THREE PHASE WIRING FOR ASCO 7000 SERIES AUTOMATIC TRANSFER SWITCHES TYPE 7ATS RATED 1000 - 3000 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	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). FEAT. 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 5 AMPS AT 32 VDC/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)

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. ○ 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			
CATALOG TYPE	NEUTRAL TYPE	PHASE POLES	AMPS	VOLT CODE	CONTROLLER	OPTIONAL ACCESSORY	ENCLOSURE CODE
7ATS	A B C BLANK FOR NONE	3	1000 1200 1600 2000 2600 3000	A B C D E F G H J K L M N P Q R	5	X BLANK FOR NONE	C E F G H J K L M N P Q 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	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			(SECURE ENCLOSURES)
		M	460	M	3R	OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT
		N	480	N	4	INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT
		P	550	P	4X	TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL)
		Q	575	Q	12	INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT
		R	600			

CATALOG NUMBER _____
CERTIFIED TO ASCO® S.O. _____
DATE _____
FORM REV H

CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	166908	SDH	SDH	04/28/04
	SEE ECN			
G	161899	SDH	SDH	10/08/02
	SEE ECN			
F	159796	WK	WK	01/15/02
	SEE ECN			
E	157978	WK	BK	6/15/01
	SEE ECN			
D	156602	BWM	BK	4/9/01
	SEE ECN			
C	151282	JPB	JPB	3/30/99
	SEE ECN			
B	147462	JPB	JPB	3/98
	SEE ECN			
A	147012	JPB	JPB	2/98
	SEE ECN			
—	146480	JPB	SDH	12/97
	ISSUE			

PROJECT NAME:
WIRING DIAGRAM
7000 SERIES (7ATS)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

SUBSIDIARY DISTRIBUTION
AE AN AM AJ AL
CH AV AA PS AR
AG AP AC AS

	BY	DATE
DRAWN BY	JPB	12/97
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	12/97

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

ASSEM. REF. NO.

