THREE PHASE WIRING FOR ASCO® 7000 SERIES AUTOMATIC DELAYED TRANSITION TRANSFER & BYPASS-ISOLATION SWITCHES TYPE H7ADTB RATED 600 - 1200 AMPERES

FEATURES, SETTINGS, OPERATION & 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

(CONTINUED). . .

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. 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 CLOSES 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 14AE & 14BE - TRANSFER SWITCH AUXILIARY POSITION INDICATING CONTACTS. SIX (6) FORM C CONTACTS TO INDICATE CONNECTION OF THE TRANSFER SWITCH TO NORMAL (14A) AND SIX (6) 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 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).

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

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. ○ 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.

BA :

CATALOG TYPE	NEUTRAL TYPE	PHASE POLES	AMPS	VOLT CODE	CONTROLLER	OPTIONAL ACCESSORY	ENCLOSURE CODE
H7ADTB	A B BLANK FOR NONE	3	600 800 1000 1200	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 CODE	NEUTRAL TYPE DESCRIPTION	3 PHASE (3 OR 4 WIRE) 50 OR 60 Hz CODE	NOMINAL VOLTAGE	ENCLOSURE CODES CODE	ENCLOSURE CODES TYPE	ENCLOSURE CODES 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
		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	
		N	480	N	4	
		P	550	P	4X	
		Q	575	Q	12	
		R	600			

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

CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	210450	BWM	BK	10/24/06
	SEE ECN			
G	201421	BWM	BK	08/16/04
	SEE ECN			
F	167206	DJB	WK	06/02/04
	SEE ECN			
E	167040	SDH	SDH	05/11/04
	SEE ECN			
D	166550	BK	BK	03/22/04
	SEE ECN			
C	166148	WK	WK	02/05/04
	SEE ECN			
B	164710	BWM	BK	08/27/03
	SEE ECN			
A	164326	BWM	BK	7/11/03
	SEE ECN			
—	164068	BWM	SDH	6/03
	ISSUE			

PROJECT NAME:
WIRING DIAGRAM
7000 SERIES (H7ADTB)
"H" FRAME, GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

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	BY	DATE
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FINAL APPROVAL	SDH	6/03

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

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CHANGE LETTER H | ECN NO. 210450 | SHEET 1 OF 10

BYPASS SWITCH AUXILIARY CONTACTS

BP AUXILIARY CONTACT	STATUS (*)	BP SWITCH POSITION (AUX3)		
		EMERG	OFF	NORMAL
81–82	●		X	
83–84			X	
85–86	●	X		
87–88	●	X		
89–90	●	X		
91–92		X		
93–94		X		
101–102			X	
103–104			X	
105–106	●		X	
107–108			X	
109–110	●			X
111–112	●			X
113–114				X
115–116				X
117–118				X
125–126			X	
127–128			X	

BYPASS SWITCH OPERATOR AUXILIARY CONTACTS

BP AUXILIARY CONTACT	STATUS (*)	BP HANDLE POSITION (AUX4)	
		EMERG (OUT)	NORMAL (IN)
137–138	●		X
137–139			
140–141	●	X	
140–142			X

BYPASS SWITCH OPERATOR AUXILIARY CONTACTS

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

ISOLATION (TRANSFER SWITCH CARRIAGE POSITION) AUXILIARY CONTACTS

IS AUXILIARY CONTACT	STATUS (*)	TRANSFER SWITCH CARRIAGE POSITION				
		CONNECT	> <	TEST	> <	ISOLATE
1–2	●					X
1–3	●	X	X	X	X	
4–5	●	X	X	X		
4–6	●				X	X
7–8	●	X				
7–9	●		X	X	X	X
10–11	●	X	X	X		
10–12	●				X	X
13–14	●	X				
13–15	●		X	X	X	X
16–17	●	X				
16–18	●		X	X	X	X
19–20	●				X	X
19–21	●	X	X	X		
22–23	●				X	X
22–24	●	X	X	X		
25–26	●				X	X
25–27	●	X	X	X		
28–29	●				X	X
28–30	●	X	X	X		

(*) CONTACT AVAILABILITY STATUS:

"●" CONTACT PROVIDED & USED IN CIRCUITRY

"BLANK" CONTACT NOT USED. IF PHYSICALLY AVAILABLE, CONTACT IS FOR FACTORY USE ONLY!

