THREE PHASE WIRING FOR ASCO 7000 SERIES AUTOMATIC DELAYED TRANSITION TRANSFER SWITCHES TYPE H7ADTS RATED 600, 800, 1000 & 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).

DELAYED TRANSFER (LOAD "OFF" TIME) -
PROVIDES A USER DEFINABLE PERIOD DURING WHICH THE LOAD IS DISCONNECTED FROM BOTH THE NORMAL AND EMERGENCY SOURCES DURING TRANSFER IN EITHER DIRECTION. THE DELAY ("OFF" PERIOD) BEGINS FOLLOWING THE OPENING OF THE SOURCE CONTACTOR, CN OR CE, CONNECTED TO THE SOURCE FROM WHICH TRANSFER IS BEING MADE. UPON EXPIRATION, CLOSURE OF THE OPPOSITE SOURCE CONTACTOR IS INITIATED.

ENGINE EXERCISER

THE ENGINE EXERCISER FEATURE PROVIDES A MEANS TO PERFORM AUTOMATIC EXERCISING OF THE ENGINE-GENERATOR SET EITHER WITH OR WITHOUT LOAD TRANSFER.
THE USER CAN PROGRAM UP TO SEVEN DIFFERENT EXERCISE ROUTINES. EACH ROUTINE INCLUDES;
1. ENABLE OR DISABLE THE ROUTINE
2. ENABLE OR DISABLE TRANSFER OF THE LOAD DURING THE ROUTINE
3. SET START TIME OF ROUTINE -
   - TIME OF DAY
   - DAY OF WEEK
   - WEEK OF MONTH (1st, 2nd, 3rd, 4th, ALTERNATE OR ALL)
4. SET THE DURATION OF THE ROUTINE

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	Eastern Standard Time
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. FEATURES 7 & 8- 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 CLOSES TO SIGNAL ENGINE START. FEATURE 8 OPENS 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. FEATURES 7 & 8 ARE PROVIDED AS A SINGLE FORM C CONTACT CONNECTED TO THE FIELD CONNECTIONS TERMINAL BLOCK (TB). CONTACT RATED 10 AMPS AT 32 VDC/120 VAC RESISTIVE.

B. FEATURES 14AG & 14BG - TRANSFER SWITCH AUXILIARY POSITION INDICATING CONTACTS.
EIGHT (8) FORM A CONTACTS EACH TO INDICATE CONNECTION OF THE TRANSFER SWITCH TO NORMAL (14A) OR 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 BY MEANS OF A DELAYED TRANSITION, (PROGRAMMED LOAD DISCONNECT PERIOD).

DELAYED TRANSITION TRANSFER TO EMERGENCY WILL CAUSE THE NORMAL SOURCE CONTACTOR (CN) TO OPEN. AFTER THE LOAD DISCONNECT DELAY, AS SET VIA THE USER INTERFACE OF THE GROUP 5 CONTROL PANEL, THE EMERGENCY SOURCE CONTACTOR (CE) WILL CLOSE. DURING THE PERIOD THAT BOTH CONTACTORS ARE OPEN AND THE TIME DELAY IS ACTIVE, A "LOAD DISCONNECT ACTIVE" LED WILL BE LIT (AMBER LED).

WHEN THE NORMAL SOURCE IS RESTORED FOR THE DURATION OF THE FEATURE 3A, RETRANSFER TO NORMAL TIME DELAY SETTING, THE LOAD WILL BE RETRANSFERRED TO THE NORMAL SOURCE IN A DELAYED TRANSITION MANNER.

DELAYED TRANSITION RETRANSFER TO NORMAL WILL CAUSE THE EMERGENCY SOURCE CONTACTOR (CE) TO OPEN. AFTER THE LOAD DISCONNECT TIME DELAY EXPIRES, THE NORMAL SOURCE CONTACTOR (CN) WILL CLOSE.

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

DELAYED TRANSITION TRANSFER WILL ALSO OCCUR DURING TRANSFER TO EMERGENCY BY OPERATING THE TEST SWITCH. RETRANSFER TO NORMAL WILL OCCUR AS PREVIOUSLY DESCRIBED.

USER CONTROLS AND INDICATIONS

A. FEATURES 5 & 6B - TRANSFER TEST/RETRANSFER TIME DELAY BYPASS CONTROLS.

TRANSFER TEST:
OPERATION CAUSES A NORMAL SOURCE FAILURE SEQUENCE.
ACTIVATE AND HOLD FOR AT LEAST 15 SECONDS TO ALLOW TIME FOR THE ENGINE-GENERATOR TO START.

RETRANSFER TIME DELAY BYPASS:
OPERATION WILL BYPASS THE FEATURE 3A (RETRANSFER TO NORMAL DELAY).