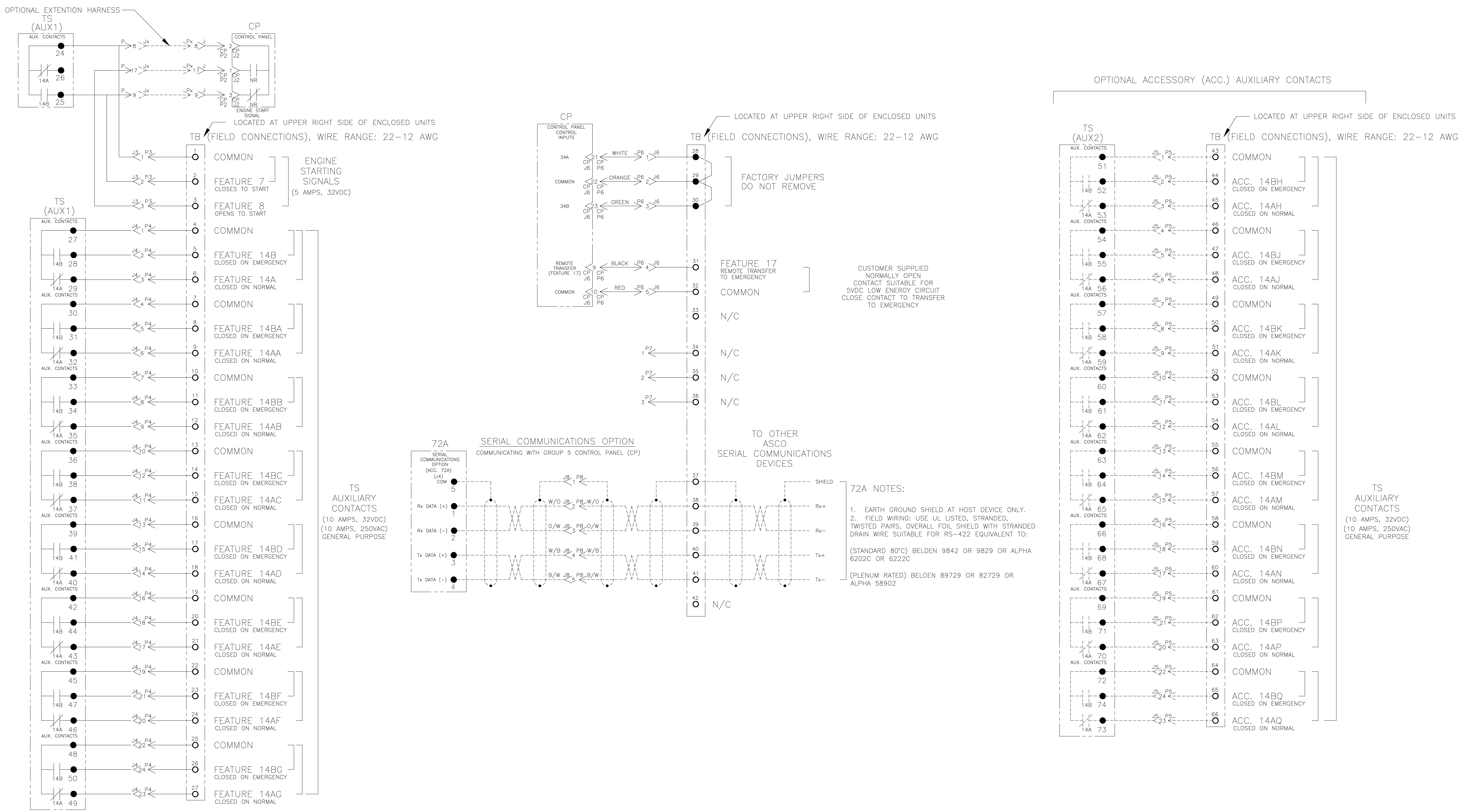
COMPUTER GENERATED DRAWING

SCALE 1:1 | ACAD | FILE

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

SIZE DWG. NO. DS617409
CHANGE LETTER H ECN NO. 166908 SHEET 1 OF 6

FIELD CONNECTIONS



H	166908	SDH	SDH	04/28/04
CHANGE LETTER	SEE ECN			

PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (7ATS)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

	BY	DATE
DRAWN BY	JPB	12/97
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	12/97

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

ASSEM. REF. NO.

ASCO Power Technologies, L.P.
FLORHAM PARK, NEW JERSEY 07932 U.S.A.

