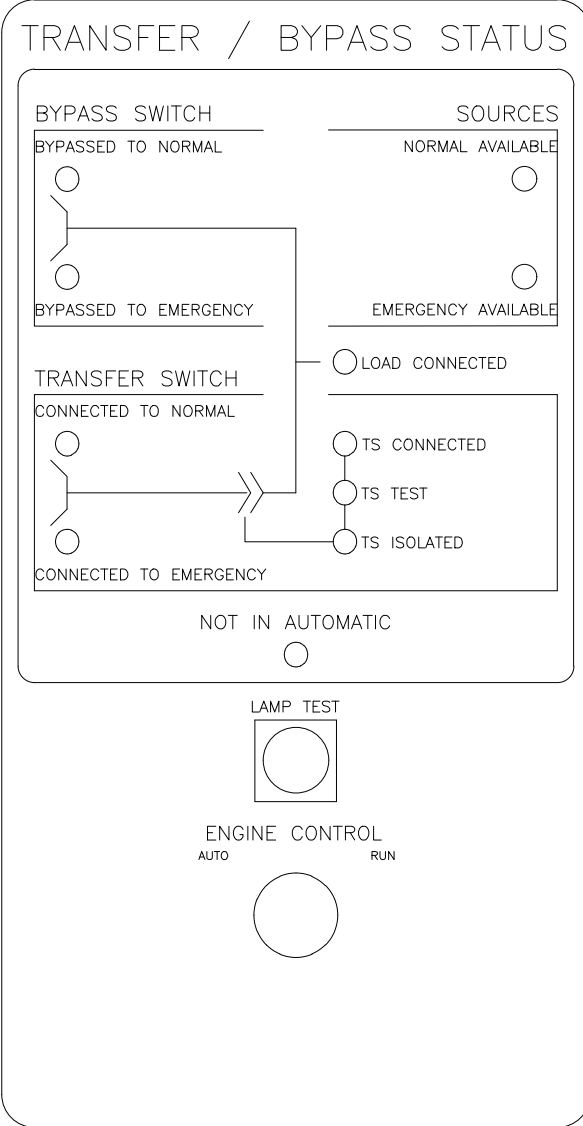
3. REFER TO ADDITIONAL WIRING (135L) WIRE RUN LISTING.





