

THREE PHASE WIRING FOR ASCO® 7000 SERIES AUTOMATIC TRANSFER SWITCHES TYPE J7ATS RATED 260, 400, & 600 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 | 1-31 |
| YEAR | 00-99 | 00-99 |
| HOUR | 0-23 | 0-23 |
| MINUTE | 0-59 | 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 CLOSING 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) 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.

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 | | | | EXPLANATION OF CATALOG NUMBER CODES | | | | | |
|---------------------|--------------|--------------|-------------|-------------------------|------------------------------------------------|------------|--------------------|-------------------------------------|--------------|-------------------------------------------------|-----------------|------|-------------------------------------------------------|
| TS FRAME | 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 | | |
| | | | | | | | | | CODE | DESCRIPTION | CODE | TYPE | DESCRIPTION |
| | | | | | C D E F | | | | BLANK | NONE | | 1 | OPEN TYPE (NO ENCLOSURE) |
| | | | | | G H J K L M N P Q R | | | | A | SOLID | C | 2 | GENERAL PURPOSE, INDOOR |
| | | | | | | | | | B | SWITCHING | E | 3R | INDOOR, WATER & DUST RESISTANT |
| | | | | | | | | | C | OVERLAPPING | F | 4 | INDOOR, RAINPROOF, SLEET & ICE RESISTANT |
| | | | | | | | | | | | G | 4X | INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT |
| | | | | | | | | | | | H | 4X | OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT |
| | | | | | | | | | | | I | 4X | INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT |
| | | | | | | | | | | | J | 7 | TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL) |
| | | | | | | | | | | | K | 7 | TYPE 4 PLUS CORROSION RESISTANCE (FIBERGLASS) |
| | | | | | | | | | | | L | 12 | EXPLOSION PROOF |
| | | | | | | | | | | | | | INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT |
| | | | | | | | | | | | | | (SECURE ENCLOSURES) |
| | | | | | | | | | | | M | 3R | OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT |
| | | | | | | | | | | | N | 4 | INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT |
| | | | | | | | | | | | P | 4X | INDOOR, RAINPROOF, SLEET & ICE RESISTANT |
| | | | | | | | | | | | Q | 12 | TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL) |
| | | | | | | | | | | | R | 12 | INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT |

CATALOG NUMBER _____

ASCO® CERTIFIED TO S.O. _____

BY _____ DATE _____

FORM REV A

PROJECT NAME: _____

WIRING DIAGRAM
7000 SERIES (J7ATS)
GROUP 5 CONTROLS

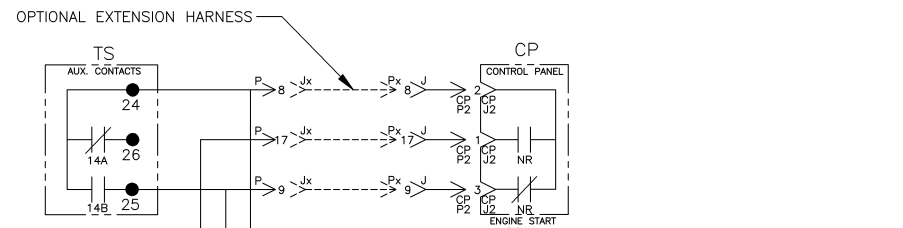
MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005.