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THIRD ANGLE PROJECTION

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AG	AP	AC	AS					

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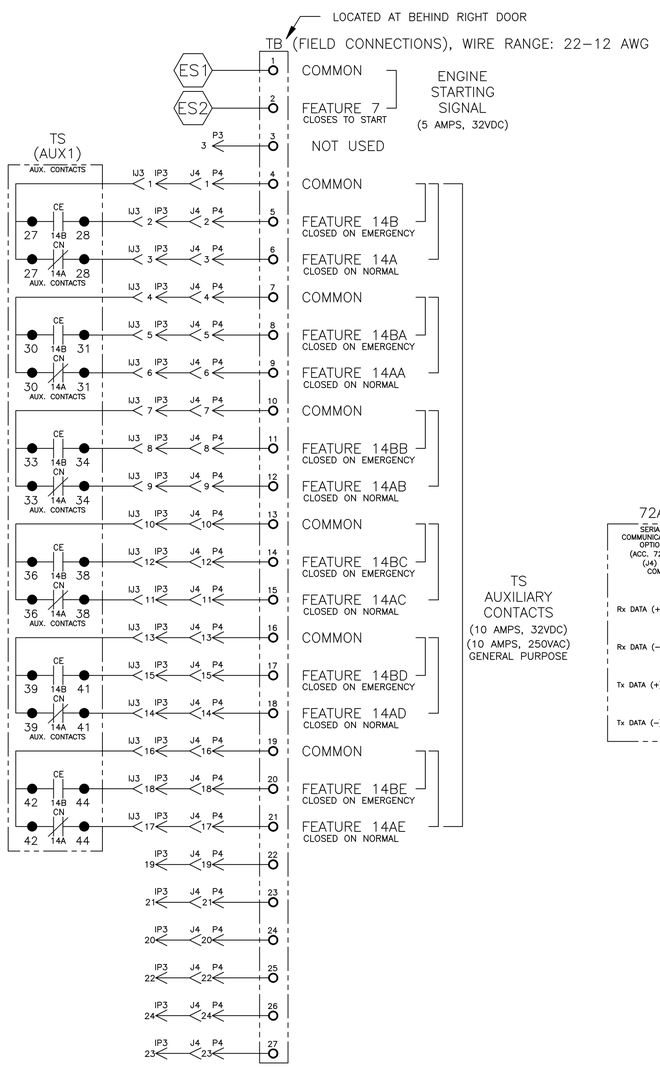
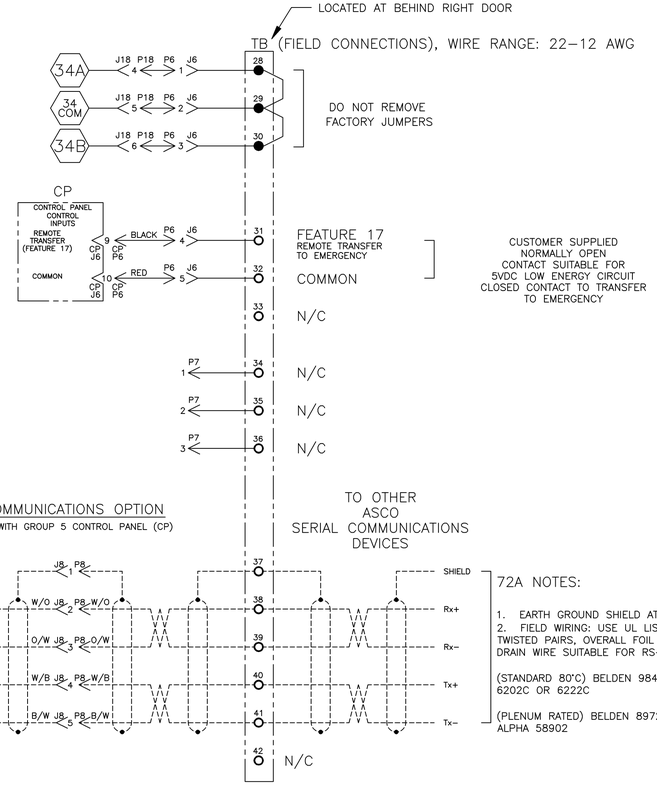
CHANGE LETTER H | ECN NO. 210450

FIELD CONNECTIONS





72A 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

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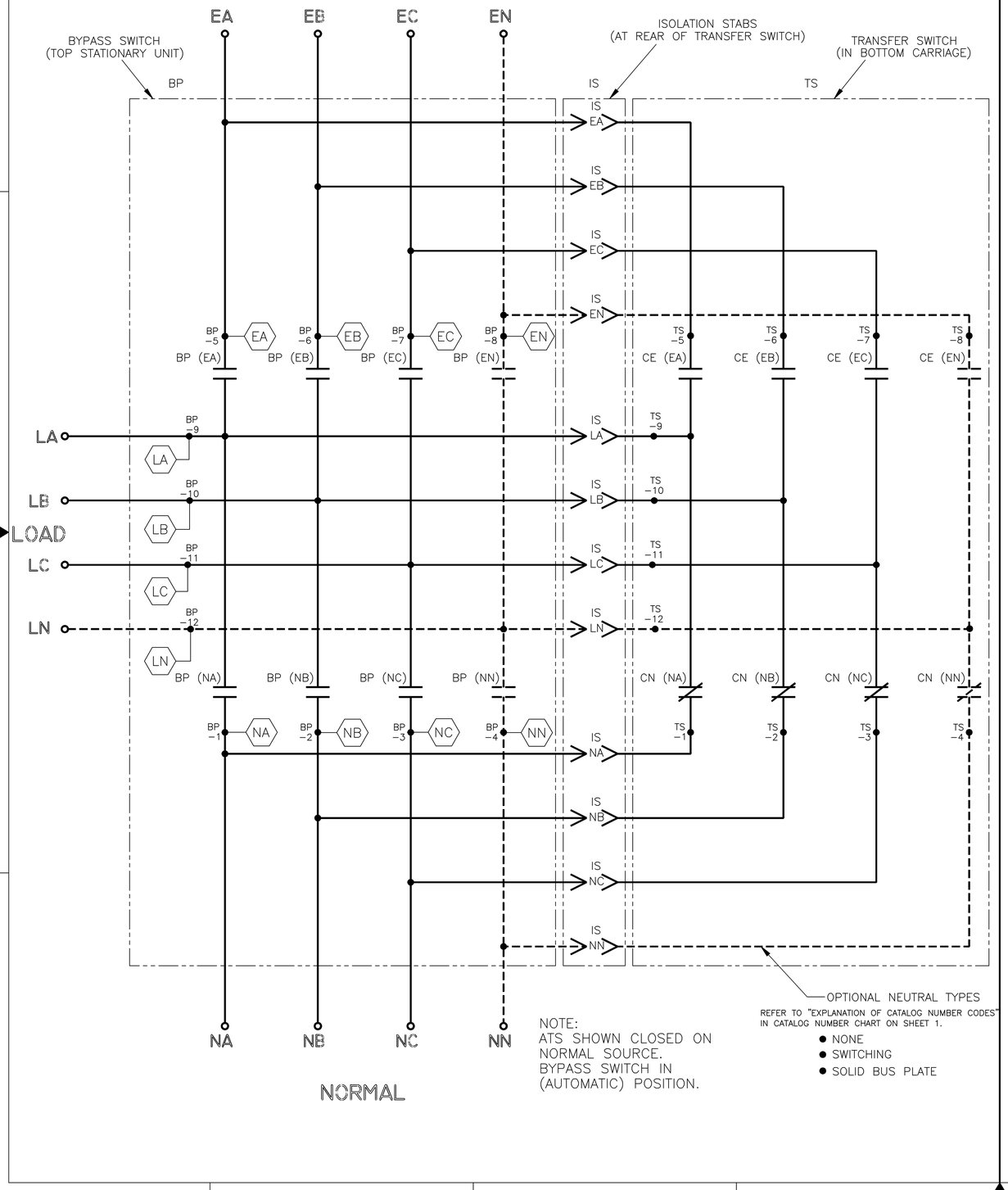
MAIN POWER POLES