COMPUTER GENERATED DRAWING

SCALE 1:1 ACAD

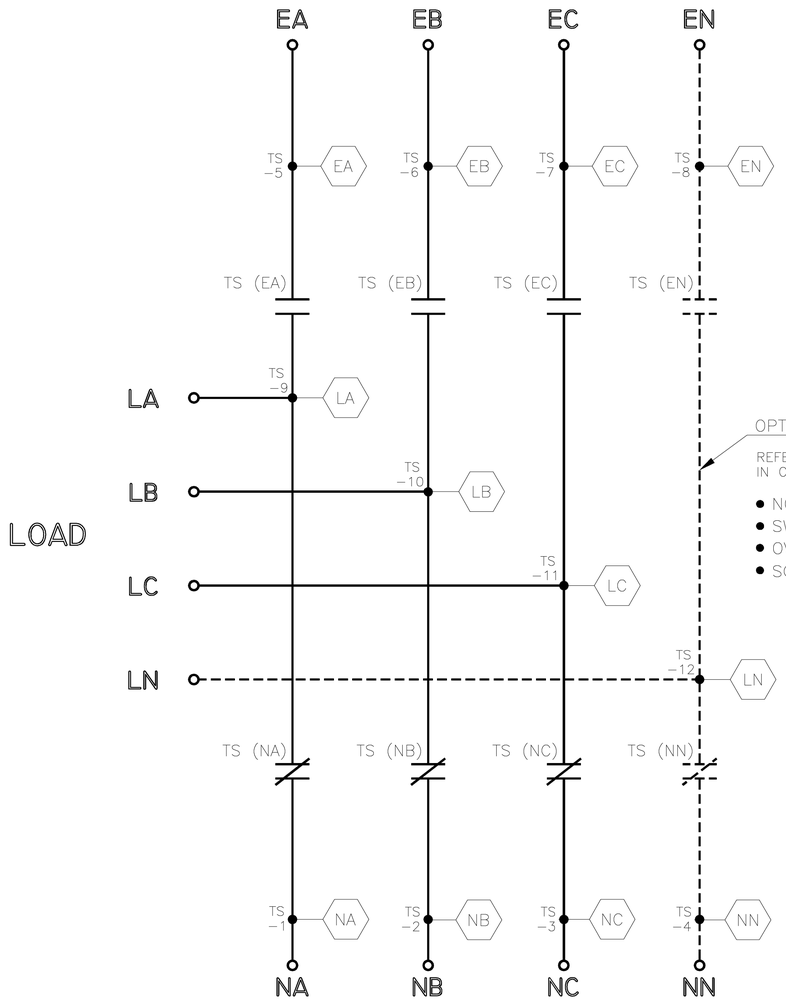
DWG. NO. DS 617409

CHANGE LETTER H ECN NO. 166908 SHEET 2 OF 6

MAIN POWER POLES

TS OPERATOR CIRCUIT

EMERGENCY



OPTIONAL NEUTRAL TYPES

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

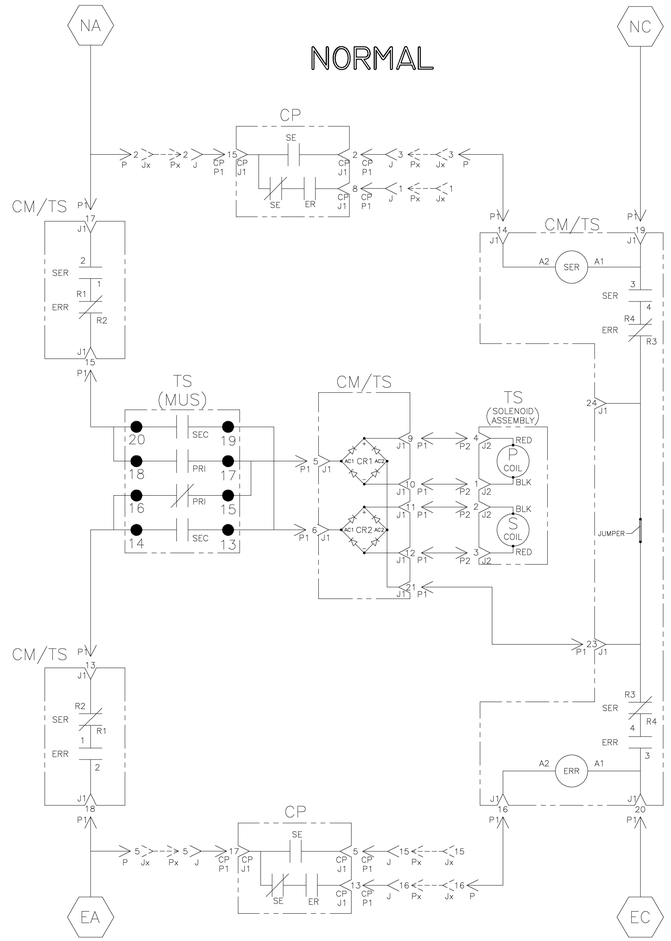
- NONE
- SWITCHING
- OVERLAPPING CONTACTS
- SOLID BUS PLATE

NORMAL

NOTE:

ATS SHOWN CLOSED ON NORMAL SOURCE.

NORMAL



EMERGENCY

TS (MUS) CONTACTS					
MUS	SOLENOID POSITION				
	NORM	>	AFTER TDC *	<	EMER
13–14					
15–16					
17–18					
19–20					

* AFTER SOLENOID PASSES THROUGH TOP DEAD CENTER POSITION.

H	166908	SDH	SDH	04/28/04
	SEE ECN			
CHANGE LETTER	ECN NO.	BY	APP.	DATE

PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (7ATS)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

SUBSIDIARY DISTRIBUTION

AE	AN	AM	AJ	AL			
CH	AV	AA	PS	AR			
AG	AP	AC	AS				

	BY	DATE
DRAWN BY	JPB	12/97
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	12/97

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

ASSEM. REF. NO.