CURRENT TRANSFORMER  
RATIO TABLE

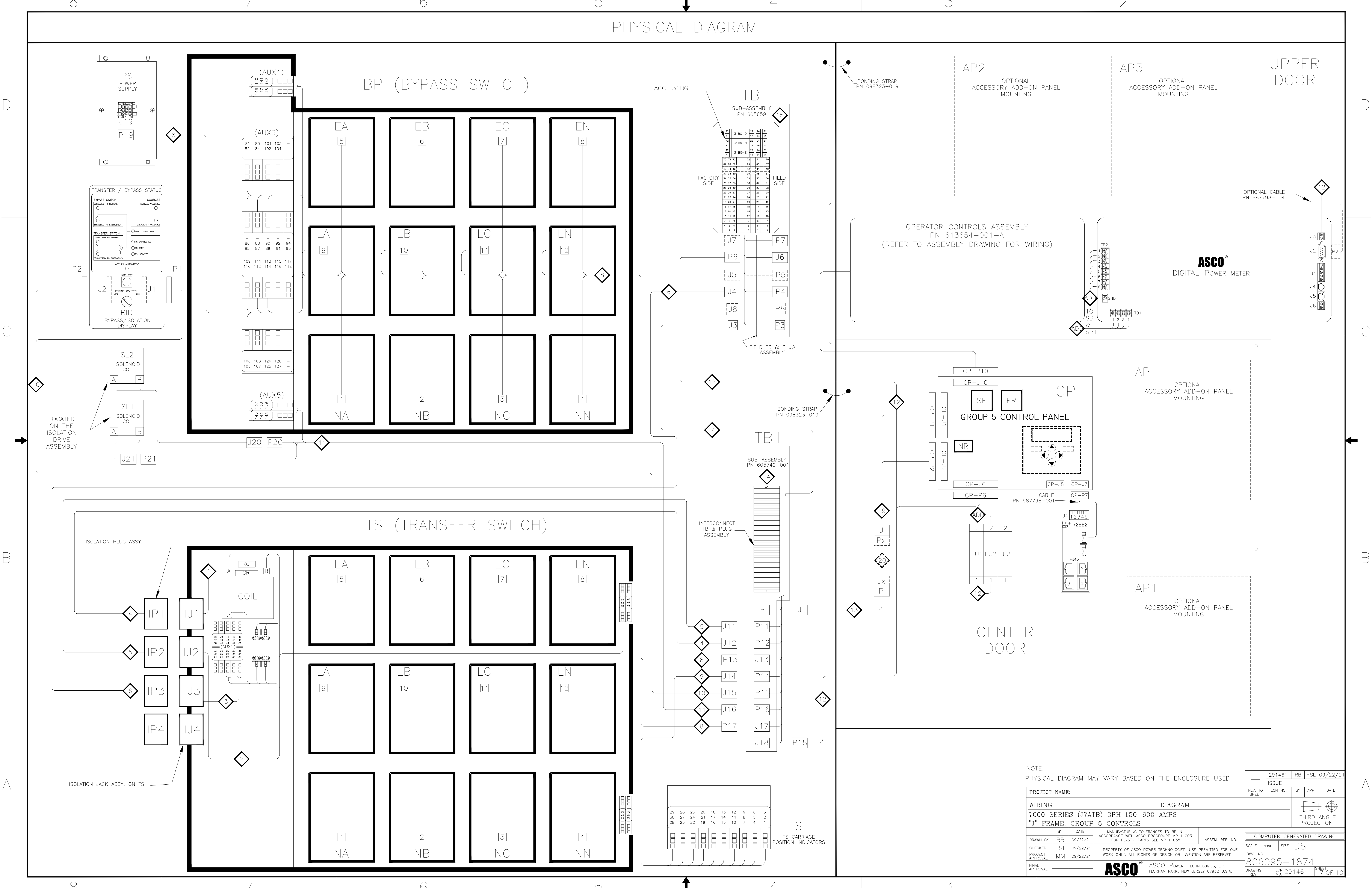
 $A$

BYPASS / BID ISOLATION DISPLAY



		291461		RB	HSL 09/22/21	
PROJECT NAME:		ISSUE		ECN NO.	BY	APP. DATE
WIRING		DIAGRAM		 THIRD ANGLE PROJECTION		
7000 SERIES (J7ATB) 3PH 150-600 AMPS						
"J" FRAME, GROUP 5 CONTROLS						
BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-053. FOR PLASTIC PARTS SEE MP-1-055		ASSEM. REF. NO.		COMPUTER GENERATED DRAWING
DRAWN BY	RB	09/22/21			SCALE	NONE
CHECKED	HSL	09/22/21	PROPERTY OF ASCO POWER TECHNOLOGIES, INC. PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		SIZE	DS
PROJECT APPROVAL	MM	09/22/21			DWG. NO.	
FINAL APPROVAL					806095-1874	
		ASCO® ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.		DRAWING REV.	ECN NO.	SHEET
				291461	6 OF 10	

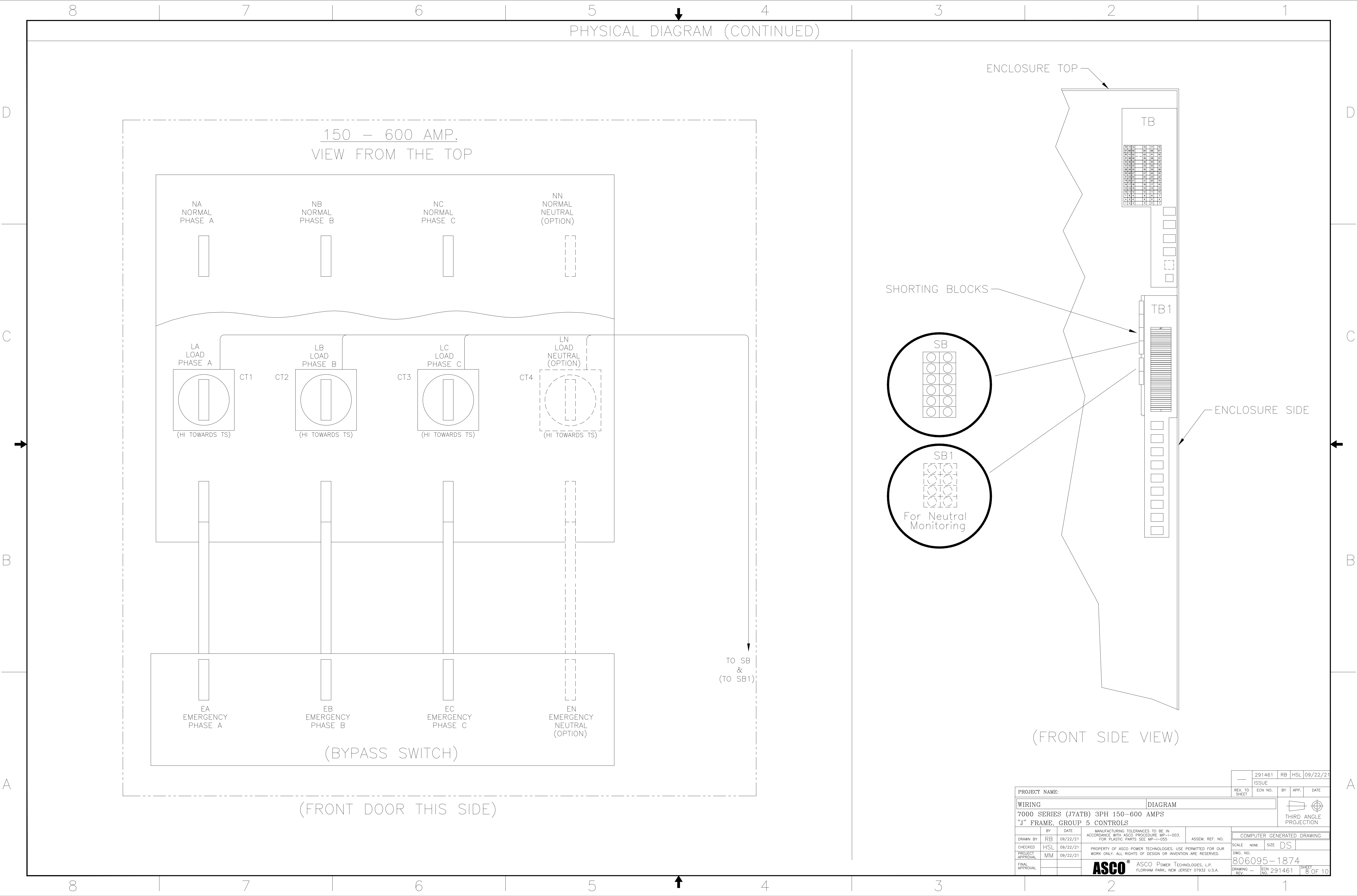




NOTE:

PHYSICAL DIAGRAM MAY VARY BASED ON THE ENCLOSURE USED.

PROJECT NAME:		REV. TO SHEET	291461		RB	HSL	09/22/21	
WIRING		DIAGRAM		ECN NO.		BY	APP.	DATE
7000 SERIES (J7ATB) 3PH 150-600 AMPS								THIRD ANGLE PROJECTION
"J" FRAME, GROUP 5 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.		COMPUTER GENERATED DRAWING
DRAWN BY		RB 09/22/21						SCALE NONE SIZE DS
CHECKED		HSL 09/22/21		PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.				DWG. NO. 806095-1874
PROJECT APPROVAL		MM 09/22/21						DRAWING REV. - ECN NO. 291461 SHEET 7 OF 10
FINAL APPROVAL				ASCOP ASCO POWER TECHNOLOGIES, L.P. FLOHRAM PARK, NEW JERSEY 07932 U.S.A.				