B. FEATURES 9A & 9B - TRANSFER SWITCH POSITION INDICATORS.
FEATURE 9A: TRANSFER SWITCH CLOSED ON NORMAL (GREEN LED)
FEATURE 9B: TRANSFER SWITCH CLOSED ON EMERGENCY (RED LED)

C. FEATURES 9C & 9D - SOURCE ACCEPTANCE INDICATORS.
FEATURE 9C: NORMAL SOURCE ACCEPTED (GREEN LED)
FEATURE 9D: EMERGENCY SOURCE ACCEPTED (RED LED)

D. LOAD DISCONNECT ACTIVE - INDICATES THAT THE TRANSFER SWITCH IS IN THE LOAD DISCONNECTED POSITION (BOTH NORMAL (CN) AND EMERGENCY (CE) CONTACTORS OPEN) (AMBER LED).

GENERAL NOTES

1. SWITCH SHOWN DE-ENERGIZED AND CONNECTED TO THE NORMAL SOURCE.
2. DEVICE SYMBOLS AND DESIGNATIONS ARE IN ACCORDANCE WITH NEMA PUBLICATION ICS 1-1983, PART 1-101A.
3. ALL WIRING IS #16 AWG, TINNED, STRANDED COPPER UNLESS OTHERWISE INDICATED.
4. O ON TERMINAL BLOCKS INDICATES AVAILABLE FIELD CONNECTION POINT.
5. ● ON TERMINAL BLOCKS INDICATES FACTORY CONNECTION POINT.
6. CONTROL AND ACCESSORY WIRING IS ROUTED IN ACCORDANCE WITH ASCO ASSEMBLY PROCEDURE GS451261.
7. AN OPERATOR'S MANUAL IS FURNISHED WITH EACH AUTOMATIC TRANSFER SWITCH. REFER TO THIS PUBLICATION PRIOR TO INSTALLATION AND OPERATION OF THE UNIT.

BASE CATALOG NUMBER					CATALOG NUMBER SUFFIXES			
TS FRAME	CATALOG TYPE	NEUTRAL TYPE	PHASE POLES	AMPS	VOLT CODE	CONTROLLER	OPTIONAL ACCESSORY	ENCLOSURE CODE
H	7ADTS	A B BLANK FOR NONE	3	600 800 1000 1200	C D E F H J K L M N P Q R	5	X BLANK FOR NONE	C E F G H J K L BLANK FOR OPEN TYPE

EXPLANATION OF CATALOG NUMBER CODES

NEUTRAL TYPE		VOLTAGE CODES 3 PHASE (3 OR 4 WIRE) 50 OR 60 Hz		ENCLOSURE CODES		
CODE	DESCRIPTION	CODE	NOMINAL VOLTAGE	CODE	TYPE	DESCRIPTION
BLANK	NONE			BLANK		OPEN TYPE (NO ENCLOSURE)
A	SOLID			C	1	GENERAL PURPOSE, INDOOR
B	SWITCHING	C	208	E	2	INDOOR, WATER & DUST RESISTANT
		D	220	F	3R	OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT
		E	230	G	4	INDOOR/OUTDOOR, WATERTIGHT & DUST TIGHT
		F	240	H	4X	TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL)
		H	380	J	4X	TYPE 4 PLUS CORROSION RESISTANCE (FIBERGLASS)
		J	400	K	7	EXPLOSION PROOF
		K	415	L	12	INDOOR, INDUSTRIAL ENVIRONMENTS, OIL TIGHT & DUST TIGHT
		L	440			
		M	460			
		N	480			
		P	550			
		Q	575			
		R	600			

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

FORM REV A

PROJECT NAME:
WIRING DIAGRAM
7000 SERIES (H7ADTS)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

	BY	DATE
DRAWN BY	SDH	01/01
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	01/01

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

ASSEM. REF. NO.

