

D

C

B

A

SINGLE PHASE WIRING FOR **ASCO**® 300 SERIES MANUALLY OPERATED TRANSFER SWITCH TYPE H3MTS RATED 600-1200 AMPERES

FEATURES, OPERATION, ACCESSORIES, & NOTES

STANDARD FEATURE

FEATURE 14A & 14B – TRANSFER SWITCH AUXILIARY POSITION INDICATING CONTACTS. ONE (1) FORM A CONTACT TO INDICATE CONNECTION OF THE TRANSFER SWITCH TO SOURCE 1 (14A) AND ONE (1) FORM A CONTACT TO INDICATE CONNECTION OF THE TRANSFER SWITCH TO SOURCE 2 (14B) AND ONE (1) FROM A CONTACT TO INDICATE TRANSFER SWITCH IN DISCONNECTED POSITION. CONTACTS CONNECTED TO THE FIELD CONNECTIONS TERMINAL BLOCK (TB). CONTACTS RATED 10 AMPS, 32VDC, 250 VAC.

OPTIONAL ACCESSORIES

ACC. 170B* ONE FORM C CONTACT WIRED TO THE CUSTOMER TERMINAL BLOCK THAT OPERATES WHEN SOURCE 1 AND SOURCE 2 VOLTAGE IS PRESENT AT THE TRANSFER SWITCH TERMINALS. S1A CONTACTS OPERATE WHEN SOURCE 1 AVAILABLE AND S2A CONTACTS OPERATE WHEN SOURCE 2 AVAILABLE. TRANSFER SWITCH AUXILIARY CONTACTS WIRED TO THE TERMINAL BLOCK (TB) TO INDICATE TS POSITIONS (CLOSE ON SOURCE 1, CLOSE SOURCE 2 AND TS DISCONNECTED). THE FOLLOWING INDICATORS ARE PROVIDED:

- PL1: LOAD CONNECTED TO SOURCE 1 (GREEN)
- PL2: LOAD CONNECTED TO SOURCE 2 (RED)
- PL3: SOURCE 1 AVAILABLE (GREEN)
- PL4: SOURCE 2 AVAILABLE (RED)
- PL5: TS DISCONNECTED (YELLOW)
- * REFER TO NOTE A

ACC. 170E* ONE FORM C CONTACT WIRED TO THE CUSTOMER TERMINAL BLOCK THAT OPERATES WHEN SOURCE 1 AND SOURCE 2 VOLTAGE IS PRESENT AT THE TRANSFER SWITCH TERMINALS. S1A CONTACTS OPERATE WHEN SOURCE 1 AVAILABLE AND S2A CONTACTS OPERATE WHEN SOURCE 2 AVAILABLE. TRANSFER SWITCH AUXILIARY CONTACTS WIRED TO THE TERMINAL BLOCK (TB) TO INDICATE TS POSITIONS (CLOSE ON SOURCE 1, CLOSE SOURCE 2 AND TS DISCONNECTED). PROVISION FOR CUSTOMER EXTERNAL COMMON ALARM INPUT (FORM A CONTACT) TO THE TERMINAL BLOCK THAT DRIVES A LED AND AN ALARM RELAY TO INDICATE WHEN THE INPUT IS ACTIVE. ONE FORM A CONTACT OF THE ALARM RELAY AND A MANUAL ENGINE START SWITCH ARE WIRED TO THE TERMINAL BLOCK. THE FOLLOWING INDICATORS AND CONTROLS ARE PROVIDED:

- PL1: LOAD CONNECTED TO SOURCE 1 (GREEN)
- PL2: LOAD CONNECTED TO SOURCE 2 (RED)
- PL3: SOURCE 1 AVAILABLE (GREEN)
- PL4: SOURCE 2 AVAILABLE (RED)
- PL5: TS DISCONNECTED (YELLOW)
- PL6: EXTERNAL COMMON ALARM ACTIVE (YELLOW)
- SS1: MANUAL ENGINE START
- * REFER TO NOTE A