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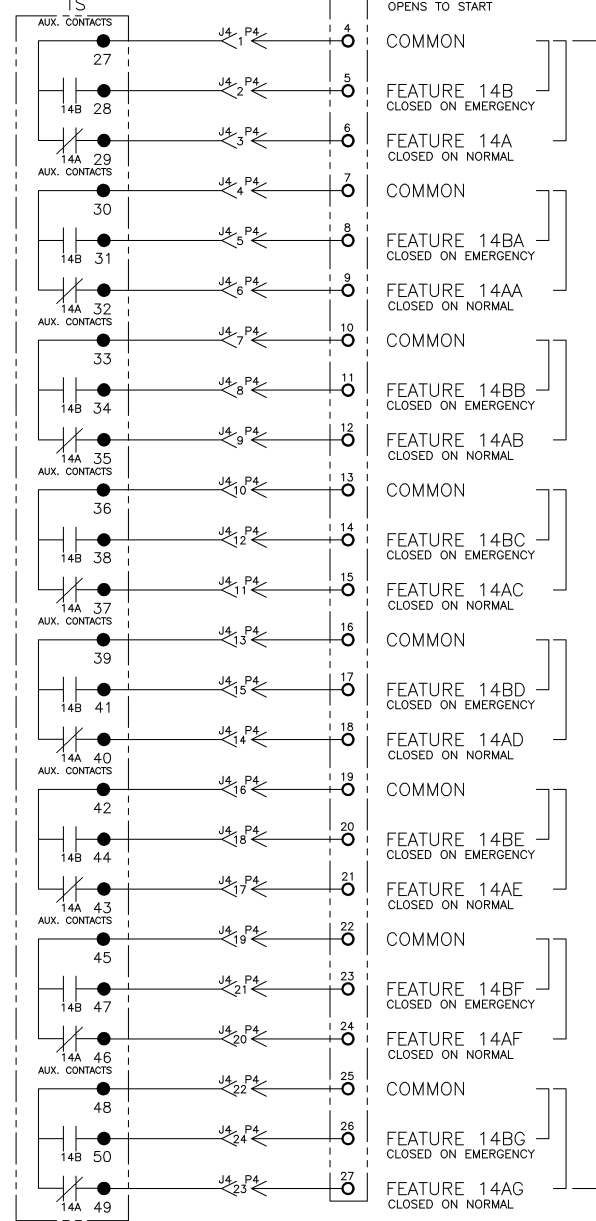
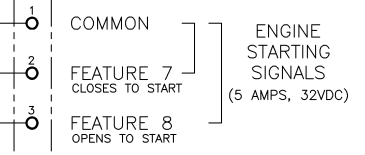
ASCO POWER TECHNOLOGIES, L.P.
FLORHAM PARK, NEW JERSEY 07932 U.S.A.

| | | | | |
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| | | | | SEE ECN |
| | 204020 | BWM | SDH | 4/05 |
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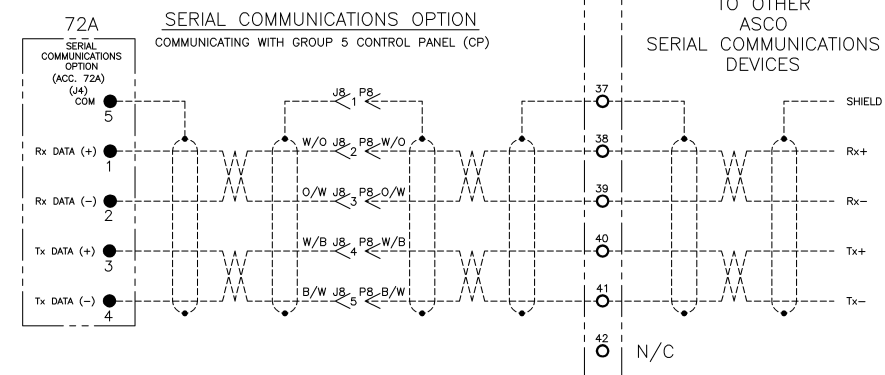
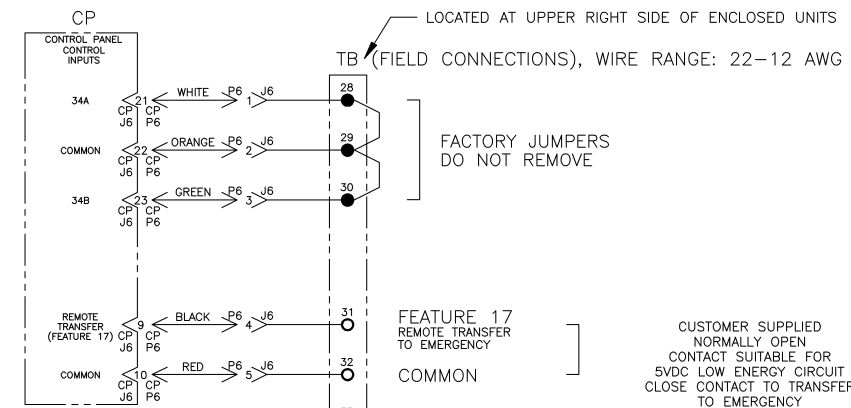
FIELD CONNECTIONS



LOCATED AT UPPER RIGHT SIDE OF ENCLOSED UNITS
 TB (FIELD CONNECTIONS), WIRE RANGE: 22-12 AWG



TS AUXILIARY CONTACTS (10 AMPS, 32VDC) (10 AMPS, 250VAC) GENERAL PURPOSE



| | | | | |
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| FINAL APPROVAL | SDH | 4/05 | SCALE | 1:1 |
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| | | | | SHEET 2 OF 6 |

PROJECT NAME: WIRING DIAGRAM
 7000 SERIES (J7ATS) GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

