SINGLE PHASE WIRING FOR ASCO® SERIES 300 AUTOMATIC TRANSFER SWITCHES RATED 30, 70, 104, 150, 200, & 230 AMPERES WITH GROUP I CONTROLS

CONTROL FEATURES

VOLTAGE AND FREQUENCY SENSING

A. DIFFERENTIAL TYPE VOLTAGE SENSING ON ALL PHASES OF NORMAL SOURCE. DROPOUT SETTING SELECTABLE AT 90, 85, 80 OR 70% OF NOMINAL. FACTORY SET AT 85%. PICKUP VOLTAGE ADJUSTABLE AT 90 OR 95% OF NOMINAL. (DEFAULT IS 95% IF DROPOUT IS SET TO 90%). FACTORY SET AT 90%. (REFER TO THE OPERATOR'S MANUAL FURNISHED WITH EACH TRANSFER SWITCH REGARDING CONTROL PANEL SETTINGS).

B. SINGLE PHASE VOLTAGE SENSING OF EMERGENCY SOURCE. NON-ADJUSTABLE DROPOUT SETTING AT 75% OF NOMINAL. NON-ADJUSTABLE PICKUP SETTING AT 90% OF NOMINAL.

C. FREQUENCY SENSING OF EMERGENCY SOURCE. NON-ADJUSTABLE DROPOUT SETTING AT 85% OF NOMINAL. NON-ADJUSTABLE PICKUP SETTING AT 95% OF NOMINAL.

TIME DELAYS

A. MOMENTARY NORMAL SOURCE OUTAGE DELAY — ACTIVATED WHEN THE NORMAL SOURCE FAILS. DEACTIVATED WHEN THE NORMAL SOURCE IS ACCEPTABLE. PROVIDES A SELECTABLE (1 OR 3 SECOND) DELAY ON TRANSFER AND ENGINE STARTING SIGNALS. FACTORY SET AT 3 SECONDS. (REFER TO THE OPERATOR'S MANUAL FURNISHED WITH EACH TRANSFER SWITCH REGARDING CONTROL PANEL SETTINGS).

B. TRANSFER TO EMERGENCY DELAY— ACTIVATED AFTER THE MOMENTARY NORMAL SOURCE OUTAGE DELAY EXPIRES AND THE EMERGENCY SOURCE IS SENSED TO BE ACCEPTABLE. TRANSFER TO EMERGENCY IS COMMITTED TO ON INITIATION OF DELAY. DEACTIVATED WHEN THE EMERGENCY SOURCE IS UNACCEPTABLE. PROVIDES AN ADJUSTABLE DELAY FROM 0 TO 5 MINUTES. FACTORY SET AT 0 MINUTES. (REFER TO OPERATOR'S MANUAL FURNISHED WITH EACH TRANSFER SWITCH REGARDING CONTROL PANEL SETTINGS).

C. RETRANSFER TO NORMAL DELAY — ACTIVATED WHEN THE NORMAL SOURCE IS ACCEPTABLE. DEACTIVATED WHEN THE NORMAL SOURCE FAILS WITH NO TRANSFER TO NORMAL. ALSO DEACTIVATED WHEN THE EMERGENCY SOURCE FAILS WHILE THE NORMAL SOURCE IS ACCEPTABLE WITH TRANSFER TO NORMAL. ADJUSTABLE DELAY FROM 1 SECOND TO 30 MINUTES. FACTORY SET TO 30 MINUTES. (REFER TO THE OPERATOR'S MANUAL FURNISHED WITH EACH TRANSFER SWITCH REGARDING CONTROL PANEL SETTINGS).

D. UNLOADED RUNNING (ENGINE COOL DOWN) DELAY — ACTIVATED ON EXPIRATION OF RETRANSFER TO NORMAL DELAY OR FOLLOWING EXPIRATION OF THE NORMAL SOURCE OUTAGE DELAY WITHOUT A COMMIT TO TRANSFER TO EMERGENCY. NON-ADJUSTABLE DELAY OF 5 MINUTES.

E. MOMENTARY EMERGENCY SOURCE OUTAGE DELAY—ACTIVATED WHEN THE SWITCH IS IN THE EMERGENCY POSITION AND THE EMERGENCY SOURCE FAILS. FACTORY SET AT 4 SECONDS. RESET IF EMERGENCY RESTORES WITHIN 4 SECONDS.

ENGINE CONTROL CONTACTS

ONE SET OF FORM C CONTACTS (1 N/O & 1 N/C) THAT CHANGE POSITION ON EXPIRATION OF THE NORMAL SOURCE OUTAGE DELAY AND RESET ON EXPIRATION OF THE UNLOADED RUNNING (ENGINE COOL DOWN). OUTPUT CONTACTS (NR) ARE RATED 5 AMPS RESISTIVE AT 28V DC OR 120V AC MAXIMUM.

OPERATOR INTERFACE INDICATORS & CONTROLS MEMBRANE TYPE

A. TRANSFER SWITCH TEST — MOMENTARY PUSH-BUTTON TO SIMULATE NORMAL SOURCE FAILURE SEQUENCE OF OPERATION. PRESS AND HOLD FOR AT LEAST 15 SECONDS TO ALLOW TIME FOR ENGINE-GENERATOR SET TO START.

B. BYPASS TIME DELAY — MOMENTARY PUSH-BUTTON TO BYPASS EITHER THE TRANSFER TO EMERGENCY DELAY, ENGINE EXERCISER PERIOD OR THE RETRANSFER TO NORMAL DELAY DEPENDING ON WHICH DELAY IS ACTIVE AT THE TIME THE PUSH-BUTTON IS ACTIVATED.