EMERGENCY

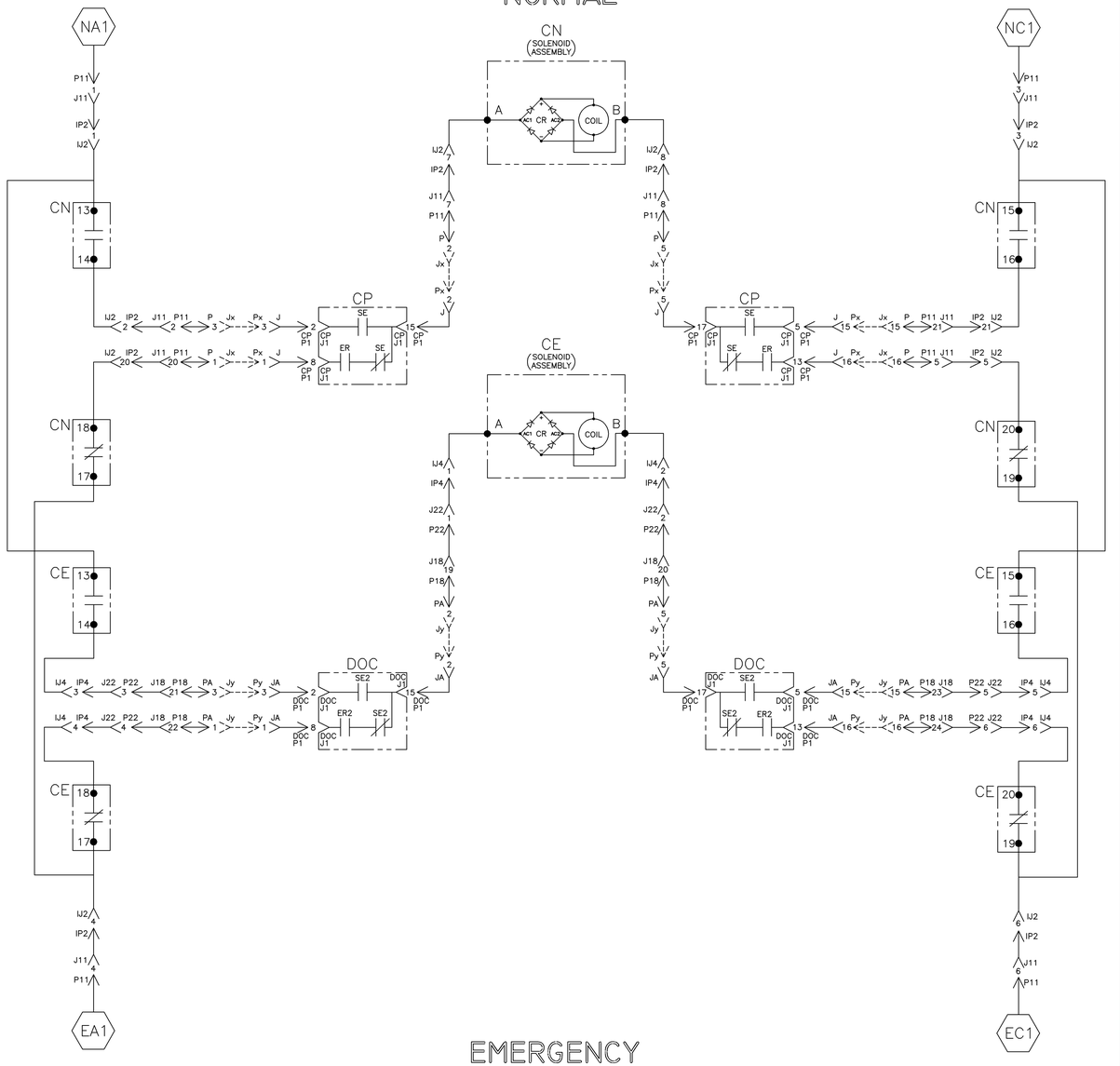


NOTE:
ATS SHOWN CLOSED ON NORMAL SOURCE.
BYPASS SWITCH IN (AUTOMATIC) POSITION.