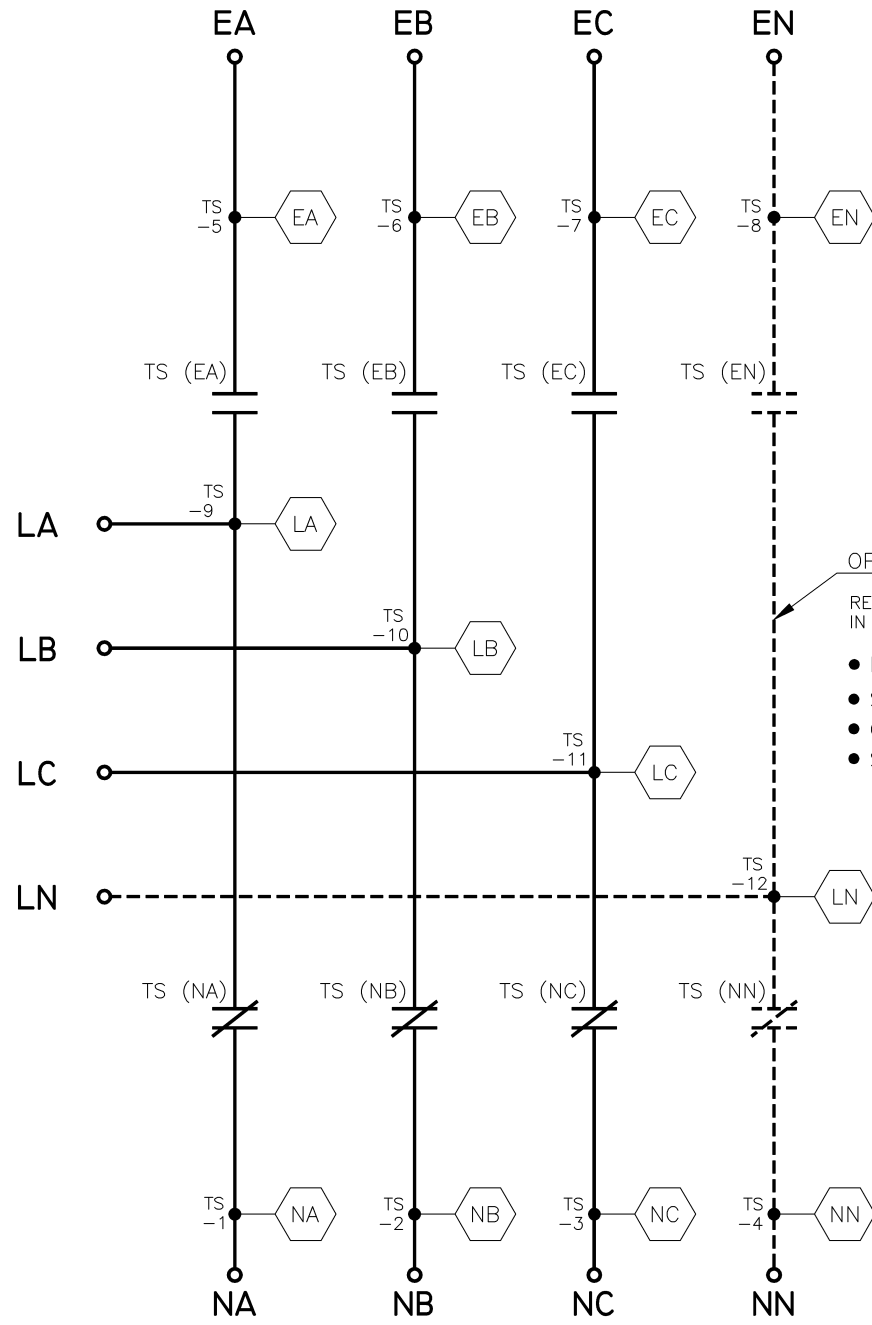


MAIN POWER POLES

TS OPERATOR CIRCUIT

EMERGENCY

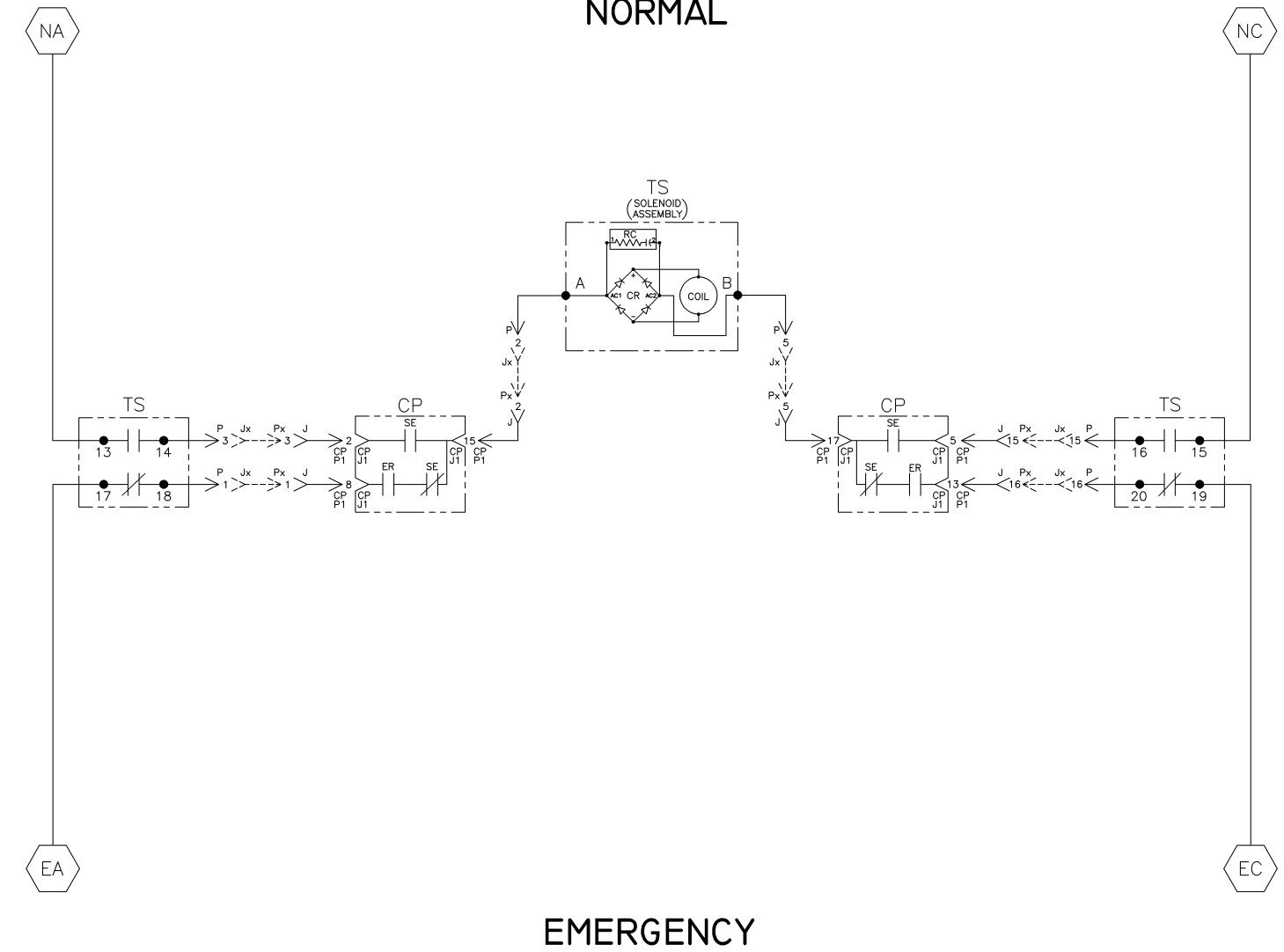
NORMAL



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

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

NOTE:
 ATS SHOWN CLOSED ON NORMAL SOURCE.



EMERGENCY

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

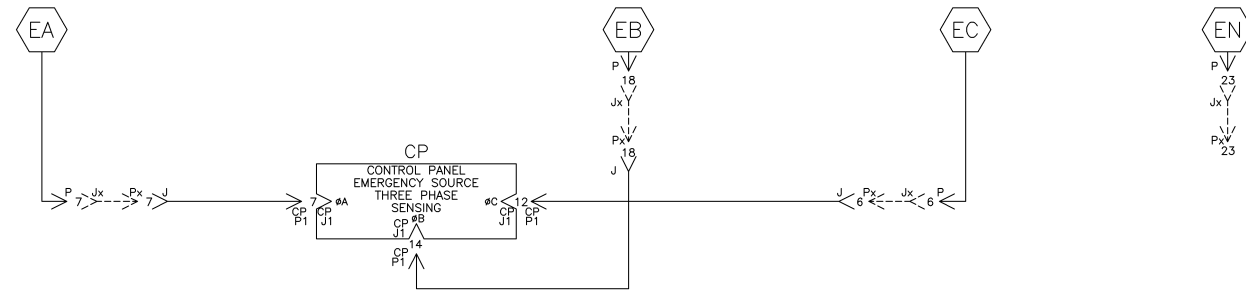
TDC (TOP DEAD CENTER)
 TRANSFER SWITCH TEST & ADJUSTMENT PROCEDURE
 SPECIFICS CONTROL CUT-OFF (CONTACT OPENING)
 SETTING.