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

COMPUTER GENERATED DRAWING

SCALE 1:1 | ACAD | FILE

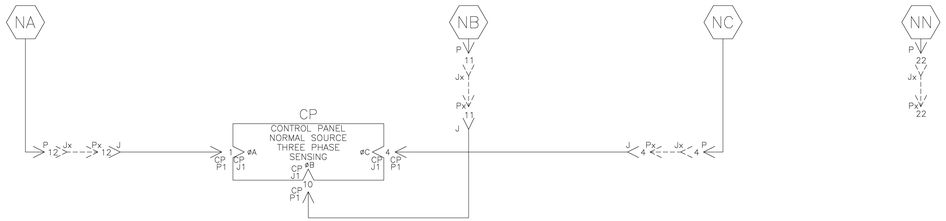
SIZE DS | DWG. NO. 617409

CHANGE LETTER H | ECN NO. 166908 | SHEET 3 OF 6

NORMAL SOURCE CIRCUITS

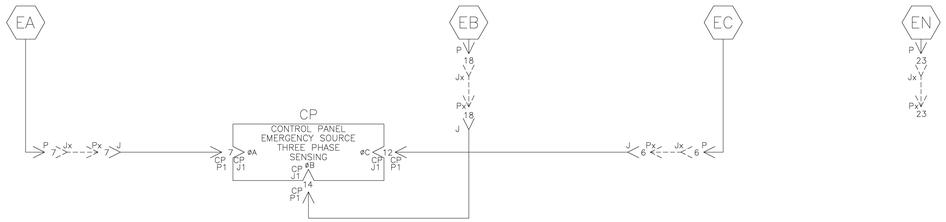
ADDITIONAL CIRCUITS

NORMAL



EMERGENCY SOURCE CIRCUITS

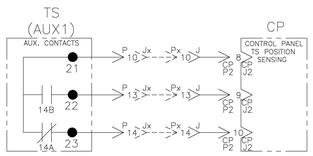
EMERGENCY



LOAD TERMINAL CIRCUITS

LOAD

CONTROL SIGNALS & INDICATION



H	166908	SDH	SDH	04/28/04					
	SEE ECN								
CHANGE LETTER	ECN NO.	BY	APP.	DATE					

PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (7ATS)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

SUBSIDIARY DISTRIBUTION

AE		AN		AM		AJ		AL			
CH		AV		AA		PS		AR			
AG		AP		AC		AS					

	BY	DATE
DRAWN BY	JPB	12/97
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	12/97

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.

COMPUTER GENERATED DRAWING

SCALE 1:1 | ACAD | FILE

SIZE | DWG. NO. DS617409

CHANGE LETTER H | ECN NO. 166908 | SHEET 4 OF 6

PHYSICAL DIAGRAM

ENCLOSURE

TS (TRANSFER SWITCH)

EA | EB | EC | EN

5 | 6 | 7 | 8

P2
J2

SOLENOID
P COIL | S COIL
ASSEMBLY

AUX1 (SEE DETAIL A) | AUX2 (SEE DETAIL A)

MUS (SEE DETAIL A)

P1
J1
CM
SUB-ASSEMBLY PN 605113-001
ERR
SER
CR1 | CR2

LA 9 | LB 10 | LC 11 | LN 12

NA | NB | NC | NN

1 | 2 | 3 | 4

TB

SUB-ASSEMBLY PN 605659

8

FACTORY SIDE | FIELD SIDE

5	J7	P7
4	P6	J6
3	J5	P5
2	J4	P4
6	J8	P8
1	J3	P3

FIELD TB & PLUG ASSEMBLY

TOP DOOR (INSIDE)

CP-P10
CP-J10
CP
SE
ER
GROUP 5 CONTROL PANEL
CP-P1
CP-J1
CP-P2
CP-J2
NR
CP-J6
CP-J8
CP-J7
CP-P6
CP-P7

CABLE PN 629798-001

72A-P1
72A-J1
72A-J2
ACC. 72A SERIAL COM. MODULE OPTION
J4
1 2 3 4 5

OPERATOR CONTROLS
ESCUTCHEON MOUNTING
PN 613653-001
(REFER TO ASSEMBLY DRAWING FOR WIRING)

OPTIONAL
POWERMANAGER
OR ADDITIONAL
OPERATOR CONTROLS
ESCUTCHEON MOUNTING

13
4
6
J
Px
12
Jx
P
1

BOTTOM DOOR (INSIDE)

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

BONDING STRAP PN 098323-019

DOOR HINGE

DETAIL A
MUS, AUX1 & AUX2
TOP VIEW

AUX1 | AUX2

MUS

	BY	DATE
DRAWN BY	JPB	12/97
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	12/97

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

ASSEM. REF. NO.