NORMAL

TS OPERATOR CIRCUIT

NORMAL



EMERGENCY

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

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

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

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

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CHANGE LETTER	ECN NO.	BY	APP.	DATE

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THIRD ANGLE PROJECTION

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DRAFTING APPROVAL		
FINAL APPROVAL	SDH	6/03

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

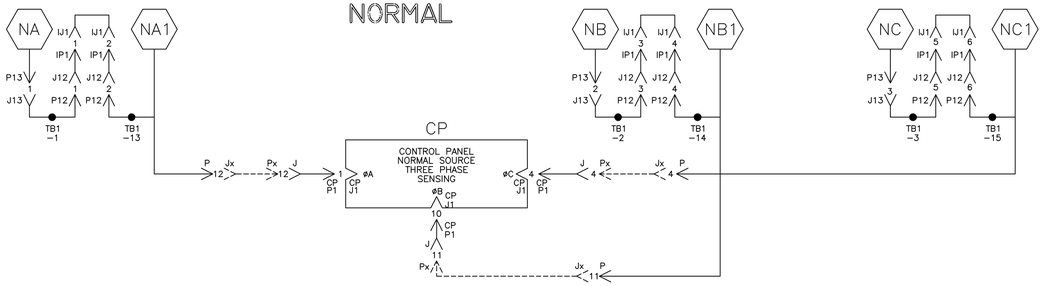
ASCO® ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.