| | | | | | |
|--------------------------------------|------|-----------------------------------------------------------------------------------------------------------|-----------------|---------------------------------------|----------|
| PROJECT NAME: | | WIRING DIAGRAM | | THIRD ANGLE PROJECTION | |
| 7000 SERIES (J7ATS) GROUP 5 CONTROLS | | ASCO POWER TECHNOLOGIES, LP. | | FLORHAM PARK, NEW JERSEY 07932 U.S.A. | |
| BY | DATE | MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005 | ASSEM. REF. NO. | COMPUTER GENERATED DRAWING | |
| DRAWN BY | BWM | 4/05 | | SCALE | 1:1 |
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| CHANGE LETTER | | ECN NO. | | ASCO | |
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| BY | | DATE | | SHEET | |
| BWM | | 5/05 | | 3 OF 6 | |

EMERGENCY SOURCE CIRCUITS

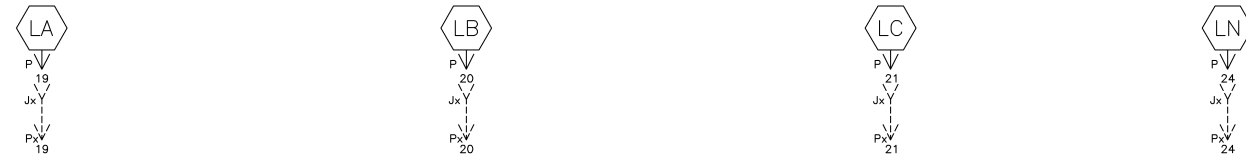
ADDITIONAL CIRCUITS

EMERGENCY



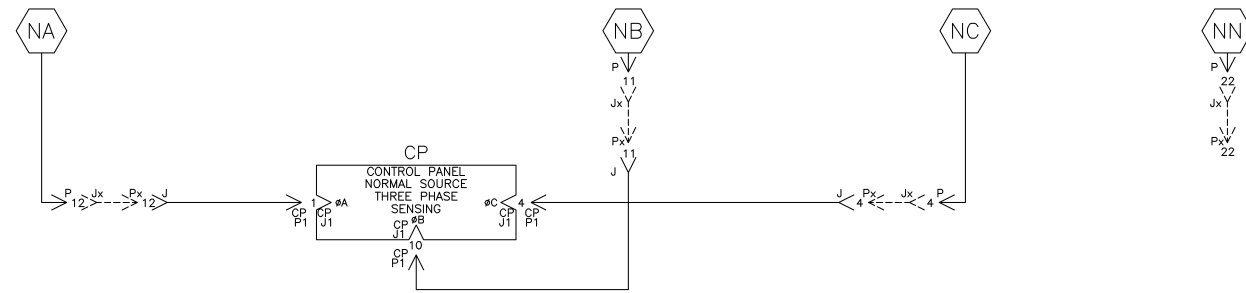
LOAD TERMINAL CIRCUITS

LOAD

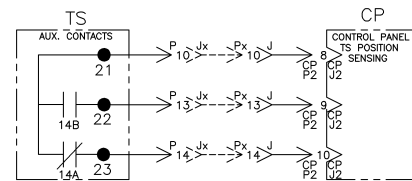


NORMAL SOURCE CIRCUITS

NORMAL



CONTROL CIRCUITS



| | | | | | |
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| PROJECT NAME: | | WIRING DIAGRAM | | THIRD ANGLE PROJECTION | |
| 7000 SERIES (J7ATS) GROUP 5 CONTROLS | | MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005. | | ASSEM. REF. NO. | |
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| SIZE: DWG. NO. DS 775443 | | CHANGE LETTER: A | | ECN NO.: 204462 | |
| DRAWN BY: BWM | | DATE: 4/05 | | SHEET NO.: 4 OF 6 | |