C. SET ENGINE EXERCISER — MOMENTARY PUSH-BUTTON TO ACTIVATE A SEVEN (7) DAY TIMER FOR AUTOMATIC WEEKLY TESTING OF THE ENGINE GENERATOR SET EITHER WITH OR WITHOUT LOAD TRANSFER. THE TIMER IS POWERED BY A NON-RECHARGEABLE 9V BATTERY WHEN NORMAL AND EMERGENCY SOURCES ARE UNAVAILABLE. DEPRESSING THE MOMENTARY PUSH-BUTTON FOR 5 SECONDS SETS THE TIME OF WEEK AT WHICH TESTING IS TO OCCUR. THE FEATURE IS ACTIVATED BY SETTING A DIP SELECTOR SWITCH ON THE CONTROL PANEL. ENGINE START WITH OR WITHOUT LOAD TRANSFER IS SELECTED WITH A SECOND DIP SELECTOR SWITCH ON THE CONTROL PANEL. FACTORY SET TO DISABLED, NO LOAD. (REFER TO THE OPERATOR'S MANUAL FURNISHED WITH EACH TRANSFER SWITCH REGARDING CONTROL PANEL SETTINGS).

D. LOAD CONNECTED TO INDICATORS GREEN LED INDICATOR TO INDICATE WHEN THE TRANSFER SWITCH LOAD IS CONNECTED TO THE NORMAL SOURCE. RED LED INDICATOR TO INDICATE WHEN THE TRANSFER SWITCH IS CONNECTED TO THE EMERGENCY SOURCE.

E. SOURCE AVAILABLE INDICATORS GREEN LED INDICATOR TO INDICATE WHEN THE NORMAL SOURCE IS AVAILABLE. RED LED INDICATOR TO INDICATE WHEN THE EMERGENCY SOURCE IS AVAILABLE.

LOAD DISCONNECT FEATURE

ONE SET OF FORM C CONTACTS (1 N/O & 1 N/C) THAT CHANGE POSITION ON ACTIVATION OF A SELECTABLE TIME DELAY BEFORE TRANSFER (LD TDBT) AND RESET EITHER IMMEDIATELY FOLLOWING TRANSFER OR FOR THE SAME DELAY AS SET FOR PRE-SIGNAL BEFORE TRANSFER. SELECTABLE AS 0, 3, 10 OR 20 SECONDS. FACTORY SET AT 0. (REFER TO THE OPERATOR'S MANUAL FURNISHED WITH EACH TRANSFER SWITCH REGARDING CONTROL PANEL SETTINGS). OUTPUT CONTACTS (OP) ARE RATED 5 AMPS RESISTIVE AT 28 VDC OR 120 VAC MAXIMUM.

MOTOR LOAD TRANSFER FEATURE

INPHASE TRANSFER CONTROL LOGIC TO INITIATE AN INPHASE TRANSFER OF MOTOR LOADS BETWEEN LIVE SOURCES. USED TO HELP PREVENT NUISANCE TRIPPING OF DISTRIBUTION CIRCUIT BREAKERS AND POSSIBLE DAMAGE TO MECHANICAL LOADS ASSOCIATED WITH OUT OF PHASE TRANSFER. ACTIVATED BY SETTING A DIP SWITCH ON THE CONTROL PANEL. FACTORY SET AS DISABLED. (REFER TO OPERATOR'S MANUAL FURNISHED WITH EACH TRANSFER SWITCH REGARDING CONTROL PANEL SETTINGS).

REMOTE CONTROL FEATURES

THE FOLLOWING CONTROL PANEL INPUTS PROVIDE REMOTE CONTROL FUNCTIONS FOR THE AUTOMATIC TRANSFER SWITCH. EACH CONTROL FUNCTION CAN BE IMPLEMENTED BY THE CUSTOMER PROVIDING THE FORM OF CONTROL CONTACT DESCRIBED. EACH CONTROL CONTACT MUST BE SUITABLE FOR A 5 VDC LOW ENERGY CIRCUIT. EACH CONTROL FEATURE IS ACTIVATED BY SETTING A DIP TYPE SELECTOR SWITCH ON THE CONTROL PANEL. (REFER TO THE OPERATOR'S MANUAL FURNISHED WITH EACH TRANSFER SWITCH REGARDING CONTROL PANEL SETTINGS).

A. REMOTE TEST FEATURE — REQUIRES A CUSTOMER SUPPLIED, REMOTE, NORMALLY CLOSED CONTACT. OPENING OF THE CONTACT SIMULATES A FAILURE OF THE NORMAL SOURCE SIMILAR TO THE SEQUENCE OUTLINED FOR THE TRANSFER SWITCH TEST PUSH-BUTTON. THE TRANSFER SWITCH WILL REMAIN CONNECTED TO THE EMERGENCY SOURCE UNDER ALL CONDITIONS WHILE THE CONTACT IS OPEN.

B. REMOTE TRANSFER TO EMERGENCY FEATURE — REQUIRES A CUSTOMER SUPPLIED, REMOTE, NORMALLY CLOSED CONTACT. OPENING OF THE CONTACT CAUSES ENGINE START AND TRANSFER TO THE EMERGENCY SOURCE. RECLOSURE OF THE CONTACT ACTIVATES THE RETRANSFER TO NORMAL DELAY PRIOR TO RETRANSFER. IN THE EVENT THAT THE EMERGENCY SOURCE FAILS WHILE THE TRANSFER SWITCH IS CONNECTED TO EMERGENCY AND THE REMOTE CONTACT IS OPEN, THE TRANSFER SWITCH WILL AUTOMATICALLY RETRANSFER TO THE NORMAL SOURCE.

C. INHIBIT TRANSFER TO EMERGENCY FEATURE — REQUIRES A CUSTOMER SUPPLIED, REMOTE, NORMALLY CLOSED CONTACT. OPENING OF THE CONTACT WILL PROHIBIT THE TRANSFER SWITCH FROM TRANSFERRING TO THE EMERGENCY SOURCE WHILE CONNECTED TO THE NORMAL SOURCE.