ACC. 170K* ONE FORM C CONTACT WIRED TO THE CUSTOMER TERMINAL BLOCK THAT OPERATES WHEN SOURCE 1 AND SOURCE 2 VOLTAGE IS PRESENT AT THE TRANSFER SWITCH TERMINALS. S1A CONTACTS OPERATE WHEN SOURCE 1 AVAILABLE AND S2A CONTACTS OPERATE WHEN SOURCE 2 AVAILABLE. TRANSFER SWITCH AUXILIARY CONTACTS WIRED TO THE TERMINAL BLOCK (TB) TO INDICATE TS POSITIONS (CLOSE ON SOURCE 1, CLOSE SOURCE 2 AND TS DISCONNECTED). PROVISION FOR CUSTOMER EXTERNAL COMMON ALARM INPUT (FORM A CONTACT) TO THE TERMINAL BLOCK THAT DRIVES A LED AND AN ALARM RELAY TO INDICATE WHEN THE INPUT IS ACTIVE. ONE FORM A CONTACT OF THE ALARM RELAY AND A KEYED MANUAL ENGINE START SWITCH ARE WIRED TO THE TERMINAL BLOCK. THE FOLLOWING INDICATORS AND CONTROLS ARE PROVIDED:

- PL1: LOAD CONNECTED TO SOURCE 1 (GREEN)
- PL2: LOAD CONNECTED TO SOURCE 2 (RED)
- PL3: SOURCE 1 AVAILABLE (GREEN)
- PL4: SOURCE 2 AVAILABLE (RED)
- PL5: TS DISCONNECTED (YELLOW)
- PL6: EXTERNAL COMMON ALARM ACTIVE (YELLOW)
- SS1: MANUAL ENGINE START (KEYED)
- * REFER TO NOTE A

NOTE A:

*=BLANK, WITHOUT MOXA E1212.

*=1 MOXA E1212 ETHERNET REMOTE I/O SHALL BE POWERED WITH 24VDC THAT IS DERIVED FROM THE BYPASS POWER SUPPLY AND/OR OPTIONAL EXTERNAL 24VDC SOURCE FROM CUSTOMER. PROVISION PROVIDED ON TERMINAL BLOCK (TB) FOR CUSTOMER DC SOURCE. THE MOXA E1212 IS INTER WIRED TO THE DISCRETE INPUTS. CONNECTED TO SOURCE 1, CONNECTED TO SOURCE 2, SOURCE 1 AVAILABLE, SOURCE 2 AVAILABLE, AND TS DISCONNECTED. WIRE THE FOLLOW INPUTS IF PRESENT, COMMON ALARM AND ENGINE START SIGNAL.

TABLE A. DISCRETE INPUT

NUMBER	LABEL (FACTORY SETTING)	FEATURE	ACCESSORY DESCRIPTION
DI0	TS ON S1	N/A	TS CONNECTED TO SOURCE 1
DI1	TS ON S2	N/A	TS CONNECTED TO SOURCE 2
DI2	TS DISCONNECTED	N/A	TS DISCONNECTED (CENTER OFF POSITION)
DI3	S1 AVAILABLE	N/A	SOURCE 1 AVAILABILITY
DI4	S2 AVAILABLE	N/A	SOURCE 2 AVAILABILITY
DI5	ENGINE START	N/A	WIRED TO ENGINE START SIGNAL TO INDICATE WHEN A MANUAL ENGINE START HAS BEEN INITIATED (IF PRESENT)
DI6	COMMON ALARM	N/A	COMMON ALARN ACTIVE (IF PRESENT)

NOTE:

PROVISION PROVIDED FOR A CUSTOMER SUPPLIED 24VDC SOURCE TO BACKUP ACCESSORY 170** WHEN BOTH SOURCES ARE UNAVAILABLE.

OPTIONAL ACCESSORIES CONTINUED

ACC. 73CA SECONDARY SURGE SUPPRESSOR FURNISHED ON SOURCE 1 AND SOURCE 2 (ASCO SERIES 430)
SINGLE PHASE (2) POLES WITH OR WITHOUT NEUTRAL

ACC. 73CA* SECONDARY SURGE SUPPRESSOR (SS) (ASCO SERIES 430)
73CA(*) – SINGLE PHASE (2) POLES WITH OR WITHOUT NEUTRAL (DELTA OR WYE CONFIGURATION)

- ┆ – 1 = SS FURNISHED ON SOURCE 1.
- * – 2 = SS FURNISHED ON SOURCE 2.
- * – 3 = SS FURNISHED ON LOAD.