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| — | 204020 | BWM | SDH | 4/05 |
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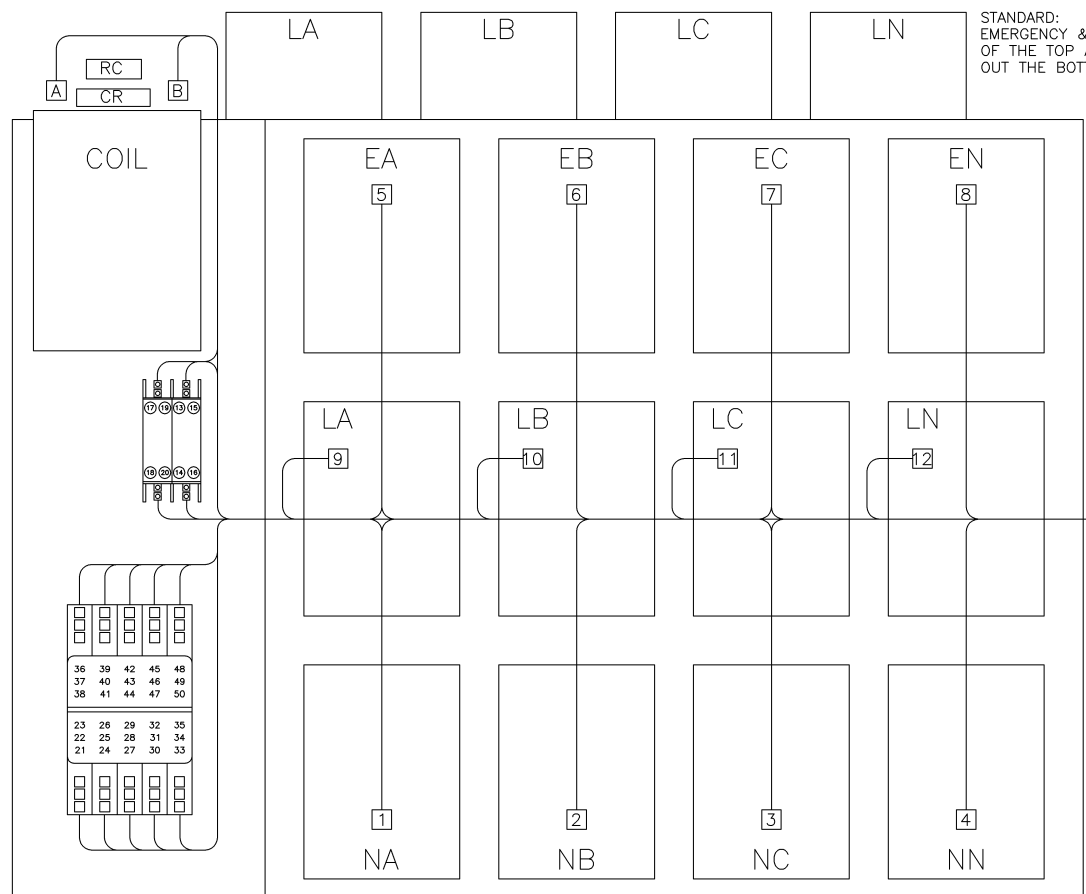
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PHYSICAL DIAGRAM

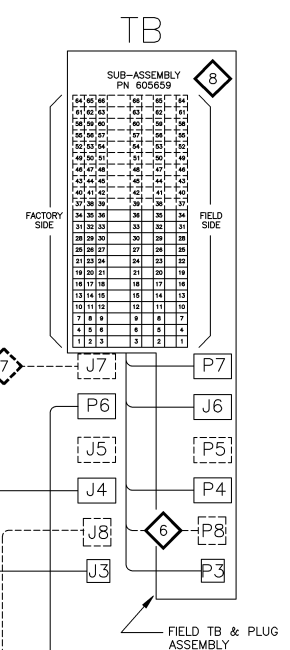
ENCLOSURE

TS (TRANSFER SWITCH)
VIEW FROM INSIDE FRONT

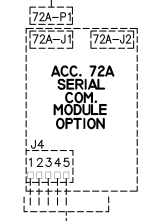
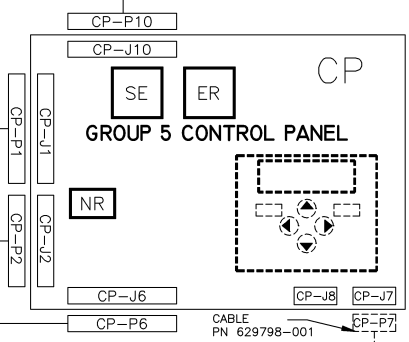
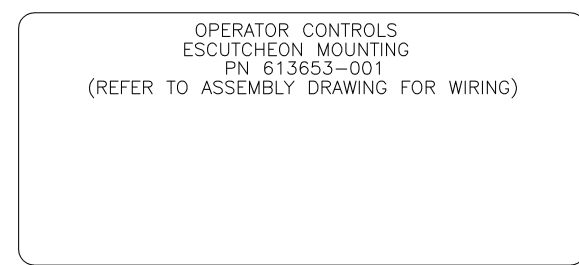
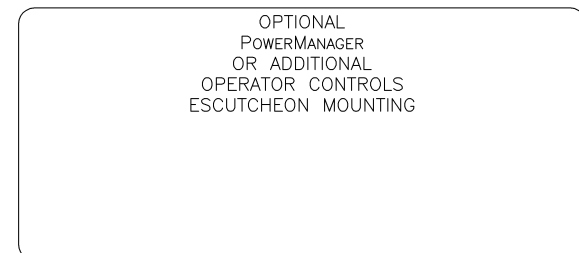


STANDARD:
EMERGENCY & LOAD OUT
OF THE TOP AND NORMAL
OUT THE BOTTOM.