D. BYPASS TRANSFER TIME DELAY FEATURE — REQUIRES A CUSTOMER SUPPLIED, REMOTE, NORMALLY CLOSED CONTACT. OPENING OF THE CONTACT BYPASSES THE RETRANSFER TO NORMAL DELAY IF ACTIVE.

GENERAL NOTES

1. SWITCH SHOWN DE-ENERGIZED CONNECTED TO NORMAL SOURCE. DEVICE SYMBOLS AND DESIGNATIONS ARE IN ACCORDANCE WITH NEMA PUB. ICS 1–1983, PART 1–101A.
2. ALL WIRING IS #16 AWG, TINNED, STRANDED COPPER UNLESS OTHERWISE INDICATED.
3. O INDICATES CUSTOMER CONNECTION POINTS.
4. ● INDICATES FACTORY CONNECTION POINTS.
5. CONNECTION POINTS THAT HAVE BOTH CUSTOMER CONNECTIONS AND FACTORY CONNECTIONS ARE SHOWN OPEN AS CUSTOMER CONNECTION POINTS.
6. THE TRANSFER UNIT IS MOUNTED ON THE BACK INSIDE SURFACE OF THE ENCLOSURE. THE CONTROL PANEL AND ANY OPTIONAL ACCESSORIES ARE MOUNTED ON THE INSIDE SURFACE OF THE DOOR.
7. AN OPERATOR'S MANUAL IS FURNISHED WITH EACH AUTOMATIC TRANSFER SWITCH. REFER TO THIS PUBLICATION PRIOR TO INSTALLATION AND OPERATION OF THE SWITCH.
8. GROUND STRAP ON CONTROL PANEL IS AFFIXED TO CHASSIS (ENCLOSURE) AT LOWER LEFT CONTROL PANEL MOUNTING STUD.

OPTIONAL ACCESSORIES

ACCESSORY 11BG — PROGRAMMABLE ENGINE EXERCISER & SOURCE AVAILABILITY SIGNAL MODULES

PROGRAMMABLE ENGINE EXERCISER: A PROGRAMMABLE SEVEN (7) DAY OR FOURTEEN (14) DAY ELECTRONIC TIME SWITCH FOR AUTOMATIC WEEKLY TESTING OF THE ENGINE GENERATOR SET EITHER WITH OR WITHOUT LOAD. EACH DAY OF THE WEEK IS INDIVIDUALLY PROGRAMMABLE. THE TIME OF DAY IS PRESERVED BY A BATTERY BUILT INTO THE GROUP 1 TRANSFER SWITCH CONTROL PANEL.
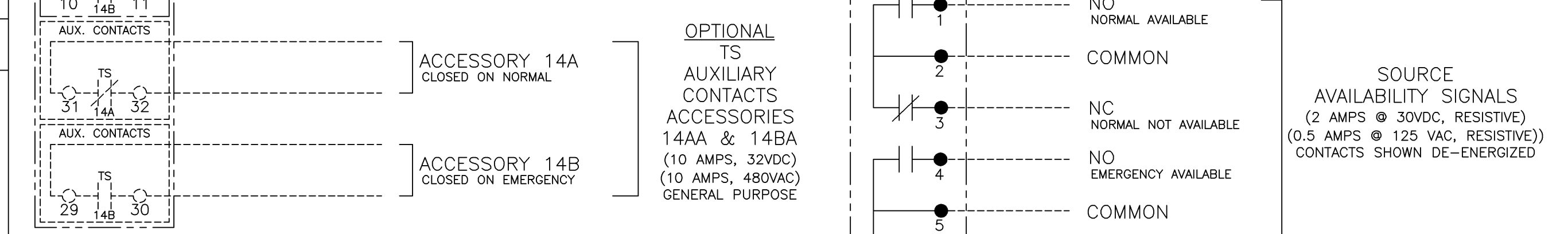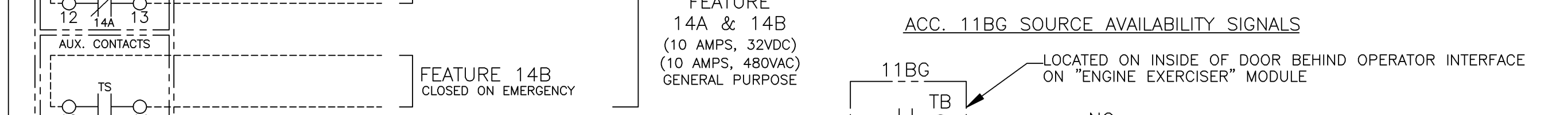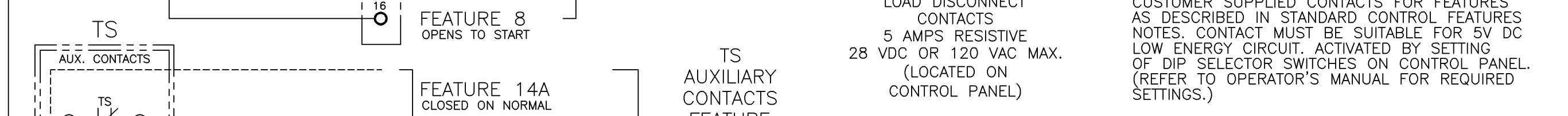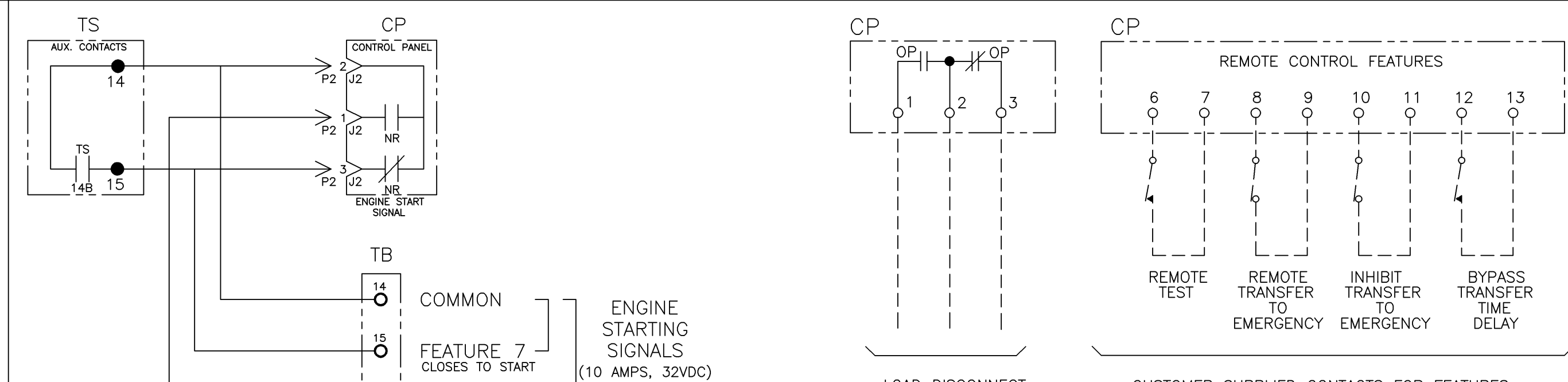
THE FEATURE IS ACTIVATED BY SETTING A DIP SELECTOR SWITCH ON THE CONTROL PANEL. ENGINE START WITH OR WITHOUT LOAD TRANSFER IS SELECTED WITH A SECOND DIP SELECTOR SWITCH ON THE CONTROL PANEL. (REFER TO THE OPERATOR'S MANUAL FURNISHED WITH EACH TRANSFER SWITCH REGARDING CONTROL PANEL AND TIMER SETTINGS).