SCALE 1:1 | ACAD | FILE

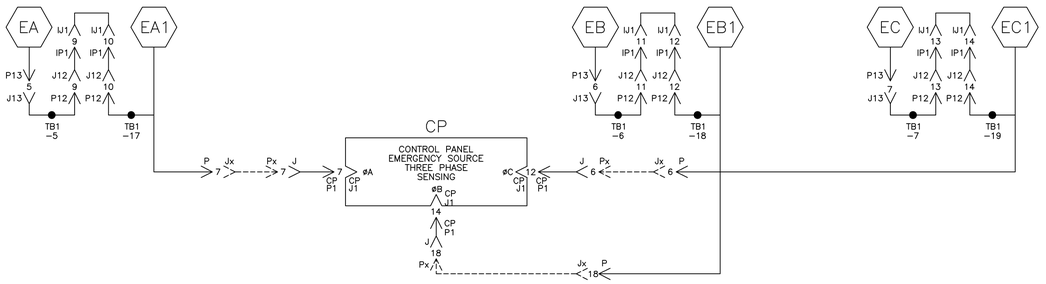
SIZE | DWG. NO.
DS736945

CHANGE LETTER H | ECN NO. 210450 | SHEET 4 OF 10

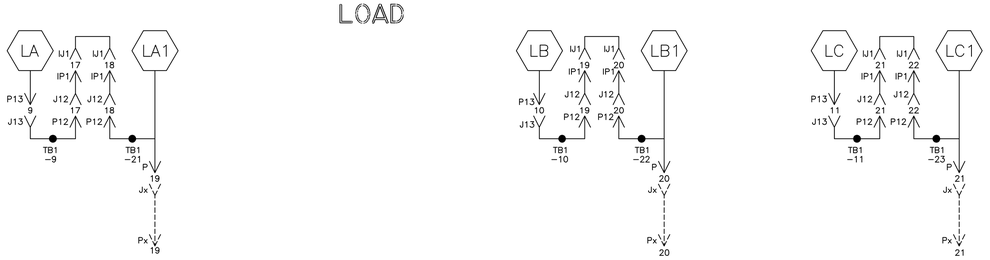
NORMAL SOURCE CIRCUITS



EMERGENCY SOURCE CIRCUITS

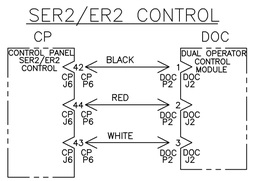


LOAD TERMINAL CIRCUITS

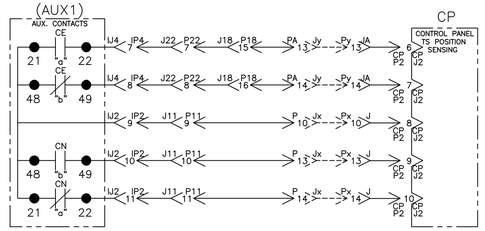


CONTROL SIGNALS & INDICATION

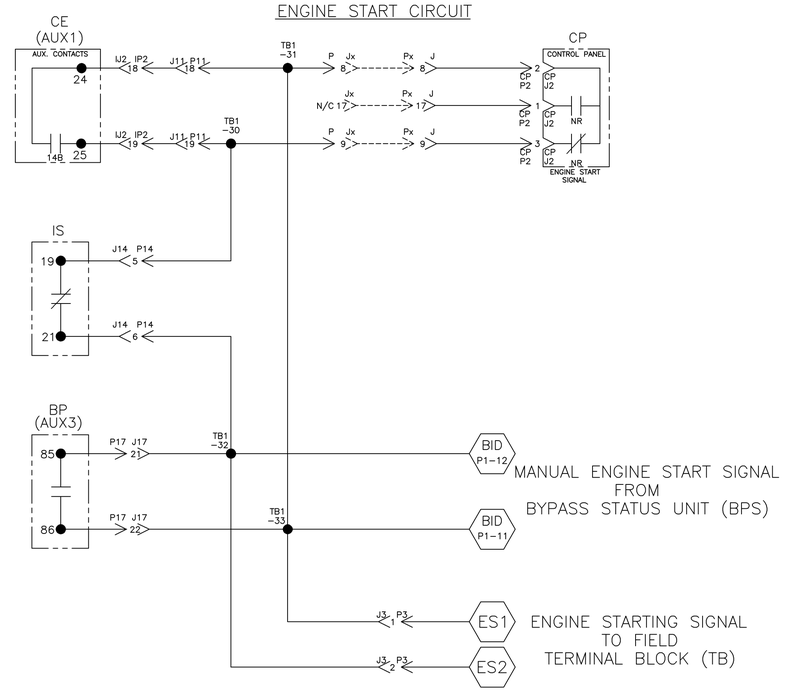
SER2/ER2 CONTROL



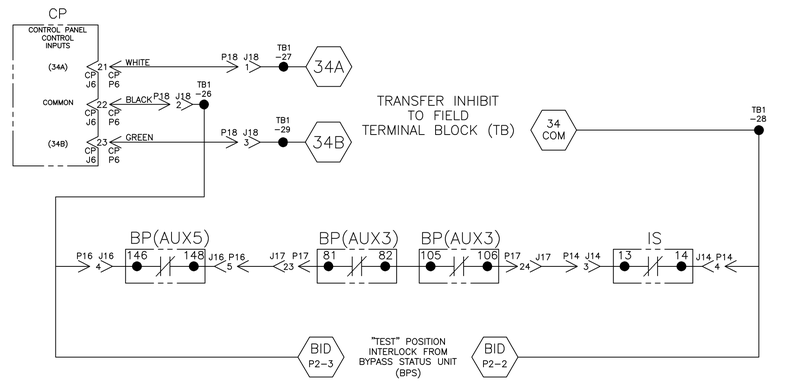
TS POSITION SENSING



ENGINE START CIRCUIT



CONTROL PANEL/BYPASS–ISOLATION INTERLOCKS



H	210450	BWM	BK	10/24/06			
	SEE ECN						
CHANGE LETTER	ECN NO.	BY	APP.	DATE			

PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (H7ADTB)
"H" FRAME, GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

SUBSIDIARY DISTRIBUTION

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

	BY	DATE
DRAWN BY	BWM	6/03
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	6/03

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.

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CHANGE LETTER H | ECN NO. 210450 | SHEET 5 OF 10

ADDITIONAL CIRCUITS

	BY	DATE		
DRAWN BY	BWM	6/03	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055	ASSEM. REF. NO.
CHECKED			PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.	
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PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (H7ADTB)
"H" FRAME, GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	210450	BWM	BK	10/24/06
	SEE ECN			

SUBSIDIARY DISTRIBUTION

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

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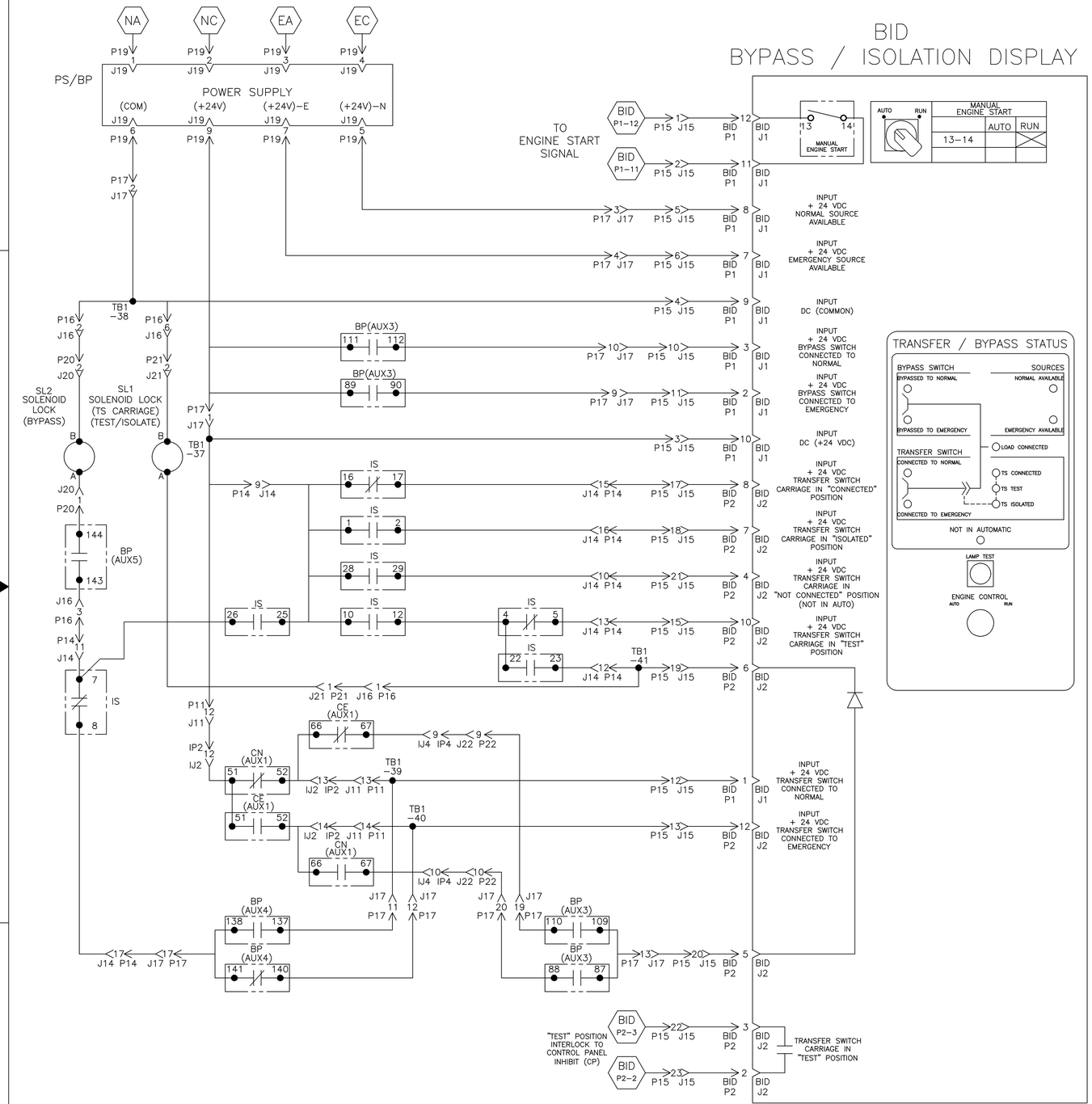
SCALE	1:1	ACAD	FILE
SIZE	DWG. NO.		
	DS736945		
CHANGE LETTER H	ECN NO. 210450	SHEET 6 OF 10	

BYPASS / ISOLATION INTERLOCKING & INDICATION



PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (H7ADTB)
"H" FRAME, GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

	BY	DATE
DRAWN BY	BWM	6/03
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	6/03

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

ASSEM. REF. NO.