WIRE RUN LISTING

14 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,TB1-22				
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				
500	J17-23,P16-5				
150	J17-24,P14-3				

14 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				
34	J13-16,TB1-34				
35	J13-17,TB1-35				
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				
421	J17-20				
215	J18-7				
216	J18-8				
34	J18-9,TB1-34				
35	J18-10,TB1-35				
9	J18-11,TB1-9				
10	J18-12,TB1-10				
11	J18-13,TB1-11				
12	J18-14,TB1-12				
324	J18-15				
325	J18-16				
36	J18-17				
35	J18-18				
228	J18-19				
229	J18-20				
320	J18-21				
120	J18-22				
121	J18-23				
323	J18-24				

15 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				
241	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	J6-6,31BG-E-A2	WHT			
246	J6-7,31BG-E-A1	GRN	22		
247	J6-8,31BG-N-A2	BLK	(4 COND)		
248	J6-9,31BG-N-A1	RED			
249	J6-10,31BG-D-A2	BLK	22		
250	J6-11,31BG-D-A1	RED	(2 COND)		
251	J6-12				
252	J6-13				
253	J6-14		16		
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				

16		—HARNESS LOCATOR		BOX CHECKED IF HARNESS IS MODIFIED	<input type="checkbox"/>
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				



## EQUIPMENT STORAGE REQUIREMENTS

Equipment provided by Schneider-Electric and/or ASCO Power Technologies that is stored for a short-term duration (i.e., days to weeks) or long-term duration (i.e., months to years), must be kept in a cool, dry, temperature-controlled environment. Storage of equipment in open warehouses, locations without proper temperature and humidity control, and/or outdoor storage is not acceptable without the utilization of heating elements, thermostats, humidistats, and protection from weather and dirt. Failure to comply may result in moisture ingress and/or condensation to form resulting in rusting and or corrosion, component and/or equipment failure and replacement, and/or nullification of any manufacturer warranty.

For **General Instructions for Proper Handling, Installation, Operation, and Maintenance of Deadfront Distribution Switchboards Rated 600 Volts or Less**, refer to [ANSI NEMA PB 2.1-2013](#)

Copies of the following documents should be included on the submittals, depending on the units that are on the proposal:

For ASCO Power Technology's **Switchgear and Switchboards**, refer to Instruction Bulletin **381333-393**.

For Schneider-Electric/Square D's **Power Zone 4 (PZ4) Switchgear**, refer to Instruction Bulletin **80298-002-09**.

For Schneider-Electric/Square D's **Power Zone 4 (PZ4) NEMA 3R Walk-In Switchgear**, refer to Instruction Bulletin **80298-156-02**.

For Schneider-Electric/Square D's **Quality, Efficient, Delivery" (QED2) Switchboard**, refer to Instruction Bulletin **80043-055-14**.

For Schneider-Electric/Square D's **Masterclad Metal-Clad Indoor Switchgear**, refer to Instruction Bulletin **6055-30**.

# Limited Guardian Warranty

## 7000 SERIES Power Transfer Switches

This Warranty is given ONLY to purchasers who buy for commercial or industrial use in the ordinary course of each purchaser's business.

### General

ASCO Power Technologies, LP products and systems are in our opinion the finest available. We take pride in our products and are pleased that you have chosen them. Under certain circumstances we offer with our products the following Limited Guardian Warranty Against Defects in Material and Workmanship.

Please read your Guardian Warranty carefully. This Warranty sets forth our responsibilities in the unlikely event of defect and tells you how to obtain performance under this Warranty.

### Limited Warranty Against Defects in Material and Workmanship:

Product Description	Catalog Code
Automatic Transfer Switch	7ATS, 7ADTS, 7ACTS
Automatic Transfer Bypass - Isolation Switch	7ATB, 7ADTB, 7ACTB
Non-Automatic Transfer Switch (Electrically Operated)	7NTS
Manual Transfer Switch	7MTS
Service Entrance Transfer Switch (SEATS)	7AUS, 7ADUS, 7ACUS, 7AUB, 7ADUB, 7ACUB, 7APS, 7ARS, 7ASUD, 7ASUS, 7ASUB
Power Transfer Load Center (PTLC)	7000L
Automatic Soft Load Transfer Switch & Bypass-Isolation Switch	7ASLS, 7ASLD, 7ASLE, 7ASLB

### Terms of Warranty

The following Limited Warranty is conditioned upon user's compliance with the following:

1. The ASCO 7000 Power Transfer Switch is installed in accordance with ASCO specifications and state and local codes and standards by an electrician licensed in the state of installation.
2. The ASCO 7000 Power Transfer Switch is maintained in accordance with ASCO instructions and used under normal conditions for the purposes intended by ASCO.

As provided herein, the ASCO product is warranted to be free of defects in material and workmanship for a period of two, five, and ten years from date of shipment from ASCO provided that the product has been stored in a suitable environment prior to installation; except, however, for 7AUS, 7AUB, 7APS, 7ARS, 7ASLD, 7ASLE, 7ASUD, 7ASUS, 7ASUB and 7000L products, the warranty period for the circuit breaker shall be two (2) years from date of shipment from ASCO. The product shipment date will be determined only from the ASCO bill of lading. If any part or portion of the ASCO product fails to conform to the Warranty within the Warranty period, ASCO, at its option, will furnish new or factory remanufactured products for repair or replacement of that portion or part.

**Years 1 – 2:** Covers all replacement parts, labor, and travel expenses necessary to remedy the defects in material and/or workmanship. All warranty repair or replacement of said equipment will be performed at ASCO's option at ASCO's service facility location, factory, or user's installation site by ASCO's certified service personnel as deemed most practical by ASCO.

**Years 3 – 5:** Following expiration of the initial two-year warranty period as detailed herein; parts only determined to be defective will be provided at no charge. Customer is responsible for all other related costs (labor and travel expenses). This does not apply to circuit breakers in 7AUS, 7AUB, 7APS, 7ARS, 7ASLD, 7ASLE, 7ASUD, 7ASUS, 7ASUB and 7000L products.

**Years 6 – 10:** Following expiration of year five warranty period as detailed herein; main contacts only determined to be defective will be provided at no charge. Customer is responsible for all other related costs (labor and travel expenses).