SOURCE AVAILABILITY SIGNALLING: ONE FORM C CONTACT EACH FOR THE NORMAL & EMERGENCY SOURCES SIGNAL THE ACCEPTABILITY OF THE SOURCE AS SENSED BY THE GROUP 1 CONTROL PANEL. THE SIGNAL CONTACTS OPERATE IN CONJUNCTION WITH THE SOURCE AVAILABILITY LED STATUS INDICATION PROVIDED ON THE OPERATOR INTERFACE. FIELD WIRING TERMINALS ARE PROVIDED AS SHOWN, LOCATED ON THE INSIDE DOOR BEHIND THE OPERATOR INTERFACE. CONTACTS RATED 2 AMPS @ 30VDC, 0.5 AMPS @ 125 VAC (RESISTIVE).
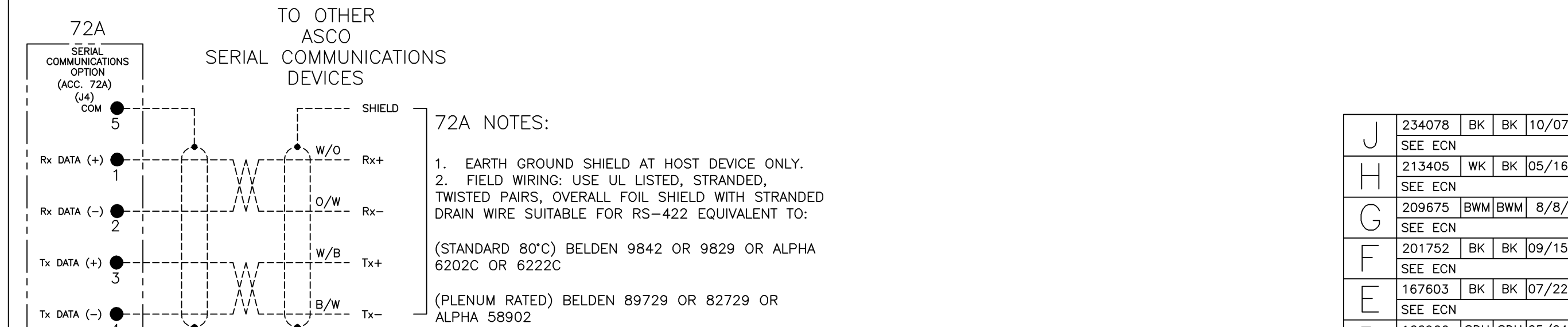
SERIAL COMMUNICATIONS INTERFACE (ACCESSORY 72A) RS-485 SERIAL INTERFACE TO CONTROL PANEL. FOR REMOTE MONITORING AND CONTROL FROM ASCO COMMUNICATIONS BASED PRODUCTS.