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

PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (7ATS)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	166908	SDH	SDH	04/28/04
	SEE ECN			

SUBSIDIARY DISTRIBUTION

AE AN AM AJ AL
CH AV AA PS AR
AG AP AC AS

COMPUTER GENERATED DRAWING

SCALE 1:1 | ACAD | FILE

SIZE DS | DWG. NO. 617409

CHANGE LETTER H | ECN NO. 166908 | SHEET 5 OF 6

WIRE RUN LISTING

1 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 605454 (P,P1,P2,J3) MAIN TS	CLR	AWG
1	P-2,TS-1		16
2	P-3,P1-14		
3	P-4,TS-3		
4	P-5,TS-5		
5	P-6,TS-7		
4	P-7,TS-5		
6	P-8,TS(AUX1)-24		
6	TS(AUX1)-24,J3-1		
7	P-9,TS(AUX1)-25		
7	TS(AUX1)-25,J3-2		
8	P-10,TS(AUX1)-21		
9	P-11,TS-2		
10	P-12,TS-1		
11	P-13,TS(AUX1)-22		
12	P-14,TS(AUX1)-23		
13	P-16,P1-16		
14	P-17,J3-3		
15	P-18,TS-6		
16	P-19,TS-9		
17	P-20,TS-10		
18	P-21,TS-11		
19	P-22,TS-4		
20	P-23,TS-8		
21	P-24,TS-12		
22	P1-5,TS(MUS)-17		
22	TS(MUS)-17,TS(MUS)-15		
23	P1-6,TS(MUS)-19		
23	TS(MUS)-19,TS(MUS)-13		
24	P1-9,P2-4		
25	P1-10,P2-1		
26	P1-11,P2-2		
27	P1-12,P2-3		
28	P1-13,TS(MUS)-16		
28	TS(MUS)-16,TS(MUS)-14		
29	P1-15,TS(MUS)-20		
29	TS(MUS)-20,TS(MUS)-18		
1	P1-17,TS-1		
4	P1-18,TS-5		
3	P1-19,TS-3		
5	P1-20,TS-7		
30	P1-21,P1-23		
	ADD WIRES		
200	P-1		
222	P-15		
201	P1-1		
202	P1-2		
203	P1-3		
204	P1-4		
205	P1-7		
206	P1-8		
207	P1-16		
208	P1-22		
209	P1-24		
221	J3-4		

2 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 605454-001 (J4) STANDARD AUX. CONTACTS	CLR	AWG
40	J4-1,TS(AUX1)-27		16
41	J4-2,TS(AUX1)-28		
42	J4-3,TS(AUX1)-29		
43	J4-4,TS(AUX1)-30		
44	J4-5,TS(AUX1)-31		
45	J4-6,TS(AUX1)-32		
46	J4-7,TS(AUX1)-33		
47	J4-8,TS(AUX1)-34		
48	J4-9,TS(AUX1)-35		
49	J4-10,TS(AUX1)-36		
50	J4-11,TS(AUX1)-37		
51	J4-12,TS(AUX1)-38		
52	J4-13,TS(AUX1)-39		
53	J4-14,TS(AUX1)-40		
54	J4-15,TS(AUX1)-41		
55	J4-16,TS(AUX1)-42		
56	J4-17,TS(AUX1)-43		
57	J4-18,TS(AUX1)-44		
58	J4-19,TS(AUX1)-45		
59	J4-20,TS(AUX1)-46		
60	J4-21,TS(AUX1)-47		
61	J4-22,TS(AUX1)-48		
62	J4-23,TS(AUX1)-49		
63	J4-24,TS(AUX1)-50		

3 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 605454-002 (J5) OPTIONAL AUX. CONTACTS	CLR	AWG
70	J5-1,TS(AUX2)-51		16
71	J5-2,TS(AUX2)-52		
72	J5-3,TS(AUX2)-53		
73	J5-4,TS(AUX2)-54		
74	J5-5,TS(AUX2)-55		
75	J5-6,TS(AUX2)-56		
76	J5-7,TS(AUX2)-57		
77	J5-8,TS(AUX2)-58		
78	J5-9,TS(AUX2)-59		
79	J5-10,TS(AUX2)-60		
80	J5-11,TS(AUX2)-61		
81	J5-12,TS(AUX2)-62		
82	J5-13,TS(AUX2)-63		
83	J5-14,TS(AUX2)-64		
84	J5-15,TS(AUX2)-65		
85	J5-16,TS(AUX2)-66		
86	J5-17,TS(AUX2)-67		
87	J5-18,TS(AUX2)-68		
88	J5-19,TS(AUX2)-69		
89	J5-20,TS(AUX2)-70		
90	J5-21,TS(AUX2)-71		
91	J5-22,TS(AUX2)-72		
92	J5-23,TS(AUX2)-73		
93	J5-24,TS(AUX2)-74		