CONFIGURATION OF SHIPPED EQUIPMENT

TRANSFER SYSTEM IS SHIPPED CONNECTED IN THE "DISCONNECTED" POSITION, INDICATOR SHOWS "YELLOW". IN "DISCONNECTED" POSITION BOTH "SOURCE 1" AND "SOURCE 2" SWITCH CONTACTS ARE OPEN.

OPERATION

OBSERVE THE INDICATOR WINDOW. IF WINDOW SHOWS "YELLOW" UNDER "SOURCE 1" THE TRANSFER SWITCH IS CONNECTED TO SOURCE 1. "YELLOW" UNDER "SOURCE 2" INDICATES THE TRANSFER SWITCH IS CONNECTED TO THE SOURCE 2. "YELLOW" UNDER "DISCONNECTED" INDICATES THE TRANSFER SWITCH IS IN THE DISCONNECTED POSITION.

TRANSFER TO "SOURCE 1" FROM "DISCONNECTED" POSITION.
–GRASP MANUAL HANDLE FIRMLY WITH BOTH HANDS, PULL OUT TO MECHANICAL STOP AND ROTATE HANDLE CLOCKWISE.
–OBSERVE THE INDICATOR WINDOW TO CONFIRM TRANSFER.

TRANSFER TO "SOURCE 2" FROM "DISCONNECTED" POSITION.
–GRASP MANUAL HANDLE FIRMLY WITH BOTH HANDS, PUSH IN TO MECHANICAL STOP AND ROTATE HANDLE COUNTERCLOCKWISE.
–OBSERVE THE INDICATOR WINDOW TO CONFIRM TRANSFER.

GENERAL NOTES

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

TECHNICAL DATA

AUXILIARY CONTACTS

AUXILIARY CONTACT	STATUS (*)	SWITCH POSITION (AUX)		
		SOURCE 1	OFF	SOURCE 2
81–82	●		⋈	▨
83–84	●		⋈	▨
85–86	●	⋈		
87–88	●	⋈		
89–90	●	⋈		
91–92	●	⋈		
93–94	●		⋈	
101–102	●		⋈	▨
103–104	●		⋈	▨
105–106	●	▨		
107–108	●	▨		
109–110	●	▨		⋈
111–112	●	▨		⋈
113–114	●	▨		⋈
115–116	●	▨		⋈
117–118	●	▨		⋈
125–126	●	▨	⋈	
127–128	●	▨	⋈	

D

C

B

A

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 1 PHASE (2 OR 3 WIRE) 50 OR 60 Hz		ENCLOSURE CODES		
									CODE	DESCRIPTION	CODE	NOMINAL VOLTAGE	CODE	TYPE	DESCRIPTION
H	3MTS	A B	2	600 800 1000 1200	C D E F G H J K L M N P Q R		O=NONE X=YES Z=SPECIAL	C M N S V	BLANK A B	NONE SOLID SWITCHING	C	208	C M N S V	1 3R 4 3RX 4X	GENERAL PURPOSE, INDOOR (SECURE ENCLOSURES) OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT TYPE 3R PLUS CORROSION RESISTANCE (STAINLESS STEEL) TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL)
											D	220			
											E	230			
											F	240			
											G	277			
											H	380			
											J	400			
											K	415			
											L	440			
											M	460			
											N	480			
											P	550			
											Q	575			
											R	600			

CATALOG NUMBER _____

ASCO® CERTIFIED TO
S.O. _____

BY: _____

DATE _____

FORM REV – _____

PROJECT NAME: _____

WIRING _____ DIAGRAM _____

300 SERIES (H3MTS) 1PH 600–1200 AMPS

"H" FRAME, MANUALLY OPERATED TS

DRAWN BY NS 05/15/17 MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP–1–003. FOR PLASTIC PARTS SEE MP–1–005 ASSEM. REF. NO. _____

CHECKED JPB 05/15/17 PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.