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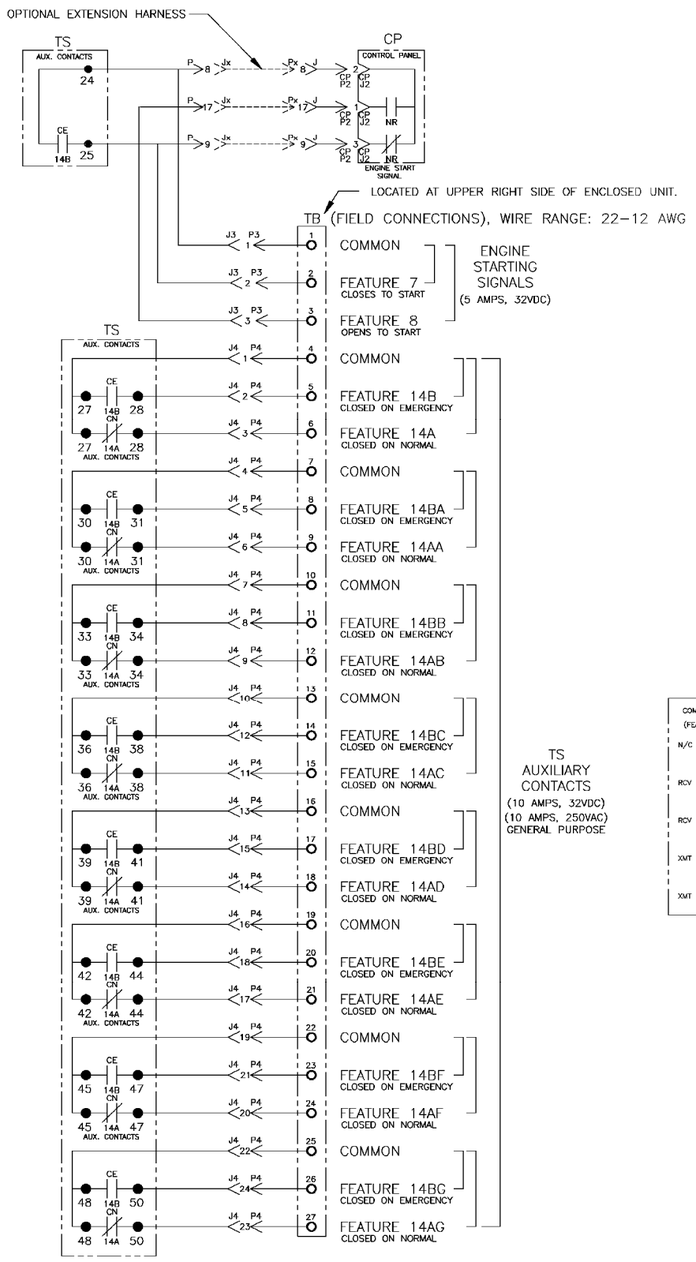
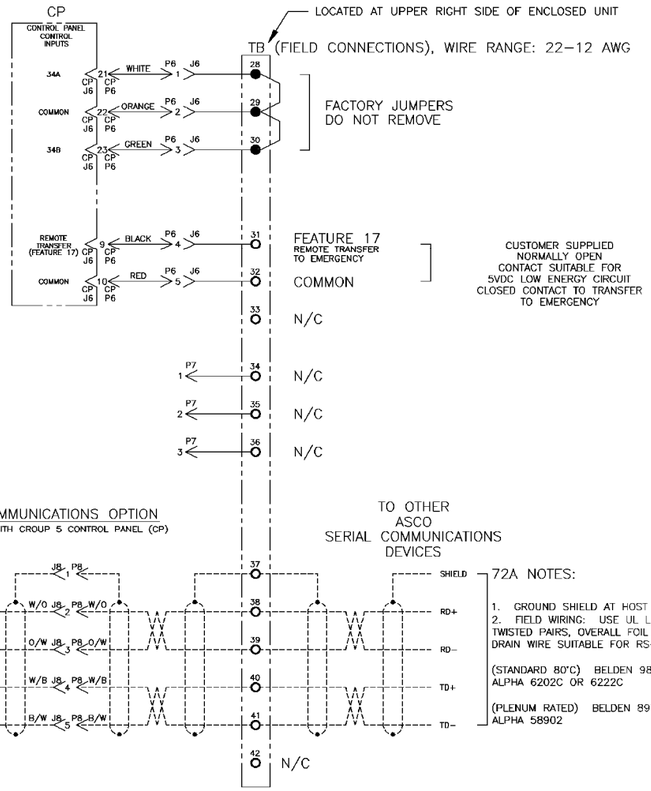
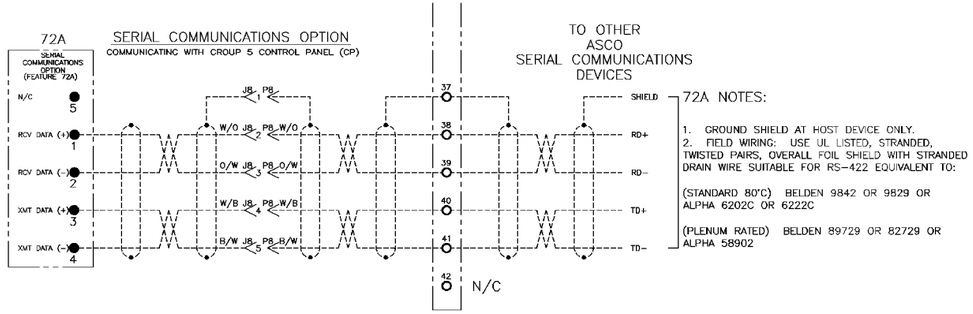
CHANGE LETTER A ECN NO. 158293 SHEET 1 of 6