4 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 619510-005 (P6) FIELD INPUTS	CLR	AWG
100	P6-1,CP-P6-21	WHT	22 (12 COND)
101	P6-2,CP-P6-22	ORG	
102	P6-3,CP-P6-23	GRN	
103	P6-4,CP-P6-9	BLK	
104	P6-5,CP-P6-10	RED	
	ADD WIRES		
105	P6-6		
106	P6-7		
107	P6-8		
108	P6-9		
109	P6-10		
110	P6-11		
111	P6-12		
112	P6-13		
113	P6-14		
114	P6-15		
115	P6-16		
116	P6-17		
117	P6-18		
118	P6-19		
119	P6-20		
120	P6-21		
121	P6-22		
122	P6-23		
123	P6-24		

5 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS (J7) FIELD OUTPUTS	CLR	AWG
130	J7-1		16
131	J7-2		
132	J7-3		
133	J7-4		
134	J7-5		
135	J7-6		
136	J7-7		
137	J7-8		
138	J7-9		
139	J7-10		
140	J7-11		
141	J7-12		
142	J7-13		
143	J7-14		
144	J7-15		
145	J7-16		
146	J7-17		
147	J7-18		
148	J7-19		
149	J7-20		
150	J7-21		
151	J7-22		
152	J7-23		
153	J7-24		

6 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 605454-005 (J8) OPTIONAL SERIAL I/O	CLR	AWG
160	J8-1,72A-5	SHLD	22 (4 COND)
161	J8-2,72A-1	WHT/ORG	
162	J8-3,72A-2	ORG/WHT	
163	J8-4,72A-3	WHT/BLU	
164	J8-5,72A-4	BLU/WHT	
210	J8-6		
211	J8-7		
212	J8-8		
213	J8-9		

7 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 605454-007 (P8,TB) OPTIONAL SERIAL I/O	CLR	AWG
160	P8-1,TB-37	SHLD	22 (4 COND)
161	P8-2,TB-38	WHT/ORG	
162	P8-3,TB-39	ORG/WHT	
163	P8-4,TB-40	WHT/BLU	
164	P8-5,TB-41	BLU/WHT	
210	P8-6		
211	P8-7		
212	P8-8		
213	P8-9		

8 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	SUB-ASSEMBLY 605659 (P3,P4,J6,P7,TB) STD. FIELD TB	CLR	AWG
6	TB-1,P3-1		16
7	TB-2,P3-2		
14	TB-3,P3-3		
40	TB-4,P4-1		
41	TB-5,P4-2		
42	TB-6,P4-3		
43	TB-7,P4-4		
44	TB-8,P4-5		
45	TB-9,P4-6		
46	TB-10,P4-7		
47	TB-11,P4-8		
48	TB-12,P4-9		
49	TB-13,P4-10		
51	TB-14,P4-12		
50	TB-15,P4-11		
52	TB-16,P4-13		
54	TB-17,P4-15		
53	TB-18,P4-14		
55	TB-19,P4-16		
57	TB-20,P4-18		
56	TB-21,P4-17		
58	TB-22,P4-19		
60	TB-23,P4-21		
59	TB-24,P4-20		
61	TB-25,P4-22		
63	TB-26,P4-24		
62	TB-27,P4-23		
100	TB-28,J6-1		
101	TB-29,J6-2		
102	TB-30,J6-3		
103	TB-31,J6-4		
104	TB-32,J6-5		
130	TB-34,P7-1		
131	TB-35,P7-2		
132	TB-36,P7-3		
	JUMPERS		
	TB-28,TB-29		
	TB-29,TB-30		
	ADD WIRES		
221	P3-4		
105	J6-6		
106	J6-7		
107	J6-8		
108	J6-9		
109	J6-10		
110	J6-11		
111	J6-12		
112	J6-13		
113	J6-14		
114	J6-15		
115	J6-16		
116	J6-17		
117	J6-18		
118	J6-19		
119	J6-20		
120	J6-21		
121	J6-22		
122	J6-23		
123	J6-24		
133	P7-4		
134	P7-5		
135	P7-6		
136	P7-7		
137	P7-8		
138	P7-9		
139	P7-10		
140	P7-11		
141	P7-12		
142	P7-13		
143	P7-14		
144	P7-15		
145	P7-16		
146	P7-17		
147	P7-18		
148	P7-19		
149	P7-20		
150	P7-21		
151	P7-22		
152	P7-23		
153	P7-24		