**Warranty Extends To First Purchaser For Use, Non-Transferable**

Optional extended warranty coverage may be purchased from ASCO for a specified fee at the time of the original sale. If purchased, it shall extend the coverage conditions noted for years 1-2 above up to an additional three (3) years, to provide up to five (5) years of coverage applicable to the above referenced products. Extended warranty coverage must be purchased in one (1) year increments. The length of the optional extended coverage shall be reflected on the ASCO invoice and/or order acknowledgement document. The extended warranty coverage does not affect the standard warranty described above for years 3-10 or the 2-year circuit breaker warranty; those warranty periods will remain the same.

All warranty related repairs, replacements or adjustments must be made by ASCO Services Inc. or its duly authorized representative.

**Warranty Extends To First Purchaser For Use, Non-Transferable**

This Warranty is extended to the first person, firm, association, or corporation for whom the ASCO product specified herein is originally installed for use (the "user") in the fifty United States or Canada. This Warranty is not transferable or assignable without the prior written permission of ASCO.

**Assignment of Warranties**

ASCO assigns to user any warranties which are made by manufacturers and suppliers of components of, or accessories to, the ASCO product and which are assignable, but ASCO makes no representations as to the effectiveness or extent of such warranties, assumes no responsibility for any matters which may be warranted by such manufacturers or suppliers and extends no coverage under this Warranty to such components or accessories.

**Drawings, Descriptions**

ASCO warrants for the period and on the terms of the Warranty set forth herein that the ASCO product will conform to the descriptions contained in the certified drawings, if any, applicable thereto, to ASCO's final invoices, and to applicable ASCO product brochures and manuals current as of the date of product shipment ("descriptions"). ASCO does not control the use of any ASCO product. Accordingly, it is understood that the descriptions are not Warranties of performance and not Warranties of fitness for a particular purpose.

**Warranty Claims Procedure**

Within a reasonable time, but in no case to exceed thirty (30) days, after user's discovery of a defect, user shall contact [ascopowerwarranty@ascopower.com](mailto:ascopowerwarranty@ascopower.com). Subject to the limitations specified herein, (i) during the first two years of the warranty, an ASCO service representative will repair the non-conforming ASCO product warranted hereunder without charge for parts, labor, or travel expenses; (ii) during the remainder of the warranty, ASCO will arrange for an ASCO service representative to repair or replace the non-conforming ASCO product warranted hereunder without charge for covered parts, and user shall bear all labor, travel expenses, and shipping charges associated with repair or replacement of the product herein. Warranty coverage will apply only after ASCO's inspection discloses the claimed defect and shows no signs of treatment or use that would void the coverage of this Warranty. All defective products and component parts replaced under this warranty become the property of ASCO.

**Warranty Performance of Component Manufacturers**

It is ASCO's practice, consistent with its desire to remedy Warranty defects in the most prompt and effective manner possible, to cooperate with and utilize the services of component manufacturers and their authorized representatives in the performance of work to correct defects in the product components. Accordingly, ASCO may utilize third parties in the performance of Warranty work, including repair or replacement hereunder, where, in ASCO's opinion, such work can be performed in less time, with less expense, or in closer proximity to the ASCO product.

## Items Not Covered By Warranty

This Warranty does not cover damage or defect caused by misuse, improper application, wrong or inadequate electrical current or connection, negligence, inappropriate on site operating conditions, repair by non-ASCO designated personnel, accident in transit, tampering, alterations, a change in location or operating use, exposure to the elements, water, or other corrosive liquids or gases, acts of God, theft or installation contrary to ASCO's recommendations or specifications, or in any event if the ASCO serial number has been altered, defaced, or removed.

This Warranty does not cover shipping costs, installation costs, external circuit breaker resetting or maintenance or service items and further, except as may be provided herein, does not include labor costs or transportation charges arising from the replacement of the ASCO product or any part thereof or charges to remove or reinstall same at any premises of user.

Repair or replacement of a defective product or part thereof does not extend the original Warranty period.

The products listed in this Warranty are not for use in the control area or any reactor connected or safety applications or within the containment area of a nuclear facility or for integration into medical devices.

## Limitations

**This Warranty is in lieu of and excludes all other Warranties, express or implied, including merchantability and fitness for a particular purpose.**

**User's sole and exclusive remedy is repair or replacement of the ASCO product as set forth herein.**

**If user's remedy is deemed to fail of its essential purpose by a court of competent jurisdiction, ASCO's responsibility for property loss or damage shall not exceed the net product purchase price.**

**In no event shall ASCO assume any liability for indirect, special, incidental, consequential or exemplary damages of any kind whatsoever, including without limitation lost profits, business interruption or loss of data, whether any claim is based upon theories of contract, negligence, strict liability, tort, or otherwise.**

## Miscellaneous

No salesperson, employee, or agent of ASCO is authorized to add to or vary the terms of this Warranty. Warranty terms may be modified, if at all, only in writing signed by an ASCO officer.

ASCO obligations under this Warranty are conditioned upon ASCO timely receipt of full payment of the product purchase price and any other amounts due. ASCO reserves the right to supplement or change the terms of this Warranty in any subsequent warranty offering to user or others.

In the event that any provision of this Warranty should be or becomes invalid and/or unenforceable during the Warranty period, the remaining terms and provisions shall continue in full force and effect.

This Warranty shall be governed by, and construed under, the laws of the State of New Jersey, without reference to the conflict of laws principles thereof.

This Warranty represents the entire agreement between ASCO and user with respect to the subject matter herein and supersedes all prior or contemporaneous oral or written communications, representations, understandings, or agreements relating to this subject.



## ASCO 7000 SERIES BYPASS ISOLATION SWITCHES



**ASCO<sup>®</sup>**

# ASCO® 7000 SERIES BYPASS ISOLATION SWITCHES

## Automatic Transfer Bypass-Isolation Switches

ASCO Automatic Transfer & Bypass-Isolation Switches are available in open transition, closed transition, and delayed transition designs. The bypass and isolation features allow the primary automatic transfer switch to be inspected, tested, and maintained without interrupting power to the load. They also provide redundant power transfer if the ATS is disabled or removed from service.