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FLORHAM PARK, NEW JERSEY 07932 U.S.A.

CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	210450	BWM	BK	10/24/06
	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. 736945

CHANGE LETTER H
ECN NO. 210450
SHEET 7 OF 10

PHYSICAL DIAGRAM

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.

CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	210450	BWM	BK	10/24/06
	SEE ECN			

PROJECT NAME: WIRING DIAGRAM
7000 SERIES (H7ADTB)
"H" FRAME, GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

	BY	DATE
DRAWN BY	BWM	6/03
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	6/03

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
SIZE DS DWG. NO. 736945
CHANGE LETTER H ECN NO. 210450 SHEET 8 OF 10

WIRE RUN LISTING

①◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 605674-001 (IJ1) TS	CLR	AWG
1	IJ1-1,IJ1-2		16
2	IJ1-3,IJ1-4		
3	IJ1-5,IJ1-6		
4	IJ1-7,IJ1-8		
5	IJ1-9,IJ1-10		
6	IJ1-11,IJ1-12		
7	IJ1-13,IJ1-14		
8	IJ1-15,IJ1-16		
9	IJ1-17,IJ1-18		
10	IJ1-19,IJ1-20		
11	IJ1-21,IJ1-22		
12	IJ1-23,IJ1-24		

②◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 736828-001-A (IJ2) TS	CLR	AWG
1	IJ2-1,CN-13		16
1	CN-13,CE-13		
21	IJ2-2,CN-14		
3	IJ2-3,CN-15		
3	CN-15,CE-15		
5	IJ2-4,CN-17		
5	CN-17,CE-17		
24	IJ2-5,CN-20		
7	IJ2-6,CN-19		
7	CN-19,CE-19		
14	IJ2-7,CN-CR-AC1		
15	IJ2-8,CN-CR-AC2		
28	IJ2-9,CN(AUX1)-48		
28	CN(AUX1)-48,CN(AUX1)-21		
28	CN(AUX1)-21,CE(AUX1)-48		
28	CE(AUX1)-48,CE(AUX1)-21		
30	IJ2-10,CN(AUX1)-49		
29	IJ2-11,CN(AUX1)-22		
31	IJ2-12,CN(AUX1)-51		
31	CN(AUX1)-51,CE(AUX1)-51		
32	IJ2-13,CN(AUX1)-52		
32	CN(AUX1)-52,CE(AUX1)-66		
33	IJ2-14,CN(AUX1)-66		
33	CN(AUX1)-66,CE(AUX1)-52		
35	IJ2-16,CN(AUX1)-47		
36	IJ2-17,CE(AUX1)-47		
120	IJ2-18,CE(AUX1)-24		
38	IJ2-19,CE(AUX1)-25		
39	IJ2-20,CN-18		
40	IJ2-21,CN-16		
319	CN(AUX1)-45,CE(AUX1)-45		
	ADD WIRES		
34	IJ2-15		
41	IJ2-22		
42	IJ2-23		
43	IJ2-24		

③◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 736828-002-A (IJ3) TS	CLR	AWG
50	IJ3-1,CN(AUX1)-27		16
50	CN(AUX1)-27,CE(AUX1)-27		
51	IJ3-2,CE(AUX1)-28		
52	IJ3-3,CN(AUX1)-28		
53	IJ3-4,CN(AUX1)-30		
53	CN(AUX1)-30,CE(AUX1)-30		
54	IJ3-5,CE(AUX1)-31		
55	IJ3-6,CN(AUX1)-31		
56	IJ3-7,CN(AUX1)-33		
56	CN(AUX1)-33,CE(AUX1)-33		
57	IJ3-8,CE(AUX1)-34		
58	IJ3-9,CN(AUX1)-34		
59	IJ3-10,CN(AUX1)-36		
59	CN(AUX1)-36,CE(AUX1)-36		
60	IJ3-11,CN(AUX1)-38		
61	IJ3-12,CE(AUX1)-38		
62	IJ3-13,CN(AUX1)-39		
62	CN(AUX1)-39,CE(AUX1)-39		
63	IJ3-14,CN(AUX1)-41		
64	IJ3-15,CE(AUX1)-41		
65	IJ3-16,CN(AUX1)-42		
65	CN(AUX1)-42,CE(AUX1)-42		
66	IJ3-17,CN(AUX1)-44		
67	IJ3-18,CE(AUX1)-44		
	ADD WIRES		
68	IJ3-19		
69	IJ3-20		
70	IJ3-21		
71	IJ3-22		
72	IJ3-23		
73	IJ3-24		

④◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 736828-003-A (IJ4) TS	CLR	AWG
228	IJ4-1,CE-CR-AC1		16
229	IJ4-2,CE-CR-AC2		
320	IJ4-3,CE-14		
322	IJ4-4,CE-18		
321	IJ4-5,CE-16		
323	IJ4-6,CE-20		
324	IJ4-7,CE(AUX1)-22		
325	IJ4-8,CE(AUX1)-49		
420	IJ4-9,CE(AUX1)-67		
421	IJ4-10,CN(AUX1)-67		
	REMOVE WIRES		
	ADD WIRES		
326	IJ4-11		
327	IJ4-12		
328	IJ4-13		
329	IJ4-14		
330	IJ4-15		
331	IJ4-16		
332	IJ4-17		
333	IJ4-18		
334	IJ4-19		
335	IJ4-20		
336	IJ4-21		
337	IJ4-22		
338	IJ4-23		
339	IJ4-24		