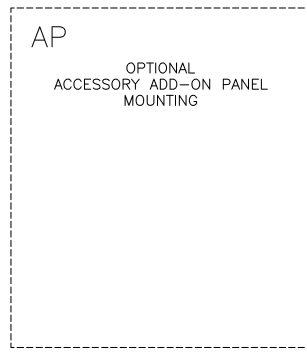
OPTIONAL:
EMERGENCY OUT OF THE TOP
AND NORMAL & LOAD
OUT THE BOTTOM.
*NOT AVAILABLE ON 600 AMP UNITS.



TOP DOOR (INSIDE)



ASCO OPTIONAL
SERIAL COMMUNICATION
DEVICE



DOOR HINGE

BONDING STRAP
PN 098323-019

| | | | | | |
|--------------------------------------|------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------------|
| PROJECT NAME: | | WIRING DIAGRAM | | THIRD ANGLE PROJECTION | |
| 7000 SERIES (J7ATS) GROUP 5 CONTROLS | | COMPUTER GENERATED DRAWING | | SCALE: 1:1 ACAD FILE | |
| BY | DATE | MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005. | | ASSEM. REF. NO. | |
| DRAWN BY | BWM | 4/05 | PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED. | | SIZE |
| CHECKED | | | ASCO POWER TECHNOLOGIES, L.P. | | DWG. NO. |
| DRAFTING APPROVAL | | | FLORHAM PARK, NEW JERSEY 07932 U.S.A. | | DS 775443 |
| FINAL APPROVAL | SDH | 4/05 | CHANGE LETTER A | | ECN NO. 204462 SHEET 5 OF 6 |

| | | | | |
|-------------------------|--------|-----|-----|------|
| A | 204462 | BWM | SDH | 5/05 |
| — | 204020 | BWM | SDH | 4/05 |
| SUBSIDIARY DISTRIBUTION | | | | |
| AE | AN | AM | AJ | AL |
| CH | AV | AA | PS | AR |
| AG | AP | AC | AS | |

WIRE RUN LISTING

| ← HARNESS LOCATOR | | BOX CHECKED IF HARNESS IS MODIFIED | |
|-------------------|--------------------------------------|------------------------------------|-----|
| WIRE No. | HARNESS 619510-062 (P,J3,J4) MAIN TS | CLR | AWG |
| 1 | P-1,TS-18 | | 18 |
| 2 | P-2,TS-A | | |
| 3 | P-3,TS-14 | | |
| 4 | P-4,TS-3 | | |
| 5 | TS-3,TS-15 | | |
| 6 | P-5,TS-B | | |
| 7 | P-6,TS-7 | | |
| 8 | TS-7,TS-19 | | |
| 9 | P-7,TS-5 | | |
| 10 | TS-5,TS-17 | | |
| 11 | P-8,TS-24 | | |
| 12 | TS-24,J3-1 | | |
| 13 | P-9,TS-25 | | |
| 14 | TS-25,J3-2 | | |
| 15 | P-10,TS-21 | | |
| 16 | P-11,TS-2 | | |
| 17 | P-12,TS-1 | | |
| 18 | TS-1,TS-13 | | |
| 19 | P-13,TS-22 | | |
| 20 | P-14,TS-23 | | |
| 21 | P-15,TS-18 | | |
| 22 | P-16,TS-20 | | |
| 23 | P-17,J3-3 | | |
| 24 | P-18,TS-6 | | |
| 25 | P-19,TS-9 | | |
| 26 | P-20,TS-10 | | |
| 27 | P-21,TS-11 | | |
| 28 | P-22,TS-4 | | |
| 29 | P-23,TS-8 | | |
| 30 | P-24,TS-12 | | |
| 31 | J4-1,TS-27 | | |
| 32 | J4-2,TS-28 | | |
| 33 | J4-3,TS-29 | | |
| 34 | J4-4,TS-30 | | |
| 35 | J4-5,TS-31 | | |
| 36 | J4-6,TS-32 | | |
| 37 | J4-7,TS-33 | | |
| 38 | J4-8,TS-34 | | |
| 39 | J4-9,TS-35 | | |
| 40 | J4-10,TS-36 | | |
| 41 | J4-11,TS-37 | | |
| 42 | J4-12,TS-38 | | |
| 43 | J4-13,TS-39 | | |
| 44 | J4-14,TS-40 | | |
| 45 | J4-15,TS-41 | | |
| 46 | J4-16,TS-42 | | |
| 47 | J4-17,TS-43 | | |
| 48 | J4-18,TS-44 | | |
| 49 | J4-19,TS-45 | | |
| 50 | J4-20,TS-46 | | |
| 51 | J4-21,TS-47 | | |
| 52 | J4-22,TS-48 | | |
| 53 | J4-23,TS-49 | | |
| 54 | J4-24,TS-50 | | |
| ADD WIRES | | | |
| 97 | J3-4 | | |