- Available 150 to 4000 amps.
- Allows bypass-isolation without load interruption.
- Bypass switch and transfer switch have identical electrical ratings.
- Heavy-duty mechanical interlocks prevent unintended operation.
- Bypass contacts carry current only during bypass mode.
- Drawout design allows for easy transfer switch maintenance.
- Bypass and isolation handles are permanently mounted. The bypass switch has dead front quick-make, quick-break operation for transferring loads between live sources.
- Bypass switch is fully rated for use as a manual 3-position transfer switch.
- Bypass and isolation functions are simple, requiring a total of two operating handles.
- No toggle switches, push buttons, selector switches, or levers are required for bypass-isolation operation.
- Mechanical indicators show bypass and transfer switch positions.
- 800 -1200 amp models available in shallow depth, front connected or rear connected designs.



Fig. 5: J-Frame  
150-600 amps



Fig. 6: H-Frame  
600-1200 amps



Fig. 7: G-Frame  
1000-3000 amps



Fig. 8: G-Frame  
4000 amps

## Transfer Switch Drawout Features (150-4000 Amps)

- Automatic secondary disconnects remove all control power as switch is withdrawn.
- Drawout carriage provides for easy transfer switch mechanism maintenance and/or removal via commercially available breaker hoists.
- Optional transfer switch lifting yoke kit available
- Optional automatic shutters that close when the transfer switch is withdrawn to provide bus isolation. Specify accessory 82C (1600-3000 Amp only).

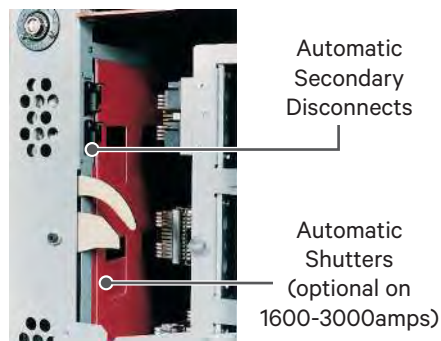


Fig. 9: Bypass-Isolation Transfer Switch Secondary Disconnects and Optional Automatic Shutters.

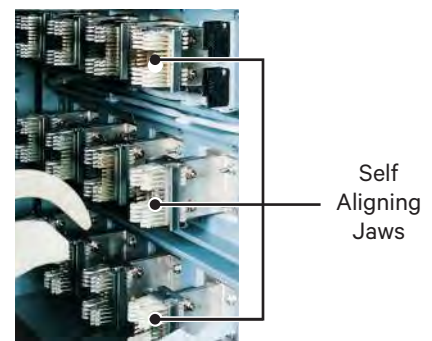
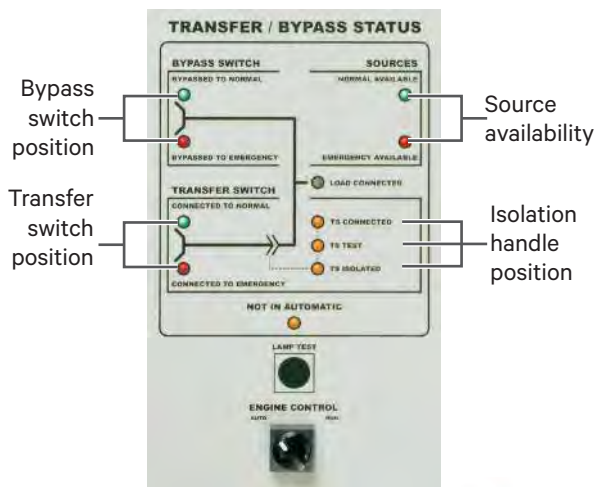


Fig. 10: Bypass-Isolation Transfer Switch Self-Aligning Power Jaws.

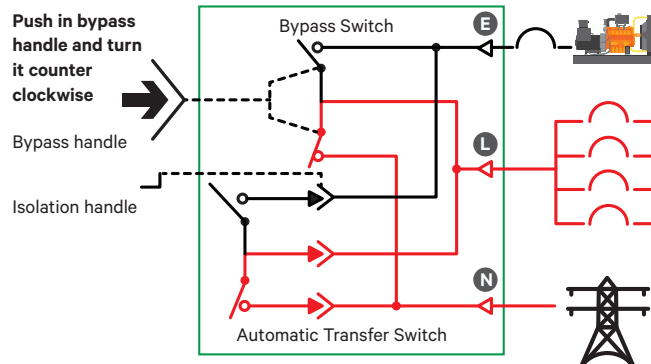
# ASCO<sup>®</sup> 7000 SERIES BYPASS ISOLATION SWITCHES

## Bypass and Isolation Handles - Simple as 1, 2, 3

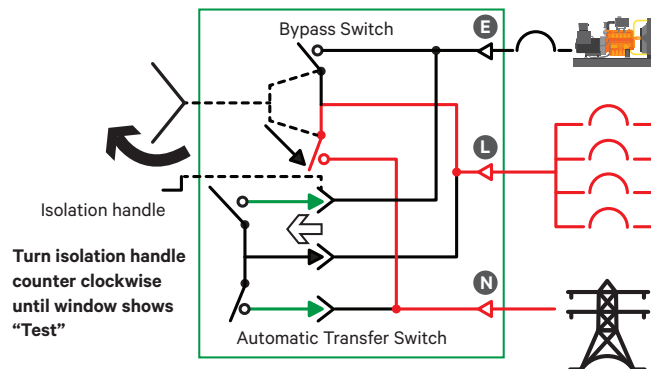


Mechanical isolation handle position window (connected/test/isolate)

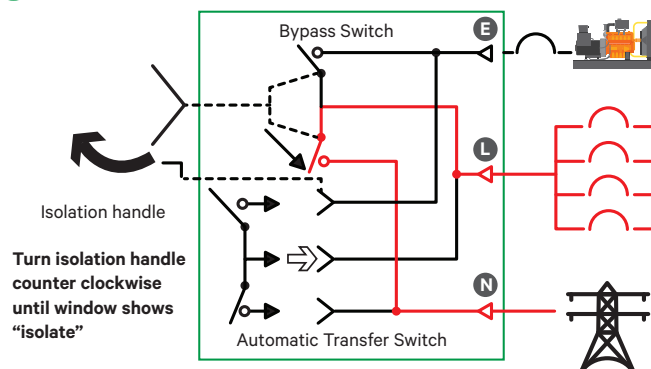
### 1 Bypass to Normal



### 2 Test Position



### 3 Isolation Position



## Control Features

- Touch pad programming of features and settings without the need for meters or variable power supplies.
- Sixteen (16) selectable operating voltages available in a single Controller.
- On-board diagnostics provide control panel and ATS status information for analyzing system performance.
- Displays and counts down active timing functions.
- Selectable multi-language display (English, German, Portuguese, Spanish, or French. For other languages, contact ASCO).
- Password protection to prevent unauthorized tampering of settings.
- Optional Color Touch Display Interface simplifies control management and expands event log to 1,000 events. Specify Accessory 150AT (ATS) or 150BT (Bypass).
- Remote monitoring and control with ASCO POWERQUEST® communication products. Specify Accessory 72EE2.
- Load shed option for bus optimization applications. Specify optional accessory 30B.
- Historical event log.
- Statistical ATS systems monitoring information.