FIELD CONNECTIONS







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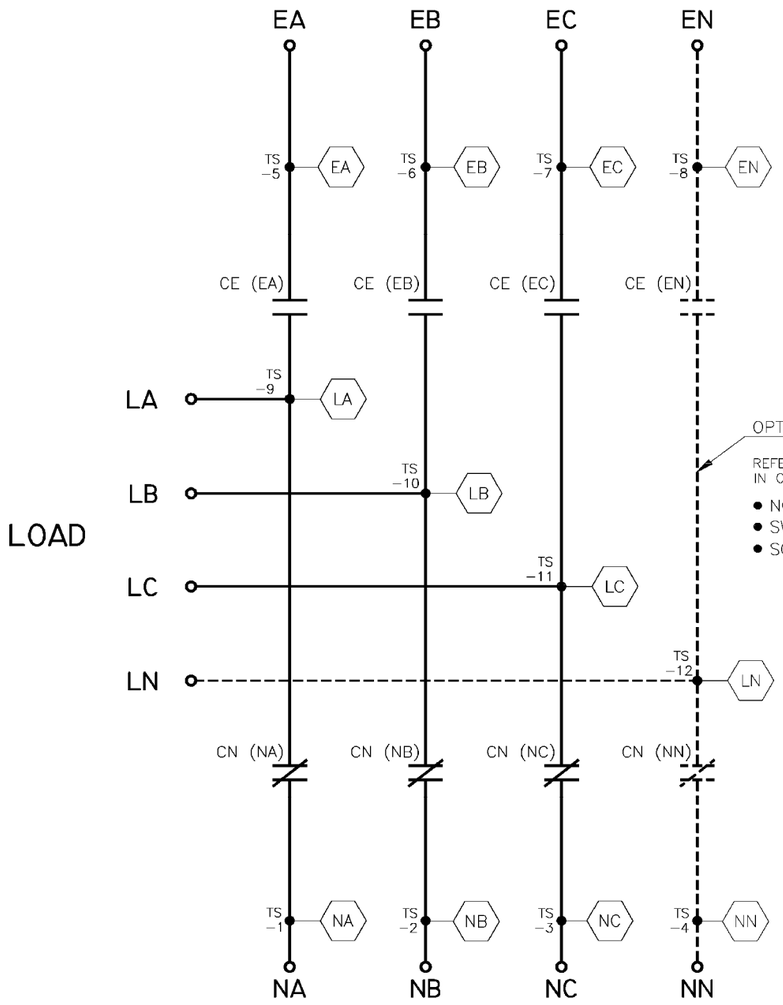
MAIN POWER POLES

TS OPERATOR CIRCUIT

EMERGENCY



OPTIONAL NEUTRAL TYPES

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

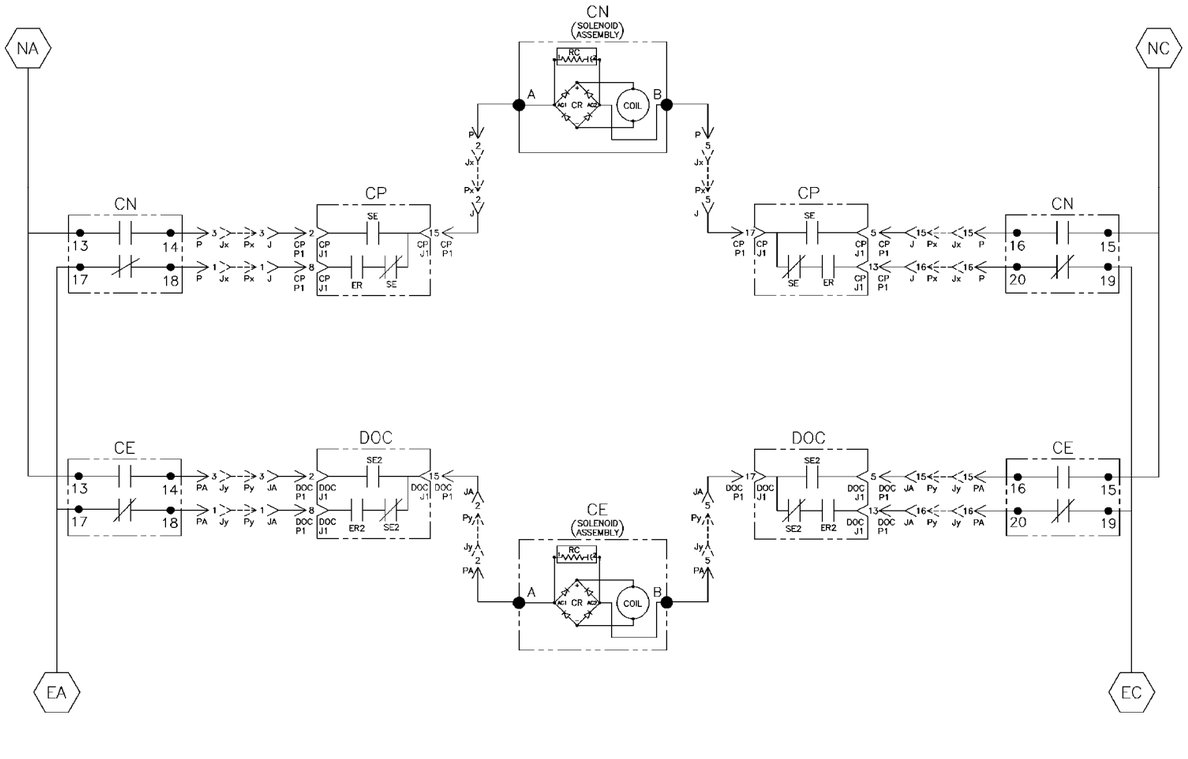
- NONE
- SWITCHING
- SOLID BUS PLATE

NORMAL

NOTE:

ATS SHOWN CLOSED ON NORMAL SOURCE.