9 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 605454-008 (P5,TB) OPT. AUX. CONTACTS	CLR	AWG
70	TB-43,P5-1		16
71	TB-44,P5-2		
72	TB-45,P5-3		
73	TB-46,P5-4		
74	TB-47,P5-5		
75	TB-48,P5-6		
76	TB-49,P5-7		
77	TB-50,P5-8		
78	TB-51,P5-9		
79	TB-52,P5-10		
80	TB-53,P5-11		
81	TB-54,P5-12		
82	TB-55,P5-13		
83	TB-56,P5-14		
84	TB-57,P5-15		
85	TB-58,P5-16		
87	TB-59,P5-18		
86	TB-60,P5-17		
88	TB-61,P5-19		
90	TB-62,P5-21		
89	TB-63,P5-20		
91	TB-64,P5-22		
93	TB-65,P5-24		
92	TB-66,P5-23		

12 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 309320-005 OPTIONAL 8" EXTENSION HARNESS	CLR	AWG
200	Jx-1,Px-1		16
1	Jx-2,Px-2		
2	Jx-3,Px-3		
3	Jx-4,Px-4		
4	Jx-5,Px-5		
5	Jx-6,Px-6		
4	Jx-7,Px-7		
6	Jx-8,Px-8		
7	Jx-9,Px-9		
8	Jx-10,Px-10		
9	Jx-11,Px-11		
10	Jx-12,Px-12		
11	Jx-13,Px-13		
12	Jx-14,Px-14		
222	Jx-15,Px-15		
13	Jx-16,Px-16		
14	Jx-17,Px-17		
15	Jx-18,Px-18		
16	Jx-19,Px-19		
17	Jx-20,Px-20		
18	Jx-21,Px-21		
19	Jx-22,Px-22		
20	Jx-23,Px-23		
21	Jx-24,Px-24		

13 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 483763 (J,CP-P1,CP-P2) CONTROL PANEL	CLR	AWG
200	J-1,CP-P1-8		16
1	J-2,CP-P1-15		
2	J-3,CP-P1-2		
3	J-4,CP-P1-4		
4	J-5,CP-P1-17		
5	J-6,CP-P1-12		
4	J-7,CP-P1-7		
6	J-8,CP-P2-2		
7	J-9,CP-P2-3		
8	J-10,CP-P2-8		
9	J-11,CP-P1-10		
10	J-12,CP-P1-1		
11	J-13,CP-P2-9		
12	J-14,CP-P2-10		
222	J-15,CP-P1-5		
13	J-16,CP-P1-13		
14	J-17,CP-P2-1		
15	J-18,CP-P1-14		
	ADD WIRES		
16	J-19		
17	J-20		
18	J-21		
19	J-22		
20	J-23		
21	J-24		

ADDITIONAL WIRING

WIRE No.	ADDITIONAL WIRING	CLR	AWG

CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	166908	SDH	SDH	04/28/04
	SEE ECN			

PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (7ATS)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

SUBSIDIARY DISTRIBUTION

AE ☐	AN ☐	AM ☐	AJ ☐	AL ☐	☐	☐	☐	☐
CH ☐	AV ☐	AA ☐	PS ☐	AR ☐	☐	☐	☐	☐
AG ☐	AP ☐	AC ☐	AS ☐	☐	☐	☐	☐	☐

	BY	DATE
DRAWN BY	JPB	12/97
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	12/97

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-005

ASSEM. REF. NO.

COMPUTER GENERATED DRAWING

SCALE 1:1 | ACAD | FILE

SIZE | DWG. NO. | DS617409

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

CHANGE LETTER H | ECN NO. 166908 | SHEET 6 OF 6