ACC. 14AA   (2) AUXILIARY CONTACT CLOSED ON NORMAL.
ACC. 14BA   (2) AUXILIARY CONTACT CLOSED ON EMERGENCY.
ACC. 44A   STRIP HEATER, THERMOSTAT & TB. CUSTOMER POWER SUPPLY 120VAC.
ACC. 44G   STRIP HEATER, THERMOSTAT & TRANSFOMER. POWER SUPPLY FROM LOAD TERMINALS OF TRANSFER SWITCH.
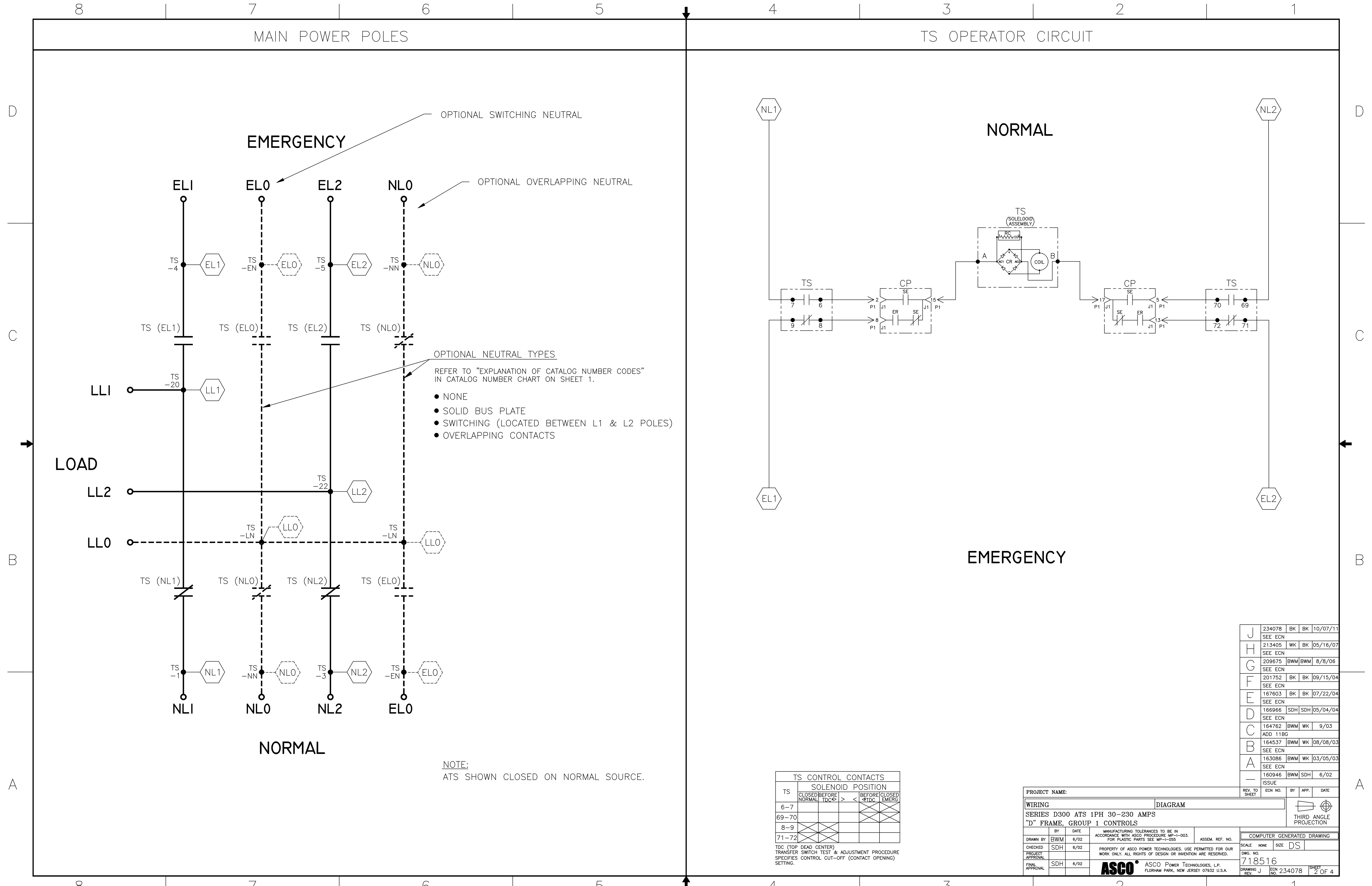
FIELD CONNECTIONS

TS — AUX. CONTACTS
CP — CONTROL PANEL

TB
14 COMMON
15 FEATURE 7 CLOSES TO START
16 FEATURE 8 OPENS TO START
ENGINE STARTING SIGNALS (10 AMPS, 32VDC)

TS — AUX. CONTACTS
FEATURE 14A CLOSED ON NORMAL
FEATURE 14B CLOSED ON EMERGENCY
TS AUXILIARY CONTACTS FEATURE 14A & 14B (10 AMPS, 32VDC) (10 AMPS, 480VAC) GENERAL PURPOSE

ACCESSORY 14A CLOSED ON NORMAL
ACCESSORY 14B CLOSED ON EMERGENCY
OPTIONAL TS AUXILIARY CONTACTS ACCESSORIES 14AA & 14BA (10 AMPS, 32VDC) (10 AMPS, 480VAC) GENERAL PURPOSE

STRIP HEATER THERMOSTAT & CUSTOMER TB
TB-1   TB-2
STRIP HEATER TRANSFORMER & THERMOSTAT
HF   HI
LL1   LL2

ACCESSORY 44A STRIP HEATER CUSTOMER POWER SUPPLY 120 VAC (OPTIONAL)
ACCESSORY 44G STRIP HEATER POWER SUPPLY FROM LOAD OF TS (OPTIONAL)

CP — OP
LOAD DISCONNECT CONTACTS 5 AMPS RESISTIVE 28 VDC OR 120 VAC MAX. (LOCATED ON CONTROL PANEL)

CP — REMOTE CONTROL FEATURES
6 7 8 9 10 11 12 13
REMOTE TEST | REMOTE TRANSFER TO EMERGENCY | INHIBIT TRANSFER TO EMERGENCY | BYPASS TRANSFER TIME DELAY

CUSTOMER SUPPLIED CONTACTS FOR FEATURES AS DESCRIBED IN STANDARD CONTROL FEATURES NOTES. CONTACT MUST BE SUITABLE FOR 5V DC LOW ENERGY CIRCUIT. ACTIVATED BY SETTING OF DIP SELECTOR SWITCHES ON CONTROL PANEL. (REFER TO OPERATOR'S MANUAL FOR REQUIRED SETTINGS).