NORMAL



EMERGENCY

CN CONTROL CONTACTS						
CN	SOLENOID POSITION					
	CLOSED NORMAL	BEFORE TDC*	>	<	BEFORE >TDC	OPEN
13–14					X	X
15–16					X	X
17–18	X	X				
19–20	X	X				

CE CONTROL CONTACTS						
CE	SOLENOID POSITION					
	OPEN	BEFORE TDC*	>	<	BEFORE <TDC	CLOSED EMERG.
13–14					X	X
15–16					X	X
17–18	X	X				
19–20	X	X				

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

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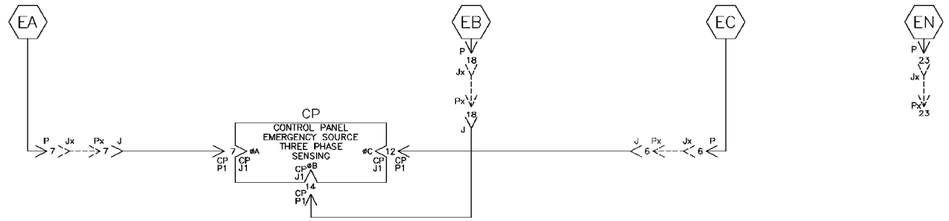
EMERGENCY SOURCE CIRCUITS

EMERGENCY

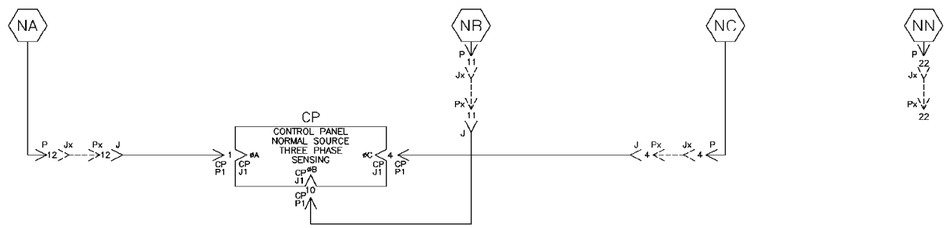


LOAD TERMINAL CIRCUITS

LOAD

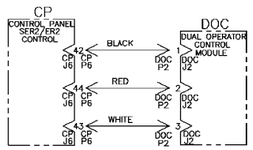
NORMAL SOURCE CIRCUITS

NORMAL

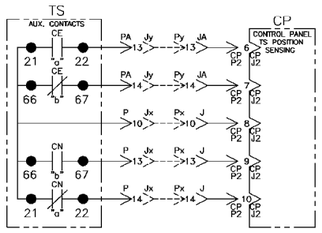


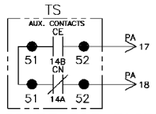
CONTROL CIRCUITS

SER2/ER2 CONTROL



TS POSITION SENSING





SPARE FOR FACTORY USE

ADDITIONAL CIRCUITS

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7000 SERIES (H7ADTS)
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THIRD ANGLE PROJECTION

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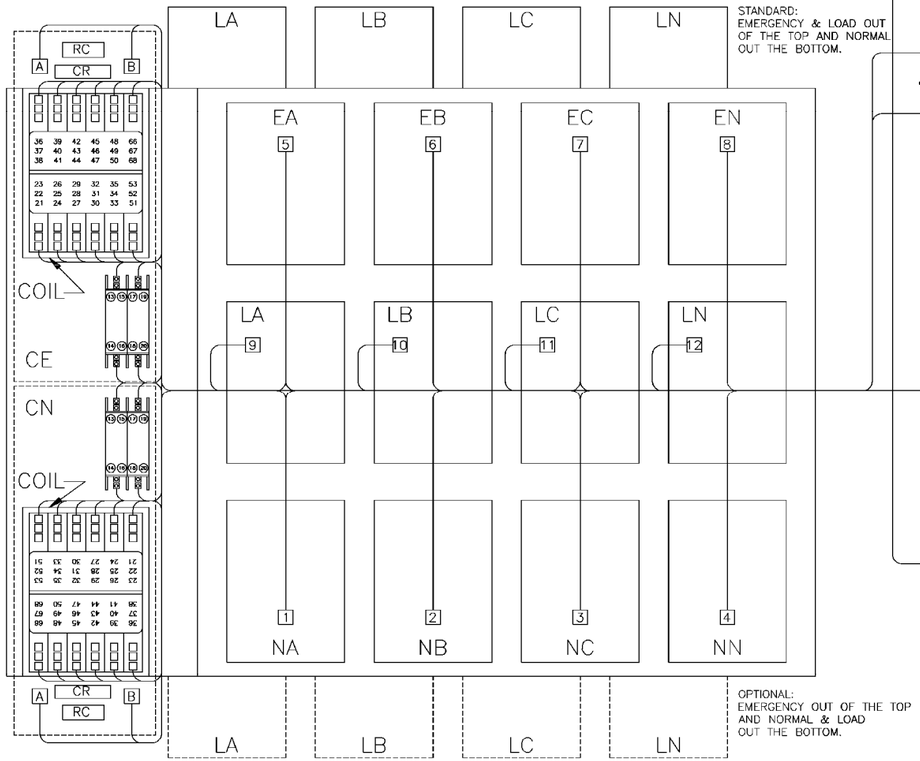
PHYSICAL DIAGRAM

ENCLOSURE

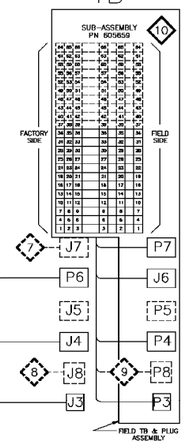
TS (TRANSFER SWITCH)
VIEW FROM INSIDE FRONT



STANDARD:
EMERGENCY & LOAD OUT OF THE TOP AND NORMAL OUT THE BOTTOM.