⑤◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 605674-006-A (IP1,J12) STATIONARY FRAME	CLR	AWG
1	IP1-1,J12-1		16
1	IP1-2,J12-2		
2	IP1-3,J12-3		
2	IP1-4,J12-4		
3	IP1-5,J12-5		
3	IP1-6,J12-6		
4	IP1-7,J12-7		
4	IP1-8,J12-8		
5	IP1-9,J12-9		
5	IP1-10,J12-10		
6	IP1-11,J12-11		
6	IP1-12,J12-12		
7	IP1-13,J12-13		
7	IP1-14,J12-14		
8	IP1-15,J12-15		
8	IP1-16,J12-16		
9	IP1-17,J12-17		
9	IP1-18,J12-18		
10	IP1-19,J12-19		
10	IP1-20,J12-20		
11	IP1-21,J12-21		
11	IP1-22,J12-22		
12	IP1-23,J12-23		
12	IP1-24,J12-24		

⑥◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 605674-006-A (IP2,J11) STATIONARY FRAME	CLR	AWG
1	IP2-1,J11-1		16
21	IP2-2,J11-2		
3	IP2-3,J11-3		
5	IP2-4,J11-4		
24	IP2-5,J11-5		
7	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		
	REMOVE WIRES		
	ADD WIRES		

⑦◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 605674-006 (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		
120	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		

⑧◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 605674-006-B (IP4,J22) STATIONARY FRAME	CLR	AWG
228	IP4-1,J22-1		16
229	IP4-2,J22-2		
320	IP4-3,J22-3		
322	IP4-4,J22-4		
321	IP4-5,J22-5		
323	IP4-6,J22-6		
324	IP4-7,J22-7		
325	IP4-8,J22-8		
420	IP4-9,J22-9		
421	IP4-10,J22-10		
	REMOVE WIRES		
	ADD WIRES		
326	IP4-11		
327	IP4-12		
328	IP4-13		
329	IP4-14		
330	IP4-15		
331	IP4-16		
332	IP4-17		
333	IP4-18		
334	IP4-19		
335	IP4-20		
336	IP4-21		
337	IP4-22		
338	IP4-23		
339	IP4-24		

⑨◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☐

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		

⑩◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☒

WIRE No.	HARNESS 736828-003 (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		
177	P17-9,BP(AUX3)-90		
176	P17-10,BP(AUX3)-112		
420	P17-11,BP(AUX3)-110		
420	BP(AUX3)-110,BP(AUX4)-137		
421	P17-12,BP(AUX3)-88		
421	BP(AUX3)-88,BP(AUX4)-140		
149	P17-13,BP(AUX3)-87		
149	BP(AUX3)-87,BP(AUX3)-109		
190	P17-17,BP(AUX4)-138		
190	BP(AUX4)-138,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		
	REMOVE WIRES		
420	P17-11,BP(AUX3)-110		
420	BP(AUX3)-110,BP(AUX4)-137		
421	P17-12,BP(AUX3)-88		
421	BP(AUX3)-88,BP(AUX4)-140		
	ADD WIRES		
26	P13-13		
140	P13-14		
27	P13-15		
340	P13-16		
341	P13-17		
342	P13-18		
343	P13-19		
344	P13-20		
345	P13-21		
346	P13-22		
347	P13-23		
348	P13-24		
173	P17-5		
174	P17-6		
157	P17-7		
175	P17-8		
32	P17-11,BP(AUX4)-137		
33	P17-12,BP(AUX4)-140		
178	P17-14		
152	P17-15		
189	P17-16		
155	P17-18		
420	P17-19,BP(AUX3)-110		
421	P17-20,BP(AUX3)-88		

⑪◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 736828-006 (J14,IS) ISOLATION AUX. CONTACTS	CLR	AWG
150	J14-3,IS-13		16
151	J14-4,IS-14		
33	J14-5,IS-19		
121	J14-6,IS-21		
31	J14-9,IS-10		
152	J14-10,IS-29		
153	J14-11,IS-26		
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		
159	J14-1		
160	J14-2		
156	J14-14		
161	J14-18		
162	J14-19		
163	J14-20		
164	J14-21		
165	J14-22		
166	J14-23		
167	J14-24		

⑫◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☐

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		

⑬◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 736828-005 (J16, P20, P21) BP/IS INTERLOCKS	CLR	AWG
154	J16-1,P21-1		16
170	J16-2,P20-2		
153	J16-3,BP(AUX5)-143		
191	J16-4,BP(AUX5)-146		
32	J16-5,BP(AUX5)-148		
170	J16-6,P21-2		
192	BP(AUX5)-144,P20-1		

⑭◄— HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☒

WIRE No.	HARNESS 736828-004-A (PA,P6,P18,CP-P6,DOC-P2,TFR) INTERNAL CONTROL & FIELD INPUTS	CLR	AWG
210	P18-1,CP-P6-21	WHT	22 (4 COND)
191	P18-2,CP-P6-22	BLK	
211	P18-3,CP-P6-23	GRN	
210	P18-4,P6-1		16
151	P18-5,P6-2		
211	P18-6,P6-3		
324	P18-15,PA-13		
325	P18-16,PA-14		
36	P18-17,PA-17		
35	P18-18,PA-18		
228	P18-19,PA-2		
229	P18-20,PA-5		
320	P18-21,PA-3		
322	P18-22,PA-1		
321	P18-23,PA-15		
323	P18-24,PA-16		
243	P6-4,CP-P6-9	BLK	22 (2 COND)
244	P6-5,CP-P6-10	RED	
313	CP-P6-42,DOC-P2-1	BLK	22 (4 COND)
314	CP-P6-44,DOC-P2-2	RED	
315	CP-P6-43,DOC-P2-3	WHT	
316	CP-P6-24,DOC-P2-6	GRN	
318	CP-P6-40,TFR-A	BLK	22 (2 COND)
317	CP-P6-41,TFR-B	RED	
			16
	REMOVE WIRES		
316	CP-P6-24,DOC-P2-6	GRN	
318	CP-P6-40,TFR-A	BLK	
317	CP-P6-41,TFR-B	RED	
	ADD WIRES		
215	P18-7		
216	P18-8		
217	P18-9		
218	P18-10		
219	P18-11		
220	P18-12		
221	P18-13		
222	P18-14		
245	P6-6		
246	P6-7		
247	P6-8		
248	P6-9		
249	P6-10		
250	P6-11		
251	P6-12		
252	P6-13		
253	P6-14		
254	P6-15		
255	P6-16		
256	P6-17		
257	P6-18		
258	P6-19		
259	P6-20		
260	P6-21		
261	P6-22		
262	P6-23		
263	P6-24		