PROJECT APPROVAL _____

FINAL APPROVAL _____

ASCO®

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

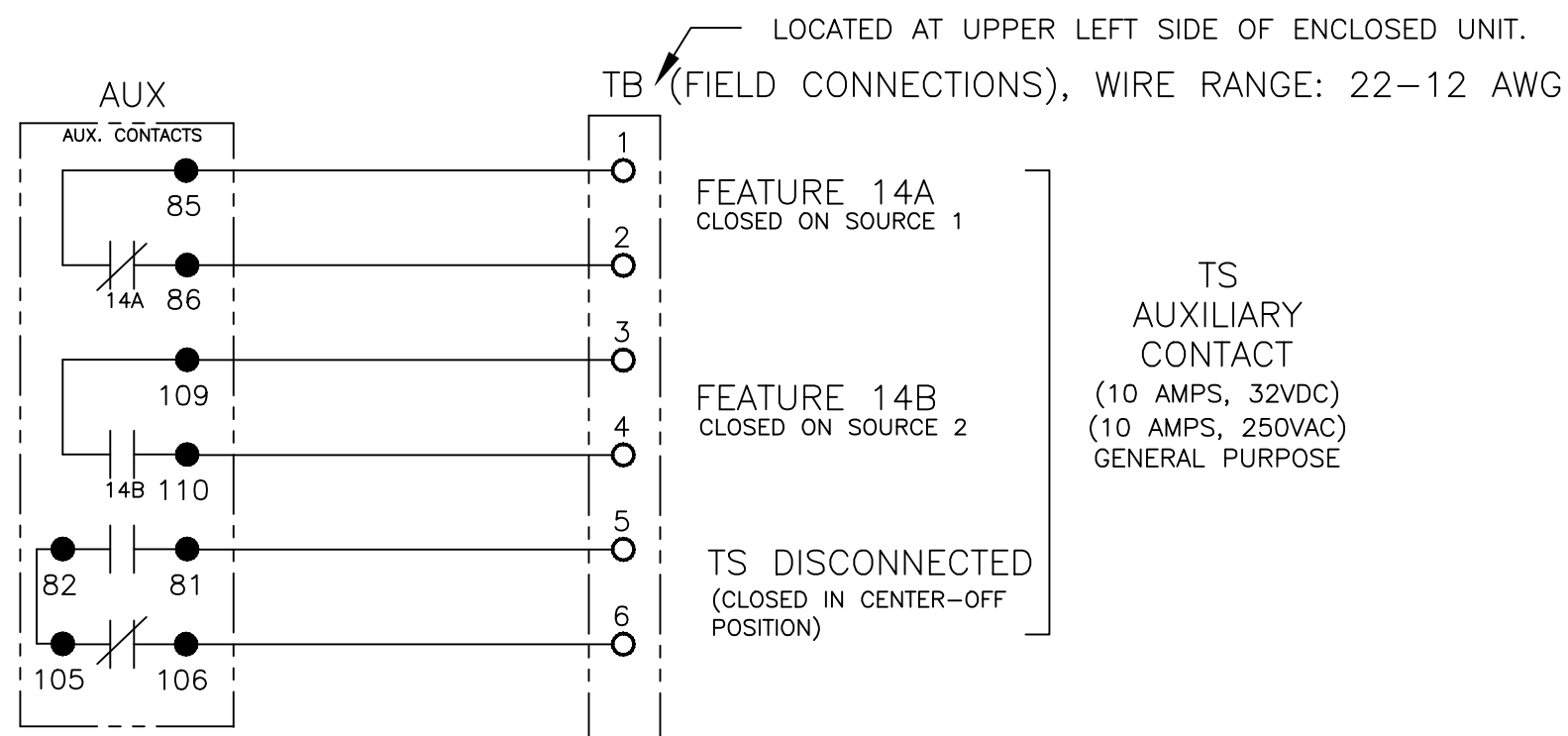
D	289389	AVK	HSL	05/05/21
C	279128	NS	JPB	06/03/19
B	275026	NS	JPB	01/28/19
A	271997	NS	JPB	04/13/18
—	268581	NS	JPB	05/15/17
—	ISSUE			