OPTIONAL:
EMERGENCY OUT OF THE TOP AND NORMAL & LOAD OUT THE BOTTOM.

TB



DOOR HINGE

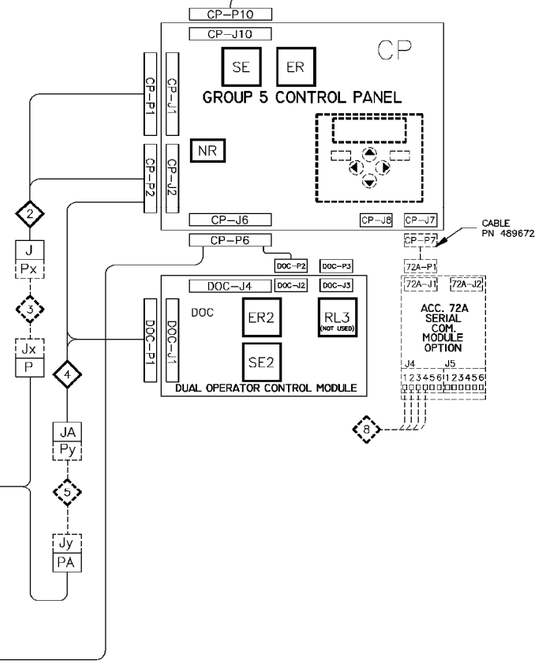
BONDING STRAP
PN 098323-019

DOOR (INSIDE)

OPERATOR CONTROLS & INDICATORS

PN 613655-001
(REFER TO ASSEMBLY DRAWING FOR WIRING)

OPTIONAL
POWERMANAGER
OR ADDITIONAL
OPERATOR CONTROLS
ESCUTCHEON MOUNTING



AP
OPTIONAL
ACCESSORY ADD-ON PANEL MOUNTING

AP2
OPTIONAL
ACCESSORY ADD-ON PANEL MOUNTING

AP1
OPTIONAL
ACCESSORY ADD-ON PANEL MOUNTING

AP3
OPTIONAL
ACCESSORY ADD-ON PANEL MOUNTING

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A	158293	BWM	WK	7/24/01
	SEE ECN			
—	156547	SDH	SDH	01/01
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PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (H7ADTS)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

ASSEM. REF. NO.

	BY	DATE
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CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	01/01

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

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

SCALE: ACAD | FILE

SIZE: DWG. NO. DS713505

CHANGE LETTER A | ECN NO. 158293 | SHEET 5 OF 6

WIRE RUN LISTING

① HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

HARNESS 713081 (P,PA,J3,J4) MAIN TS

WIRE No.		CLR	AWG
1	P-1,CN-18		16
2	P-2,CN-A		
3	P-3,CN-14		
4	P-4,TS-3		
4	TS-3,CN-15		
4	CN-15,CE-15		
5	P-5,CN-B		
6	P-8,TS-7		
6	TS-7,CN-19		
6	CN-19,CE-19		
7	P-7,TS-5		
7	TS-5,CN-17		
7	CN-17,CE-17		
8	P-8,CE-24		
8	CE-24,J3-1		
9	P-9,CE-25		
9	CE-25,J3-2		
10	P-10,CN-66		
10	CN-66,CN-21		
10	CN-21,CE-21		
10	CE-21,CE-66		
11	P-11,TS-2		
12	P-12,TS-1		
12	TS-1,CN-13		
12	CN-13,CE-13		
13	P-13,CN-67		
14	P-14,CN-22		
15	P-15,CN-16		
16	P-16,CN-20		
17	P-17,J3-3		
18	P-18,TS-6		
19	P-19,TS-9		
20	P-20,TS-10		
21	P-21,TS-11		
22	P-22,TS-4		
23	P-23,TS-8		
24	P-24,TS-12		
25	J4-1,CN-27		
25	CN-27,CE-27		
26	J4-2,CE-28		
27	J4-3,CN-28		
28	J4-4,CN-30		
28	CN-30,CE-30		
29	J4-5,CE-31		
30	J4-6,CN-31		
31	J4-7,CN-33		
31	CN-33,CE-33		
32	J4-8,CE-34		
33	J4-9,CN-34		
34	J4-10,CN-36		
34	CN-36,CE-36		
35	J4-11,CN-38		
36	J4-12,CE-38		
37	J4-13,CN-39		
37	CN-39,CE-39		
38	J4-14,CN-41		
39	J4-15,CE-41		
40	J4-16,CN-42		
40	CN-42,CE-42		
41	J4-17,CN-44		
42	J4-18,CE-44		
43	J4-19,CN-45		
43	CN-45,CE-45		
44	J4-20,CN-47		
45	J4-21,CE-47		
46	J4-22,CN-48		
46	CN-48,CE-48		
47	J4-23,CN-50		
48	J4-24,CE-50		
107	PA-1,CE-18		
108	PA-2,CE-A		
109	PA-3,CE-14		
111	PA-5,CE-B		
119	PA-13,CE-22		
120	PA-14,CE-67		
121	PA-15,CE-16		
122	PA-16,CE-20		
123	PA-17,CE-52		
124	PA-18,CN-52		
131	CN-51,CE-51		
	REMOVE WIRES		
	ADD WIRES		
97	J3-4		
110	PA-4		
112	PA-6		
113	PA-7		
114	PA-8		
115	PA-9		
116	PA-10		
117	PA-11		
118	PA-12		
125	PA-19		
126	PA-20		
127	PA-21		
128	PA-22		
129	PA-23		
130	PA-24		

② HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

HARNESS 483763 (J,CP-P1,CP-P2) CONTROL PANEL

WIRE No.		CLR	AWG
1	J-1,CP-P1-8		16
2	J-2,CP-P1-15		
3	J-3,CP-P1-2		
4	J-4,CP-P1-4		
5	J-5,CP-P1-17		
6	J-6,CP-P1-12		
7	J-7,CP-P1-7		
8	J-8,CP-P2-2		
9	J-9,CP-P2-3		
10	J-10,CP-P2-8		
11	J-11,CP-P1-10		
12	J-12,CP-P1-1		
13	J-13,CP-P2-9		
14	J-14,CP-P2-10		
15	J-15,CP-P1-5		
16	J-16,CP-P1-13		
17	J-17,CP-P2-1		
18	J-18,CP-P1-14		
	ADD WIRES		
19	J-19		
20	J-20		
21	J-21		
22	J-22		
23	J-23		
24	J-24		

③ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

HARNESS 309320-005 OPTIONAL 8" EXTENSION HARNESS

WIRE No.		CLR	AWG
1	Jx-1,Px-1		16
2	Jx-2,Px-2		
3	Jx-3,Px 3		
4	Jx-4,Px-4		
5	Jx-5,Px-5		
6	Jx-6,Px-6		
7	Jx-7,Px-7		
8	Jx-8,Px-8		
9	Jx-9,Px-9		
10	Jx-10,Px-10		
11	Jx-11,Px-11		
12	Jx-12,Px-12		
13	Jx-13,Px-13		
14	Jx-14,Px-14		
15	Jx-15,Px-15		
16	Jx-16,Px-16		
17	Jx-17,Px-17		
18	Jx-18,Px-18		
19	Jx-19,Px-19		
20	Jx-20,Px-20		
21	Jx-21,Px-21		
22	Jx-22,Px-22		
23	Jx-23,Px-23		
24	Jx-24,Px-24		

④ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

HARNESS 619385 (JA,CP-P2,DOC-P1) CONTROL MODULE

WIRE No.		CLR	AWG
107	JA-1,DOC-P1-8		16
108	JA-2,DOC-P1-15		
109	JA-3,DOC-P1-2		
111	JA-5,DOC-P1-17		
119	JA-13,CP-P2-6		
120	JA-14,CP-P2-7		
121	JA-15,DOC-P1-5		
122	JA-16,DOC-P1-13		
	ADD WIRES		
110	JA-4		
112	JA-6		
113	JA-7		
114	JA-8		
115	JA-9		
116	JA-10		
117	JA-11		
118	JA-12		
123	JA-17		
124	JA-18		
125	JA-19		
126	JA-20		
127	JA-21		
128	JA-22		
129	JA-23		
130	JA-24		

⑤ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

HARNESS 309320-005 OPTIONAL 8 IN. EXTENSION HARNESS

WIRE No.		CLR	AWG
107	Jy-1,Py-1		16
108	Jy-2,Py-2		
109	Jy-3,Py-3		
110	Jy-4,Py-4		
111	Jy-5,Py-5		
112	Jy-6,Py-6		
113	Jy-7,Py-7		
114	Jy-8,Py-8		
115	Jy-9,Py-9		
116	Jy-10,Py-10		
117	Jy-11,Py-11		
118	Jy-12,Py-12		
119	Jy-13,Py-13		
120	Jy-14,Py-14		
121	Jy-15,Py-15		
122	Jy-16,Py-16		
123	Jy-17,Py-17		
124	Jy-18,Py-18		
125	Jy-19,Py-19		
126	Jy-20,Py-20		
127	Jy-21,Py-21		
128	Jy-22,Py-22		
129	Jy-23,Py-23		
130	Jy-24,Py-24		