ACC. 11BG SOURCE AVAILABILITY SIGNALS

11BG — TB
1 NO NORMAL AVAILABLE
2 COMMON
3 NC NORMAL NOT AVAILABLE
4 NO EMERGENCY AVAILABLE
5 COMMON
6 NC EMERGENCY NOT AVAILABLE

SOURCE AVAILABILITY SIGNALS (2 AMPS @ 30VDC, RESISTIVE) (0.5 AMPS @ 125 VAC, RESISTIVE) CONTACTS SHOWN DE-ENERGIZED

ACC. 72A SERIAL COMMUNICATIONS OPTION
COMMUNICATING WITH GROUP 5 CONTROL PANEL (CP)

72A SERIAL COMMUNICATIONS OPTION (ACC. 72A) (J4)
COM 5 SHIELD
Rx DATA (+) 4 Rx+ W/O
Rx DATA (−) 2 Rx− O/W
Tx DATA (+) 3 Tx+ W/B
Tx DATA (−) 1 Tx− B/W

TO OTHER ASCO SERIAL COMMUNICATIONS DEVICES

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

J	234078	BK	BK	10/07/11	SEE ECN
H	213405	WK	BK	05/16/07	SEE ECN
G	209675	BWM	BWM	8/8/06	SEE ECN
F	201752	BK	BK	09/15/04	SEE ECN
E	167603	BK		07/22/04	SEE ECN
D	166966	SDH	SDH	05/04/04	SEE ECN
C	164762	BWM	WK	9/03	ADD 11BG
B	164537	BWM	WK	08/08/03	SEE ECN
A	163086	BWM	WK	03/05/03	SEE ECN
—	160946	BWM	BWM	6/02	ISSUE
REV.	ECN NO.	BY	APP.	DATE	REV. TO SHEET

BASE CATALOG NUMBER / CATALOG NUMBER SUFFIXES

TS FRAME	CATALOG TYPE	NEUTRAL TYPE	PHASE POLES	AMPS	VOLT CODE	CONTROLLER	OPTIONAL ACCESSORY	ENCLOSURE CODE
D	300	B C	2	30 70 104 150 200* 230*	C D E F H J K L M N Q R	1	X	C F G L M BLANK FOR OPEN TYPE

EXPLANATION OF CATALOG NUMBER CODES

NEUTRAL TYPE		VOLTAGE CODES 1 PHASE (2 OR 3 WIRE) 50 OR 60 Hz		ENCLOSURE CODES		
CODE	DESCRIPTION	CODE	NOMINAL VOLTAGE	CODE	TYPE	DESCRIPTION
BLANK B C	SOLID SWITCHING OVERLAPPING	C D E F	208 220 230 240	BLANK C	1	OPEN TYPE (NO ENCLOSURE) GENERAL PURPOSE, INDOOR
		H J K L M N	380 400 415 440 460 480	F G L	3R 4 12	OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT
		Q R	575* 600*	M	3R	(SECURE ENCLOSURES) OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT

* 200 & 230 AMP SIZES ARE 480V MAX.

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

PROJECT NAME: _____
WIRING DIAGRAM
SERIES D300 ATS 1PH 30–230 AMPS "D" FRAME, GROUP 1 CONTROLS

	BY	DATE
DRAWN BY	BWM	6/02
CHECKED	SDH	6/02
PROJECT APPROVAL		
FINAL APPROVAL	SDH	6/02

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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COMPUTER GENERATED DRAWING
SCALE NONE | SIZE DS

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

DWG. NO. 718516
DRAWING REV. J | ECN NO. 234078 | SHEET 1 OF 4

THIRD ANGLE PROJECTION

EMERGENCY

OPTIONAL SWITCHING NEUTRAL

OPTIONAL OVERLAPPING NEUTRAL

NORMAL

ELI EL0 EL2 NL0

NL1   NL2

TS
(SOLELOOID)
(ASSEMBLY)

TS−4 EL1   TS−EN EL0   TS−5 EL2   TS−NN NL0

A CR COIL B

TS (EL1) TS (EL0) TS (EL2) TS (NL0)

TS   CP
SE   SE

7 6   2 J1 15
              P1   P1
9 8   8 J1
              P1
              ER SE J1

CP   TS
SE   SE

17 5   70 69
P1 J1 P1
13   72 71
P1 J1
SE ER J1

TS−20 LL1

LLI

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

● NONE
● SOLID BUS PLATE
● SWITCHING (LOCATED BETWEEN L1 & L2 POLES)
● OVERLAPPING CONTACTS

LOAD

TS−22 LL2

LL2

TS−LN LL0   TS−LN LL0

LL0

EMERGENCY

TS (NL1) TS (NL0) TS (NL2) TS (EL0)

EL1   EL2

TS−1 NL1   TS−NN NL0   TS−3 NL2   TS−EN EL0

NL1 NL0 NL2 EL0

NORMAL

NOTE:
ATS SHOWN CLOSED ON NORMAL SOURCE.

TS CONTROL CONTACTS				
TS	SOLENOID POSITION			
	CLOSED NORMAL	BEFORE TDC ▷	BEFORE ◁ TDC	CLOSED EMERG
6−7				
69−70				
8−9				
71−72				

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

	ECN NO.	BY	APP.	DATE
J	234078	BK	BK	10/07/11
	SEE ECN			
H	213405	WK	BK	05/16/07
	SEE ECN			
G	209675	BWM	BWM	8/8/06
	SEE ECN			
F	201752	BK	BK	09/15/04
	SEE ECN			
E	167603	BK	BK	07/22/04
	SEE ECN			
D	166966	SDH	SDH	05/04/04
	SEE ECN			
C	164762	BWM	WK	9/03
	ADD 11BG			
B	164537	BWM	WK	08/08/03
	SEE ECN			
A	163086	BWM	WK	03/05/03
	SEE ECN			
−	160946	BWM	SDH	6/02
	ISSUE			

WIRE RUN LISTING

FOR 30-230 AMPS

① ◄— HARNESS LOCATOR | BOX CHECKED IF HARNESS IS MODIFIED ☒

WIRE No.	337782-002 (P1,P2) MAIN TS FOR 30-230 AMPS	CLR	AWG
1	TS-8,P1-8		16
2	TS-A,P1-15		
3	TS-6,P1-2		
4	TS-3,P1-4		
5	TS-B,P1-17		
6	TS-5,P1-12		
7	TS-4,P1-7		
8	TB-14,P2-2		
9	TB-15,P2-3		
10	TS-17,P2-8		
11	TS-2,P1-10		
12	TS-1,P1-1		
13	TS-16,P2-9		
14	TS-18,P2-10		
15	TS-70,P1-5		
16	TS-72,P1-13		
17	TS-4,TS-9		
18	TS-7,TS-1		
19	TS-3,TS-69		
20	TS-5,TS-71		
23	TB-16,P2-1		
	DEAD END WIRES		
11	TS-2,P1-10		
	ADD WIRES		
21	TS-14,TB-14		
22	TS-15,TB-15		