## Voltage and Frequency Sensing

- 3-Phase under-voltage and over-voltage settings on normal and emergency sources.
- Under-frequency and over-frequency settings on normal and emergency.
- True RMS Voltage Sensing with +/- 1% accuracy; Frequency Sensing Accuracy is +/- 0.2%.
- Selectable settings: single or 3-phase voltage sensing on normal and emergency; 50 or 60Hz.
- Phase sequence sensing for phase-sensitive loads.
- Voltage unbalance detection between phases.

## Status and Control Functions

- Output contact (N/O or N/C) for engine-start signals.
- Selection between "commit/no-commit" on transfer to emergency after engine start and normal restores before transfer.
- Advanced inphase algorithm that automatically measures the frequency difference between the two sources and initiates transfer at appropriate phase angles to minimize disturbances when transferring motor loads.
- Standard event log displays 99 logged events with the time and date of the event, event type and event reason.
- Output signals for remote indication of normal and emergency source acceptability
- Statistical ATS/System monitoring data screens that provide:
  - Total number of ATS transfers.
  - Number of ATS transfers caused by power source failure.
  - Total number of days ATS has been in operation.
  - Total number of hours that the normal and emergency sources have been available.

## Time Delays

- Engine start time delay - delays engine starting signal to override momentary normal source outages - adjustable 0 to 6 seconds.
- Transfer to emergency time delay - adjustable 0 to 60 minutes.
- Emergency source stabilization time delay to ignore momentary transients during initial generator set loading - adjustable 0 to 6 seconds.
- Retransfer to normal time delay with two settings:
  - Power failure mode - 0 to 60 minutes.
  - Test mode - 0 to 10 hours.
- Unloaded running time delay for engine cool down - adjustable 0 to 60 minutes.
- Pre-transfer and post-transfer signal time delay for selective load disconnect with a programmable bypass on source failures - adjustable 0 to 5 minutes. This signal can be used to drive a customer-furnished relay, or for two sets of double throw contacts rated 3 amps at 480 volts AC. Specify ASCO optional accessory 31Z.
- Fully programmable engine exerciser with seven independent routines to exercise the engine generator, with or without loads, on a daily, weekly, bi-weekly or monthly frequency.
- Alarm signals, logic, and time delays for use with closed transition switches.
  - In synch time delay - 0 to 3 seconds.
  - Failure to synchronize - 1 to 5 minutes.
  - Extended parallel - 0.1 to 1.0 seconds.
- Delayed transition load disconnect time delay - adjustable 0 to 5 minutes.



# ASCO® 7000 SERIES POWER CONTROL CENTER

## Status

### System Status

```

Normal OK

Load on Normal
    
```

Displays system status in clear, concise language. Message shown indicates normal source is acceptable and the load is connected to the normal source.

### Source Status

```

Normal Source

Vab=480V.....ABC
Vbc=480V.....Unbal=1%
Vca=480V.....60.0Hz
    
```

Displays voltage for each phase, frequency, phase rotation and voltage unbalance for both normal and emergency sources.

### Time Delay Status

```

Normal OK

TD.Engine.Cooldown:
4min15s
    
```

Active time delay status displays time remaining until next control event.

### Inphase Transfer Status

```

Emerg OK

Waiting for In-Sync
-45° 0.02Hz
    
```

Displays the relative phase angle between sources and frequency differential to indicate the controller is awaiting an inphase condition.

## Settings

### Voltage and Frequency Settings

```

Normal Voltage

Dropout.....85% 408V
Pickup.....90% 432V
O.V. Trip.....110% 528V
    
```

Provides voltage and frequency setting values for normal and emergency sources. Voltage pick-up, dropout and trip settings are set in percentage of nominal voltage and are also displayed in rms voltage values.

### Feature Settings

```

Shed Load

Direction:      From E
Inphase: No     TD/0.25
    
```

Standard features can be activated with the keypad. As an example, when enabled, the “shed load” option causes the transfer switch to transfer the load off of the specified source. If desired, the load shed transfer can be made inphase.

### Engine Exerciser

```

P1.....Engine.Exerciser

Enable:....Yes....WLoad:....Yes
Start: 19h30min. ALL MON
Run.Time:.....21h15min
    
```

Seven independent programs, load/no load selection, flexible run times and daily, weekly, bi-weekly and monthly exercise routines.

### Time Delay Settings

```

TD N>E Xfer Signal

Bypass if N Fail: No
Pre Xfer: 0 min 20s
Post Xfer: 0 min 20s
    
```

Provides direct reading display for setting time delays.

## Data Logging

### ATS Statistics

```

ATS Statistics

ATS Total Xfers: 46
SRC Fail Tot Xfers: 20
Days Energized: 36.5
    
```

Instant availability of statistical information on total number of ATS transfers, number of transfers caused by power failures and total days controller has been energized, plus more.

### Historical Event Log

```

16.AUG02/95.....13H10:17
ENG.START.....NORMFAIL.
15.AUG02/95.....13H10:25
XFER.N>E.....
    
```

Displays detailed information for last 99 events, including time of occurrence, length of event, date and reason for event.