REV. TO SHEET ECN NO. BY APP. DATE

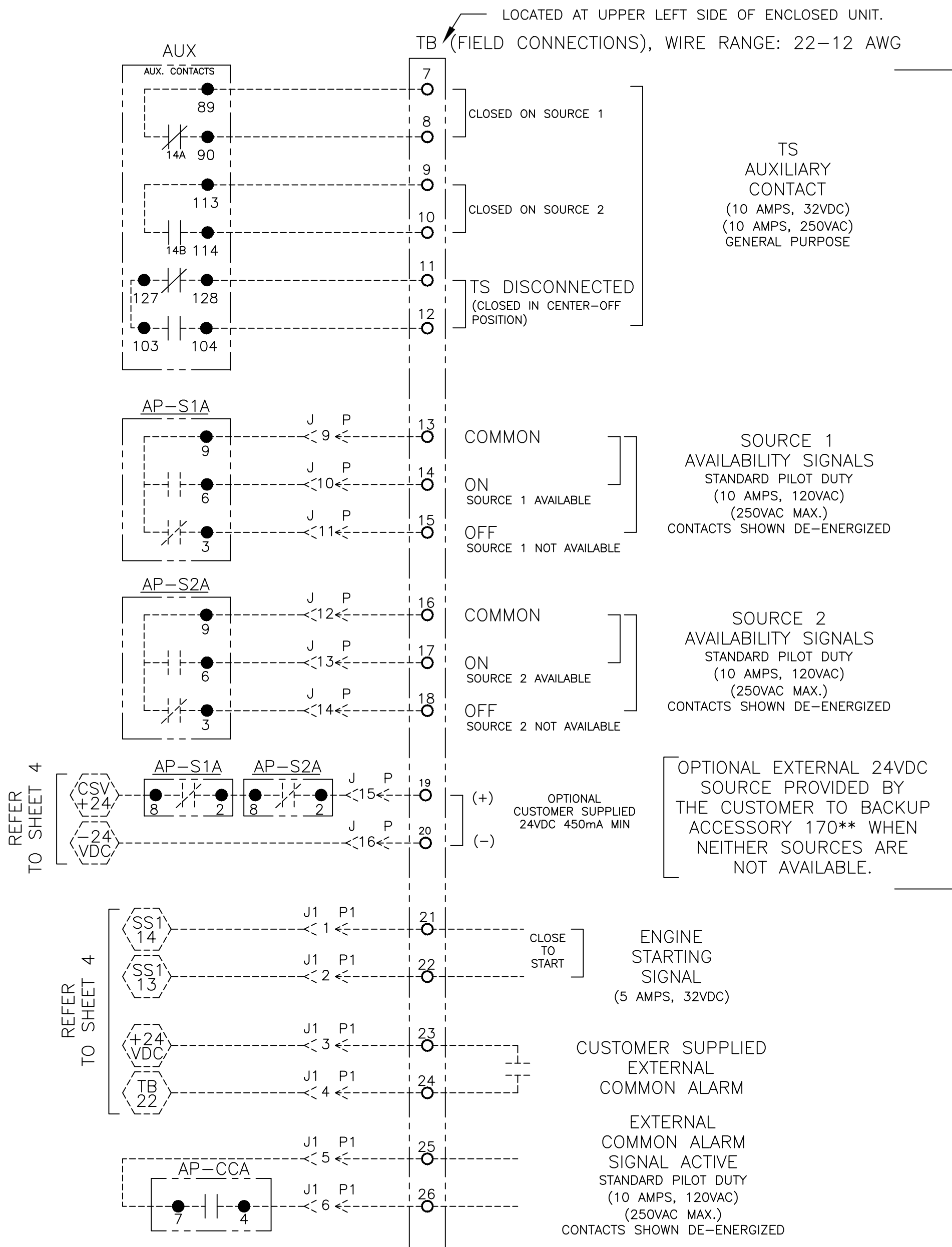
THIRD ANGLE PROJECTION

SCALE 1:1	SIZE DS	COMPUTER GENERATED DRAWING
DWG. NO. 1190033	ECN NO. 289389	SHEET 1 OF 6

FIELD CONNECTIONS BASE



FIELD CONNECTIONS FOR OPTIONAL ACCESSORIES



D	289389	AVK	HSL	05/05/21
C	279128	NS	JPB	06/03/19
B	275026	NS	JPB	01/28/19
A	271997	NS	JPB	04/13/18
—	268581	NS	JPB	05/15/17
ISSUE				