⑮◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 619385 (JA,CP-P2,DOC-P1) DOC	CLR	AWG
228	JA-2,DOC-P1-15		16
320	JA-3,DOC-P1-2		
322	JA-1,DOC-P1-8		
323	JA-16,DOC-P1-13		
321	JA-15,DOC-P1-5		
229	JA-5,DOC-P1-17		
324	JA-13,CP-P2-6	PIN	
325	JA-14,CP-P2-7	PIN	
	REMOVE WIRES		
	ADD WIRES		
340	JA-4		
341	JA-6		
342	JA-7		
343	JA-8		
344	JA-9		
345	JA-10		
346	JA-11		
347	JA-12		
36	JA-17		
35	JA-18		
348	JA-19		
349	JA-20		
350	JA-21		
351	JA-22		
352	JA-23		
353	JA-24		

⑯◄—HARNESS LOCATOR

BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 309320-006 (P,J) CONTROL PANEL EXTENSION	CLR	AWG
310	P-1,J-1		16
1	P-2,J-2		
21	P-3,J-3		
3	P-4,J-4		
5	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		
26	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		

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PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (H7ADTB)
"H" FRAME, GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

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WIRE RUN LISTING

(17) 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
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		

(17) 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		
340	J13-16		
341	J13-17		
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,P22-9		
421	J17-20,P22-10		
215	J18-7		
216	J18-8		
217	J18-9		
218	J18-10		
219	J18-11		
220	J18-12		
221	J18-13		
222	J18-14		
324	J18-15,P22-7		
325	J18-16,P22-8		
36	J18-17		
35	J18-18		
227	J18-19,P22-1		
228	J18-20,P22-2		
320	J18-21,P22-3		
322	J18-22,P22-4		
321	J18-23,P22-5		
323	J18-24,P22-6		

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

WIRE No.	HARNESS 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		
	ADD WIRES		
123	P3-4		
245	J6-6		
246	J6-7		
247	J6-8		
248	J6-9		
249	J6-10		
250	J6-11		
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		

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

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		

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

WIRE No.	HARNESS 605454-005 (J8) OPTIONAL SERIAL I/O	CLR	AWG
300	J8-1,72A-5	SHLD	22 (4 COND) SHIELDED TTP
301	J8-2,72A-1	WHT/ORG	
302	J8-3,72A-2	ORG/WHT	
303	J8-4,72A-3	WHT/BLU	
304	J8-5,72A-4	BLU/WHT	
305	J8-6		
306	J8-7		
307	J8-8		
308	J8-9		

(21) 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	22 (4 COND) SHIELDED TTP
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		

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

WIRE No.	HARNESS 483763 (J,CP-P1,CP-P2) CONTROL PANEL	CLR	AWG
39	J-1,CP-P1-8		16
14	J-2,CP-P1-15		
21	J-3,CP-P1-2		
3	J-4,CP-P1-4		
15	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		

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

WIRE No.	HARNESS 309320-005 OPTIONAL 8 IN. EXTENSION HARNESS	CLR	AWG
39	Jx-1,Px-1		16
14	Jx-2,Px-2		
21	Jx-3,Px-3		
3	Jx-4,Px-4		
15	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		

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

WIRE No.	HARNESS 309320-005 OPTIONAL 8 IN. EXTENSION HARNESS	CLR	AWG
322	Jy-1,Py-1		16
228	Jy-2,Py-2		
320	Jy-3,Py-3		
340	Jy-4,Py-4		
229	Jy-5,Py-5		
341	Jy-6,Py-6		
342	Jy-7,Py-7		
343	Jy-8,Py-8		
344	Jy-9,Py-9		
345	Jy-10,Py-10		
346	Jy-11,Py-11		
347	Jy-12,Py-12		
324	Jy-13,Py-13		
325	Jy-14,Py-14		
321	Jy-15,Py-15		
323	Jy-16,Py-16		
36	Jy-17,Py-17		
35	Jy-18,Py-18		
348	Jy-19,Py-19		
349	Jy-20,Py-20		
350	Jy-21,Py-21		
351	Jy-22,Py-22		
352	Jy-23,Py-23		
353	Jy-24,Py-24		

WIRE No.	ADDITIONAL WIRING	CLR	AWG
192	J20-1,SL2-A		16
170	J20-2,SL2-B		
154	J21-1,SL1-A		
170	J21-2,SL1-B		
26	CN-CR-(+),CN-COIL-BLK1		
27	CN-CR-(-),CN-COIL-BLK2		
230	CE-CR-(+),CE-COIL-BLK1		
231	CE-CR-(-),CE-COIL-BLK2		

WIRE No.	ADDITIONAL WIRING	CLR	AWG
			16

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PROJECT NAME:

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"H" FRAME, GROUP 5 CONTROLS

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