# ASCO® 7000 SERIES USER CONTROLS AND INDICATORS

## Control Switches and Indicating Lights

- Switch position indicating lights (16 mm, industrial grade LEDs).
- Source acceptability indicating lights with true indication of the acceptability of each source, as determined by the voltage, frequency, voltage unbalance, and phase sequence settings of the control panel (16mm, industrial grade LEDs).
- Three position (16mm, industrial grade type) selector switch:
  - Automatic: Normal maintained position.
  - Test: Momentary position to simulate normal source failure for system test function.
  - Reset Delay Bypass: Momentary position to bypass transfer and re-transfer time delay.



Fig. 16: 7000 SERIES User Controls and Indicators.

## Control Switches and Indicating Lights for Closed Transition Switches

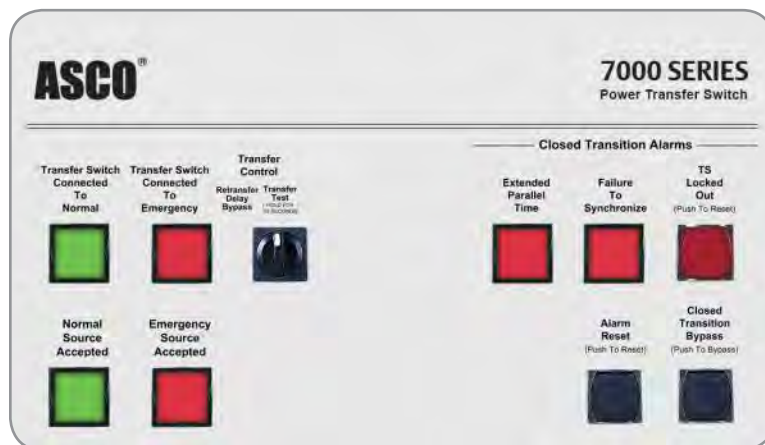


Fig. 17: 7000 SERIES User Controls and Indicators.

- Extended Parallel Time - Provides visual indication when the pre-set extended parallel time has been exceeded. The controls automatically open the emergency or normal main contacts. Separate contact also available to shunt trip external breaker.
- Failure To Synchronize - Visually displays a failure to synchronize alarm if the time delay settings are exceeded during closed transition transfer operation.
- TS Locked Out - Prevents transfer in either direction if the extended parallel time is exceeded.
- Alarm Reset - Resets extended parallel and failure to synchronize alarms.
- Closed Transition Bypass - Pushbutton allows transfer between sources in an open transition mode.

# ASCO® 7000 SERIES OPTIONAL ACCESSORIES

## Time Delays and Extended Control Power

- 2C** Provides an extended time delay on engine starting. The standard feature one-time delay is adjustable from 0 to 6 seconds. Accessory 2C allows this time delay to be adjustable from 0 to 60 minutes in one-second intervals; factory set at 5 minutes.
- 1G1** Similar to accessory 2C except using 24 volt DC external input signal. Controls, metering and communication remain active when both power sources are de-energized.
- 1GB1** Same as accessory 1G1 except using 120 volt AC external input.
- 1PS1** Extended control power ride-through (approx. 25 seconds) for Group 5 ATS controller and select communications and metering accessories, e.g. Acc. 72EE2, 72FC, 135L, etc.

## Manual Controls for Automatic Transfer Switches

- 6C** Reset switch for manual retransfer to normal with automatic retransfer in the event of emergency source failure.
- 6D** Selector switch for automatic/manual retransfer to normal. Automatic bypass if emergency fails.

## Extension Harness

**37B** Six foot (6') extension harness to increase distance between transfer switch and control panel on open-type units.

## Indicators

**14A/14B** Additional auxiliary contact sets to indicate switch position. Two sets are standard. Specify total number of sets if more are required.

**18B** Two-pole, double-throw contacts operate when emergency source voltage is present at transfer switch terminals.

**18G** Two-pole, double-throw contacts operate when normal source voltage is present at transfer switch terminals.

**99** "Push-to-Test" feature on all pilot light indicators.

## Customer Control Circuits

**30A** Load-shedding circuit initiated by opening of a customer-supplied contact.

**30B\*** Load-shedding circuit initiated by removal of customer-supplied control voltage. \*(Specify voltage).

**31Z** Selective load disconnect control contacts (two provided) that operate with time delay prior to and/or after load transfer and retransfer.

**43R** Terminal block for all customer control connections on 30 to 150 amp models only (standard on all other sizes).

## Neutral Conductor Options

- Solid neutral, with fully-rated terminals. (AL-CU) UL Listed.
- Conventional neutral switching pole.
- Overlapping neutral transfer contacts. Allows for proper ground-fault sensing and avoids generator voltage transients during transfer.

Note: For ordering information, see the ASCO 7000 Series Power Transfer Switch Dimensional Data and Shipping Weights (ASCO Publication No. 3040 DW)

## Communications

**107G** Provides Building Monitoring Systems with transfer switch, bypass and load power metering information in Modbus TCP/IP, BACnet IP and SNMP Protocols. Compatible with any Accessory 150 Technology Package or 72EE2.

**72EE2** Offers remote Ethernet monitoring via open Mod bus and SNMP protocols, email notifications and embedded monitoring web pages. (Catalog No. 5170 for stand alone product).

## Surge Protection

### ASCO Pulsar 450, rated 65KA

**73AC1** Normal source protection. (3Ø, 4wire WYE)

**73AC2** Emergency source protection. (3Ø, 4wire WYE)

**73AC3** Load side protection. (3Ø, 4wire WYE)

Note: Other distribution voltages and kA ratings available (Contact ASCO).

## Special Applications

**45** Custom Alphanumeric nameplate mounted on the front of the switch

**111A** Generator - to - Generator for Standby Applications

**111B** Generator - to - Generator for Prime Power Applications

**125A** Seismic Certification to the requirements of the International Building Code for electrical equipment

**131** Certification of compliance with the American Recovery & Reinvestment Act (Buy American Provision) - Must be specified at time of order placement

## Bypass-Isolation switch Options

**14A1** Auxiliary contact to close in "Bypass to Normal" position.

**14B1** Auxiliary contact to close in "Bypass to Emergency" position.

**14T** Auxiliary contact to close when transfer switch is in "Automatic" position.

**14U** Auxiliary contact to close when transfer switch is in "Isolate" position.

**14V** Auxiliary contact to close when transfer switch is in "Test" position.

**82C** Automatic shutters for bus isolation when transfer switch is withdrawn. (See page 6 for details)

**82E** LED Bypass status indicator, optional on G frame 1600 to 4000 amps only. Standard for all other size switches.

# ASCO® 30-CYCLE RATED 7000 SERIES POWER TRANSFER SWITCHES

## Withstand and Closing Ratings for all 7000 SERIES Products<sup>1,2</sup>

(RMS Symmetrical Amps)

The chart below indicates Withstand and Closing Ratings for all 7000 SERIES Power Transfer Switches, including 0.5 second (30-cycle) designs.