⑥ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

HARNESS 619510-005 (P6) FIELD INPUTS

WIRE No.		CLR	AWG
49	P6-1,CP-P6-21	WHT	22 (12 COND)
50	P6-2,CP-P6-22	ORG	
51	P6-3,CP-P6-23	GRN	
52	P6-4,CP-P6-9	BLK	
53	P6-5,CP-P6-10	RED	
	ADD WIRES		
54	P6-6		
55	P6-7		
56	P6-8		
57	P6-9		
58	P6-10		
59	P6-11		
60	P6-12		
61	P6-13		
62	P6-14		
63	P6-15		
64	P6-16		
65	P6-17		
66	P6-18		
67	P6-19		
68	P6-20		
69	P6-21		
70	P6-22		
71	P6-23		
72	P6-24		

⑦ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

HARNESS (J7) OPTIONAL FIELD OUTPUTS

WIRE No.		CLR	AWG
	ADD WIRES		16
73	J7-1		
74	J7-2		
75	J7-3		
76	J7-4		
77	J7-5		
78	J7-6		
79	J7-7		
80	J7-8		
81	J7-9		
82	J7-10		
83	J7-11		
84	J7-12		
85	J7-13		
86	J7-14		
87	J7-15		
88	J7-16		
89	J7-17		
90	J7-18		
91	J7-19		
92	J7-20		
93	J7-21		
94	J7-22		
95	J7-23		
96	J7-24		

⑧ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

HARNESS 605454-005 (J8) OPTIONAL SERIAL I/O

WIRE No.		CLR	AWG
98	J8-1,SHLD		
99	J8-2,72A-1	WHT/ORG	22 (4 COND)
100	J8-3,72A-2	DRG/WHT	
101	J8-4,72A-3	WHT/BLU	
102	J8-5,72A-4	BLU/WHT	
	ADD WIRES		
103	J8-6		
104	J8-7		
105	J8-8		
106	J8-9		

⑨ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

HARNESS 605454-007 (P8,TB) OPTIONAL SERIAL I/O

WIRE No.		CLR	AWG
98	P8-1,TB-37	SHLD	
99	P8-2,TB-38	WHT/ORG	22 (4 COND)
100	P8-3,TB-39	DRG/WHT	
101	P8-4,TB-40	WHT/BLU	
102	P8-5,TB-41	BLU/WHT	
	ADD WIRES		
103	P8-6		
104	P8-7		
105	P8-8		
106	P8-9		

⑩ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

SUB-ASSEMBLY 605659 (P3,P4,J6,P7,TB) STD. FIELD TB

WIRE No.		CLR	AWG
8	TB-1,P3-1		16
9	TB-2,P3-2		
17	TB-3,P3-3		
25	TB-4,P4-1		
26	TB-5,P4-2		
27	TB-6,P4-3		
28	TB-7,P4-4		
29	TB-8,P4-5		
30	TB-9,P4-6		
31	TB-10,P4-7		
32	TB-11,P4-8		
33	TB-12,P4-9		
34	TB-13,P4-10		
36	TB-14,P4-12		
35	TB-15,P4-11		
37	TB-16,P4-13		
39	TB-17,P4-15		
38	TB-18,P4-14		
40	TB-19,P4-16		
42	TB-20,P4-18		
41	TB-21,P4-17		
43	TB-22,P4-19		
45	TB-23,P4-21		
44	TB-24,P4-20		
46	TB-25,P4-22		
48	TB-26,P4-24		
47	TB-27,P4-23		
49	TB-28,J6-1		
50	TB-29,J6-2		
51	TB-30,J6-3		
52	TB-31,J6-4		
53	TB-32,J6-5		
73	TB-34,P7-1		
74	TB-35,P7-2		
75	TB-36,P7-3		
	JUMPERS		
–	TB-28,TB-29		
–	TB-29,TB-30		
	ADD WIRES		
97	P3-4		
54	J6-6		
55	J6-7		
56	J6-8		
57	J6-9		
58	J6-10		
59	J6-11		
60	J6-12		
61	J6-13		
62	J6-14		
63	J6-15		
64	J6-16		
65	J6-17		
66	J6-18		
67	J6-19		
68	J6-20		
69	J6-21		
70	J6-22		
71	J6-23		
72	J6-24		
76	P7-4		
77	P7-5		
78	P7-6		
79	P7-7		
80	P7-8		
81	P7-9		
82	P7-10		
83	P7-11		
84	P7-12		
85	P7-13		
86	P7-14		
87	P7-15		
88	P7-16		
89	P7-17		
90	P7-18		
91	P7-19		
92	P7-20		
93	P7-21		
94	P7-22		
95	P7-23		
96	P7-24		

ADDITIONAL WIRING

WIRE No.		CLR	AWG
132	CP-P6-42,DOC-P2-1	BLK	22 (4 COND)
133	CP-P6-43,DOC-P2-3	WHT	
134	CP-P6-44,DOC-P2-2	RED	

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A	158293	BWM	WK	7/24/01
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—	156547	SDH	SDH	01/01
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GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

SUBSIDIARY DISTRIBUTION

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AG ☐	AP ☐	AC ☐	AS ☐				

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

ASSEM. REF. NO.

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

SCALE: ACAD | FILE

SIZE: D | DWG. NO.: DS713505

CHANGE LETTER: A | ECN NO.: 158293 | SHEET 6 OF 6