OPTIONAL ACC. 11BG

② ACC. 11BG
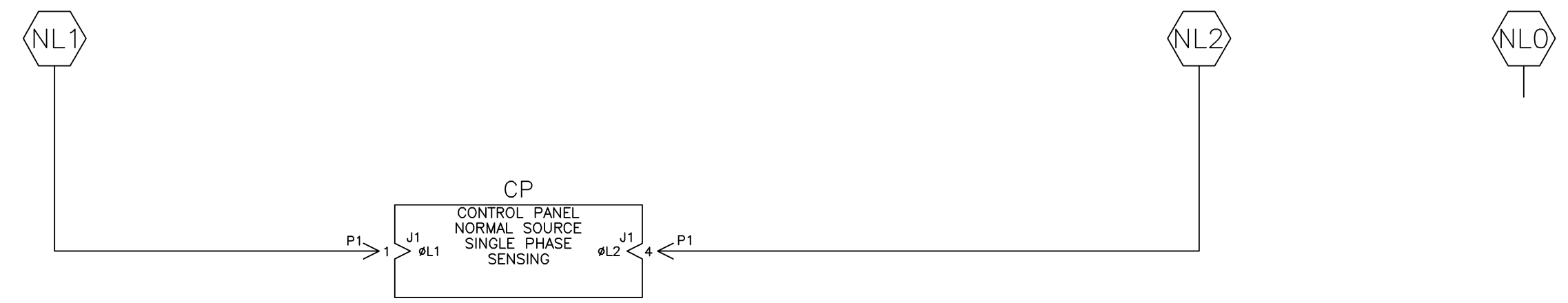
WIRE No.		CLR	AWG
28	CP-TB-4,11BG-TB-9		16

CONTROL SIGNALS & INDICATION

ACCESSORY 11BG
PROGRAMMABLE
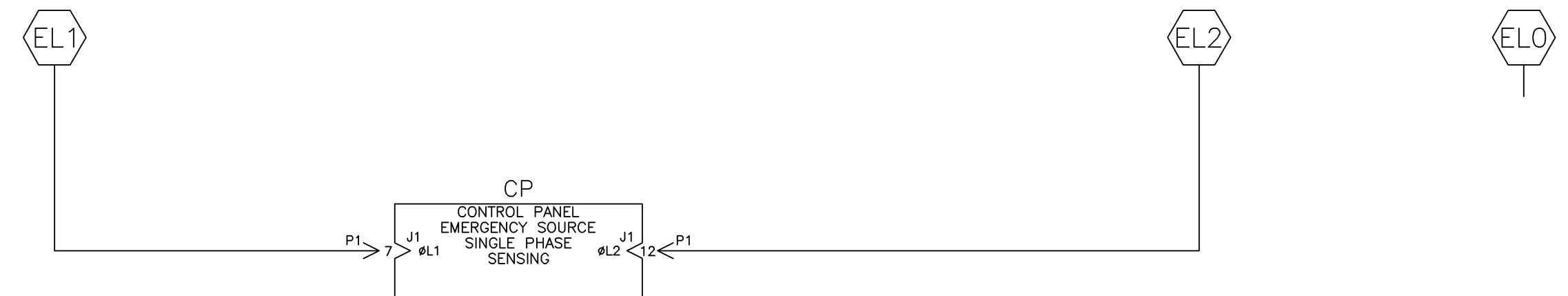ENGINE EXERCISER & SOURCE
AVAILABILITY SIGNAL
(OPTIONAL)

CP

TB-4 — CONTROL PANEL

11BG

TB-9 — ACCESSORY 11BG
PROGRAMMABLE
ENGINE EXERCISER

TS — CP
AUX. CONTACTS

17	P2 8 J2	CONTROL PANEL TS POSITION SENSING
14B 16	P2 9 J2	
14A 18	P2 10 J2	
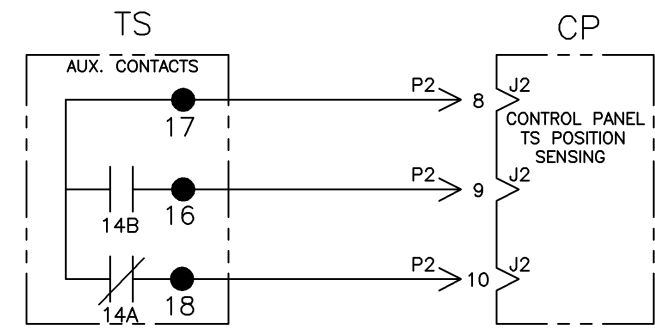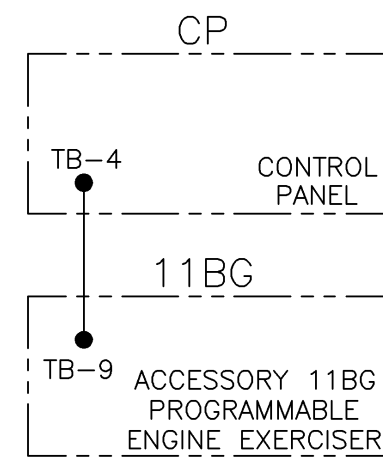
NORMAL SOURCE CIRCUITS