			300, 4000 & 7000 SERIES							4000 & 7000 SERIES				7000 SERIES							
Frame	Switch Rating (Amps)		Current Limiting Fuses				Specific Breaker			Time Based				Short-Time Ratings (sec) <sup>3</sup>							
	480V Max.													600V Max.							
	Transfer Switches	Bypass Switches	480V Max.	600V Max.	Max Size, A	Class	240V Max.	480V Max.	600V Max.	Time (sec)	240V Max.	480V Max.	600V Max.	.1	.13	.3	.5	.1	.13	.3	.5
D	30	-	100kA	-	300	J	22kA	22kA	10kA	0.025	10kA	10kA	10kA	-				-			
			200kA	35kA	200	J															
			35kA	35kA	200	RK1															
D	70, 100	-	35kA	35kA	200	RK1	42kA	25kA	10kA	0.025	10kA	10kA	10kA	-				-			
			200kA	35kA	200	J															
D	150	-	35kA	35kA	200	RK1	65kA	25kA	10kA	0.025	10kA	10kA	10kA	-				-			
			200kA	35kA	200	J															
D	200	-	200kA	-	200	J	65kA	25kA	-	0.025	10kA	10kA	-	-				-			
D	230	-	100kA	-	300	J	65kA	25kA	-	0.025	10kA	10kA	-	-				-			
E	260, 400	-	200kA	-	600	J	65kA	42kA	35kA	0.05	35kA	35kA	22kA	-				-			
J	150, 200, 260, 400	150, 200, 230, 260, 400	200kA	200kA	600	J	50kA	50kA	42kA	0.05	65kA	42kA <sup>5</sup>	35kA	7.5kA	-			-			
		800			L																
J	600	600	200kA	200kA	800	L	50kA	50kA	42kA	0.05	65kA	42kA <sup>5</sup>	35kA	7.5kA <sup>9</sup>	-			-			
			200kA	200kA	600	J															
H <sup>8</sup>	600	600	200kA	200kA	1600	L	65kA	65kA	65kA	0.05	50kA	50kA	50kA	36kA		-		36kA		-	
P <sup>8</sup>	600	600	200kA	200kA	1600	L	65kA	65kA	65kA	0.05	50kA	50kA	50kA	36kA		30kA		36kA		-	
P <sup>8</sup>	800	800 - 1200	200kA	200kA	1600	L	65kA	65kA	65kA	0.05	50kA	50kA	50kA	36kA		30kA		36kA		-	
H <sup>10</sup>	800 - 1200	800 - 1200	200kA	200kA	1600	L	65kA	65kA	65kA	0.05	50kA	50kA	50kA	36kA		-		36kA		-	
Q <sup>8</sup>	600 - 1600	600 - 1600	200kA	200kA	2000	L	65kA	65kA	65kA	0.05	65kA	65kA	65kA	50kA				50kA			
S <sup>8</sup>	800 - 1200	800 - 1200	200kA	200kA	2500	L	100kA	100kA	65kA	0.05	100kA	100kA	65kA	65kA				65kA			
G <sup>8</sup>	1000 - 1200	1000 - 1200	200kA	200kA	2000	L	85kA	85kA	85kA	0.05	85kA	85kA	85kA	-				-			
G	1600 - 2000 <sup>4</sup>	-	200kA	200kA	2500	L	85kA <sup>4</sup>	85kA <sup>4</sup>	85kA <sup>4</sup>	0.05	85kA <sup>4</sup>	85kA <sup>4</sup>	85kA <sup>4</sup>	-				-			
G <sup>8</sup>	1600 - 2000	1600 - 2000	200kA	200kA	3000	L	125kA <sup>6</sup>	125kA <sup>6</sup>	100kA	0.05	100kA	100kA	100kA	42kA		-		42kA		-	
S <sup>8</sup>	1600 - 2000	1600 - 2000	200kA	200kA	2500	L	100kA	100kA	85kA	0.05	100kA	100kA	85kA	85kA		65kA		85kA		65kA	
G	2600 - 3000 <sup>5</sup>	2600 - 3000	200kA	200kA	4000	L	100kA	100kA	100kA	0.05	100kA	100kA	100kA	42kA		-		42kA		-	
G <sup>8</sup>	3200	-	200kA	-	4000	L	100kA	100kA	-	0.05	100kA	100kA	-	-				-			
G	4000	4000	200kA	200kA	5000	L	100kA	100kA	100kA	0.05	100kA	100kA	100kA	85kA		65kA		65kA			
U <sup>8</sup>	2600 - 4000	2600 - 4000	200kA	200kA	5000	L	125kA	125kA	125kA	0.05	125kA	125kA	125kA	100kA				100kA			

### Notes

1. All WCR values indicated are tested in accordance with the requirements of UL 1008, 7<sup>th</sup> Edition. See ASCO Pub. 1128 for more WCR information
2. Application requirements may permit higher WCRs for certain switch sizes
3. Short-time ratings are provided for applications involving circuit breakers that utilize trip delay settings for system selective coordination
4. Optional front-connected service (Accy 40MY and 40NY) limits WCR on 1600 and 2000A G Frame switches
5. Switches utilizing overlapping neutral (Code "C") have a 35kA, 0.050 Sec. time-based rating at 480V Max
6. Rating shown is for Bypass switches only – Transfer Switch rating is 100kA
7. Contact ASCO for Service Entrance Switch ratings
8. These frames are only available on 7000 SERIES products
9. Short-time rating applies only to the 600 amp Bypass switch – the 600 amp Transfer Switch does not have a short-time rating
10. Maximum fuse is 1200 amp on front connected H frame switches