| ← HARNESS LOCATOR | | BOX CHECKED IF HARNESS IS MODIFIED | |
|-------------------|--------------------------------------------------|------------------------------------|-----|
| WIRE No. | HARNESS 309320-005 OPTIONAL 8" EXTENSION HARNESS | 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 | | |

| ← HARNESS LOCATOR | | BOX CHECKED IF HARNESS IS MODIFIED | |
|-------------------|-----------------------------------------------|------------------------------------|-----|
| WIRE No. | HARNESS (J7) OPTIONAL FIELD OUTPUTS ADD WIRES | CLR | AWG |
| 73 | J7-1 | | 16 |
| 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 | | |

| WIRE No. | ADDITIONAL WIRING | CLR | AWG |
|----------|-------------------|-----|-----|
| | | | 16 |

| ← HARNESS LOCATOR | | BOX CHECKED IF HARNESS IS MODIFIED | |
|-------------------|----------------------------------------------|------------------------------------|-----|
| WIRE No. | HARNESS 483763 (J,CP-P1,CP-P2) CONTROL PANEL | 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 | | |

| ← HARNESS LOCATOR | | BOX CHECKED IF HARNESS IS MODIFIED | |
|-------------------|---------------------------------------------|------------------------------------|---------|
| WIRE No. | HARNESS 605454-005 (J8) OPTIONAL SERIAL I/O | CLR | AWG |
| 98 | J8-1,72A-5 | SHLD | 22 COND |
| 99 | J8-2,72A-1 | WHT/ORG | |
| 100 | J8-3,72A-2 | DRG/WHI | |
| 101 | J8-4,72A-3 | WHT/BLU | |
| 102 | J8-5,72A-4 | BLU/WHI | |
| ADD WIRES | | | |
| 103 | J8-6 | | |
| 104 | J8-7 | | |
| 105 | J8-8 | | |
| 106 | J8-9 | | |

| ← HARNESS LOCATOR | | BOX CHECKED IF HARNESS IS MODIFIED | |
|-------------------|----------------------------------------------------|------------------------------------|-----|
| WIRE No. | SUB-ASSEMBLY 605659 (P3,P4,J6,P7,TB) STD. FIELD TB | 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 | | |

| WIRE No. | ADDITIONAL WIRING | CLR | AWG |
|----------|-------------------|-----|-----|
| 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 | | |

| ← HARNESS LOCATOR | | BOX CHECKED IF HARNESS IS MODIFIED | |
|-------------------|------------------------------------------------|------------------------------------|---------|
| WIRE No. | HARNESS 605454-007 (P8,TB) OPTIONAL SERIAL I/O | CLR | AWG |
| 98 | P8-1,TB-37 | SHLD | 22 COND |
| 99 | P8-2,TB-38 | WHT/ORG | |
| 100 | P8-3,TB-39 | DRG/WHI | |
| 101 | P8-4,TB-40 | WHT/BLU | |
| 102 | P8-5,TB-41 | BLU/WHI | |
| ADD WIRES | | | |
| 103 | P8-6 | | |
| 104 | P8-7 | | |
| 105 | P8-8 | | |
| 106 | P8-9 | | |

| | | | |
|------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------|--|
| PROJECT NAME: | | 204462 BWM SDH 5/05 | |
| DRAWN BY: | | BWM 4/05 | |
| CHECKED: | | SDH 4/05 | |
| DRAFTING APPROVAL: | | | |
| FINAL APPROVAL: | | | |
| WIRING DIAGRAM | | 7000 SERIES (J7ATS) GROUP 5 CONTROLS | |
| 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. | |
| SCALE: 1:1 | | ACAD FILE | |
| SIZE: DWG. NO. DS 775443 | | ECON. REF. NO. 204462 | |
| CHANGE LETTER A | | ECON. NO. 204462 | |
| SHEET 6 OF 6 | | SHEET 6 OF 6 | |