NORMAL

⬡ NL1   ⬡ NL2   ⬡ NL0

CP
CONTROL PANEL
NORMAL SOURCE
SINGLE PHASE
SENSING

P1 1 J1 ØL1   ØL2 J1 4 P1

EMERGENCY SOURCE CIRCUITS

EMERGENCY

⬡ EL1   ⬡ EL2   ⬡ EL0

CP
CONTROL PANEL
EMERGENCY SOURCE
SINGLE PHASE
SENSING

P1 7 J1 ØL1   ØL2 J1 12 P1

LOAD TERMINAL CIRCUITS

LOAD

⬡ LL1   ⬡ LL2   ⬡ LL0

H	213405	WK	BK	05/16/07
	SEE ECN			
G	209675	BWM	BWM	8/8/06
	SEE ECN			
F	201752	BK	BK	09/15/04
	SEE ECN			
E	167603	BK	BK	07/22/04
	SEE ECN			
D	166966	SDH	SDH	05/04/04
	SEE ECN			
C	164762	BWM	WK	9/03
	ADD 11BG			
B	164537	BWM	WK	08/08/03
	SEE ECN			
A	163086	BWM	WK	03/05/03
	SEE ECN			
—	160946	BWM	SDH	6/02
	ISSUE			

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

WIRING DIAGRAM
SERIES D300 ATS 1PH 30-230 AMPS
"D" FRAME, GROUP 1 CONTROLS

THIRD ANGLE PROJECTION

	BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055	ASSEM. REF. NO.	COMPUTER GENERATED DRAWING
DRAWN BY	BWM	6/02			
CHECKED	SDH	6/02	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.	SCALE NONE	SIZE DS
PROJECT APPROVAL				DWG. NO. 718516	
FINAL APPROVAL	SDH	6/02	**ASCO** POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.	DRAWING REV. J	ECN NO. 234078	SHEET 3 OF 4

234078 | BK | BK | 10/03/11
SEE ECN

PHYSICAL DIAGRAM

ENCLOSURE

OPTIONAL SWITCHING NEUTRAL

OPTIONAL OVERLAPPING NEUTRAL

TS (TRANSFER SWITCH) VIEW FROM INSIDE FRONT
30,70,100,150,200,& 230 AMPS

EMERGENCY

LOAD

TS COIL
● A
● B
CKT

EL1   EL0   EL2   NL0
LL1   LL0   LL2   LN0

4   EN   5   EN
20   LN   22   LN

71 9 70 6
72 8 69 7

31 29
32 30
13 11
12 10

17 15
16 18 14

NL1   NL0   NL2   EL0
1   NN   3   NN

TB/TS
○ 14
○ 15
○ 16

FEAT 7
FEAT 8

ENGINE CONTROL CONTACTS

NORMAL

TS-1 TS-3 TS-4 TS-5 TS-6 TS-8 TS-A TS-B TB-14 TB-15 TS-16 TS-17 TS-18 TS-70 TS-72 TS-19 TS-20 TS-21 TS-22

STANDARD TRANSFER SWITCH HARNESS
(TYPICAL ALL SWITCHES)

TO LOAD OF ATS
(OPTIONAL ACC. 44G)
OR
TO CUSTOMER POWER SUPPLY 120VAC
(OPTIONAL ACC. 44A)

HEATER ACCESSORY
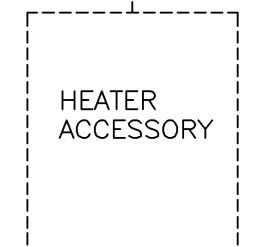
DOOR HINGE

BONDING STRAP
PN 098323-019

DOOR (INSIDE)

OPERATOR INTERFACE MEMBRANE ACCESSORY PN 473708

ACC. 11BG ASSY.
PN 629830
MOUNTS ON BACK OF OPERATOR INTERFACE MEMBRANE ASSY.

ACC.11BG
ENGINE EXERCISER
&
SOURCE AVAILABILITY SIGNALS

FIELD CONNECTIONS
SOURCE AVAILABILITY SIGNALS
REFER TO SHEET 1

FACTORY CONNECTIONS

OPERATOR CONTROLS

ID	DESCRIPTION
DS1	TS CONNECTED TO NORMAL
DS2	TS CONNECTED TO EMERGENCY
DS3	NORMAL SOURCE AVAILABLE
DS4	EMERGENCY SOURCE AVAILABLE
DS5	ENGINE EXERCISER
PB1	BYPASS TIME DELAY
PB2	TRANSFER SWITCH TEST
PB3	SET ENGINE EXERCISER

MEMBRANE PANEL
DS3   DS1
DS4   DS2
DS5 PB3   PB1   PB2

J3 P3   P2 J2   P1 J1

GROUP 1 CONTROL PANEL
SE   ER   NR   OP

CP

P1 J1
P2 J2

NOTE 8

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

J3 P3

CP-J4
CP-P4

72A-P1
72A-J1   72A-J2

ACC. 72A SERIAL COM. MODULE OPTION
J4
1 2 3 4 5

CABLE PN 629798-001

ASCO OPTIONAL SERIAL COMMUNICATION DEVICE

FLAT CABLE PN 607761
NOTE: CONNECT P1 OF PN 607761 TO J3 OF OPERATOR INTERFACE MEMBRANE ASSY. PN 473708 WHEN ACC. 11BG IS NOT USED.

J	234078	BK	BK	10/07/11
	SEE ECN			
H	213405	WK	BK	05/16/07
	SEE ECN			
G	209675	BWM	BWM	8/8/06
	SEE ECN			
F	201752	BK	BK	09/15/04
	SEE ECN			
E	167603	BK	BK	07/22/04
	SEE ECN			
D	166966	SDH	SDH	05/04/04
	SEE ECN			
C	164762	BWM	WK	9/03
	ADD 11BG			
B	164537	BWM	WK	08/08/03
	SEE ECN			
A	163086	BWM	WK	03/05/03
	SEE ECN			
—	160946	BWM	SDH	6/02
	ISSUE			