PROJECT NAME:					REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING					DIAGRAM				
300 SERIES (H3MTS) 1PH 600-1200 AMPS									
"H" FRAME, MANUALLY OPERATED TS									
BY DATE									
DRAWN BY	NS	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005		ASSEM. REF. NO.				
CHECKED	JPB	05/15/17	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		COMPUTER GENERATED DRAWING				
PROJECT APPROVAL					SCALE 1:1 SIZE DS				
FINAL APPROVAL					DWG. NO. 1190033				
	ASCO [®] ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.				DRAWING D		ECN 289389	SHEET 2 OF 6	

D

C

B

A

D

C

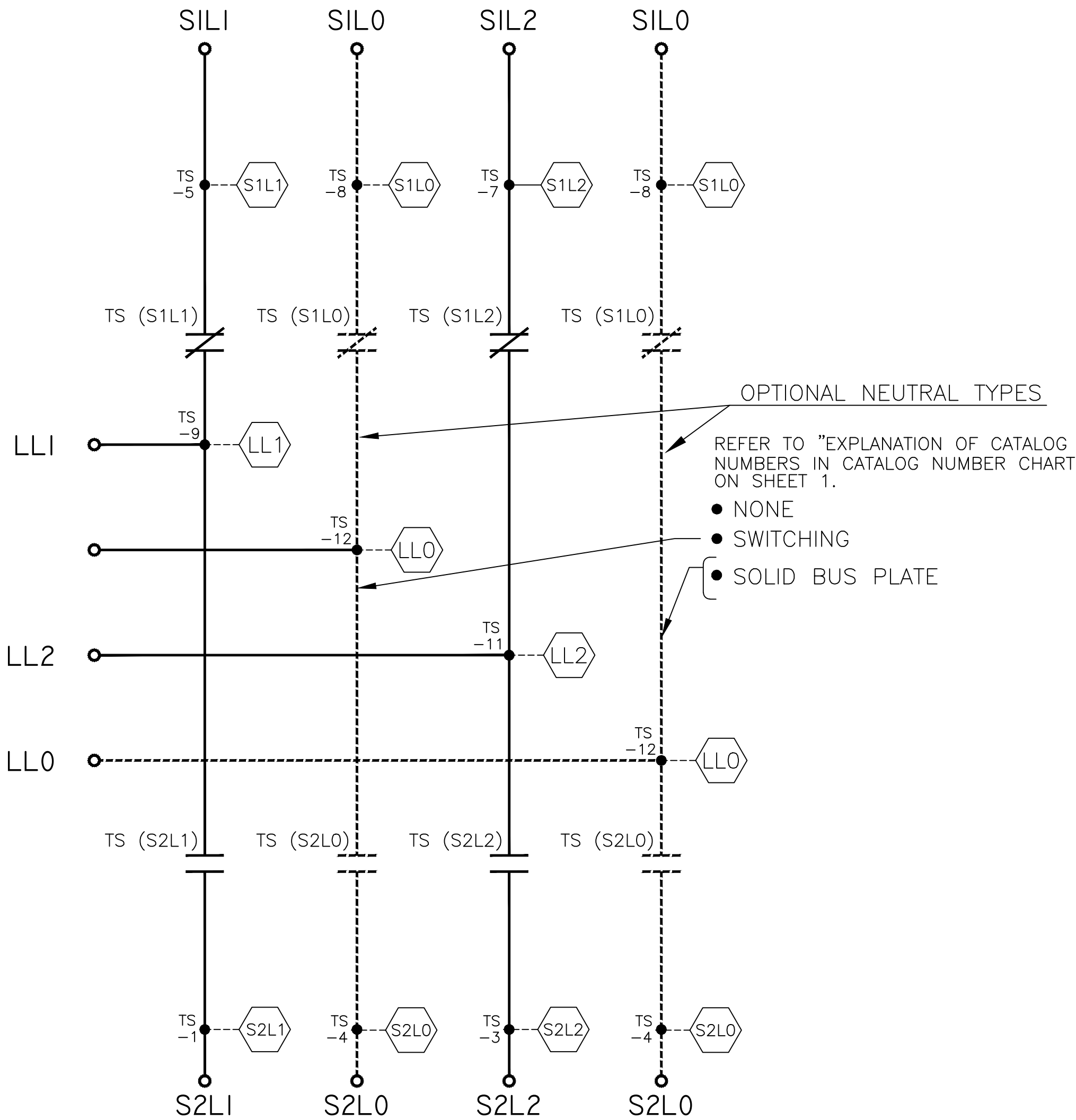
B

A

MAIN POWER POLES

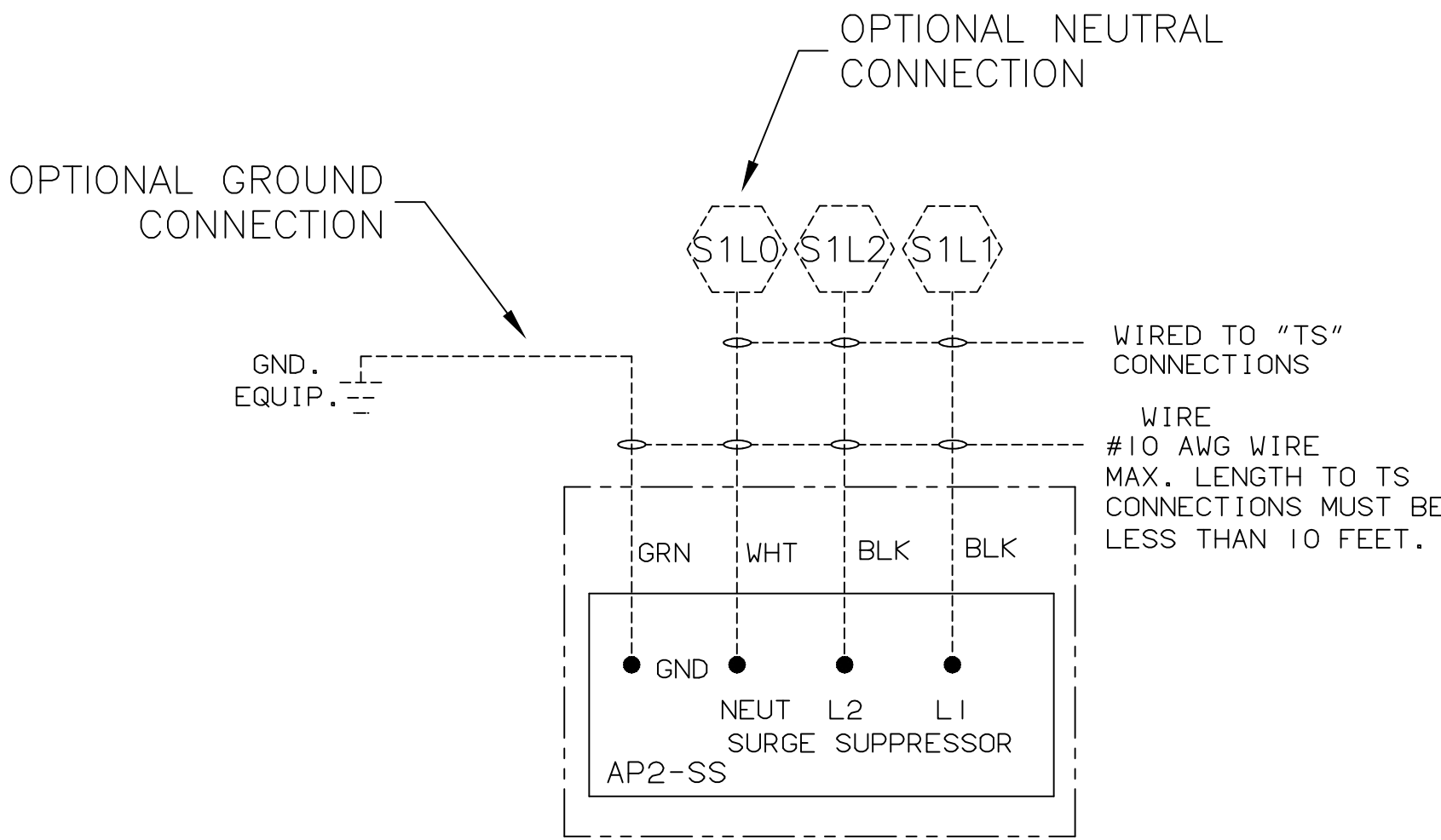
OPTIONAL ACCESSORIES

SOURCE 1

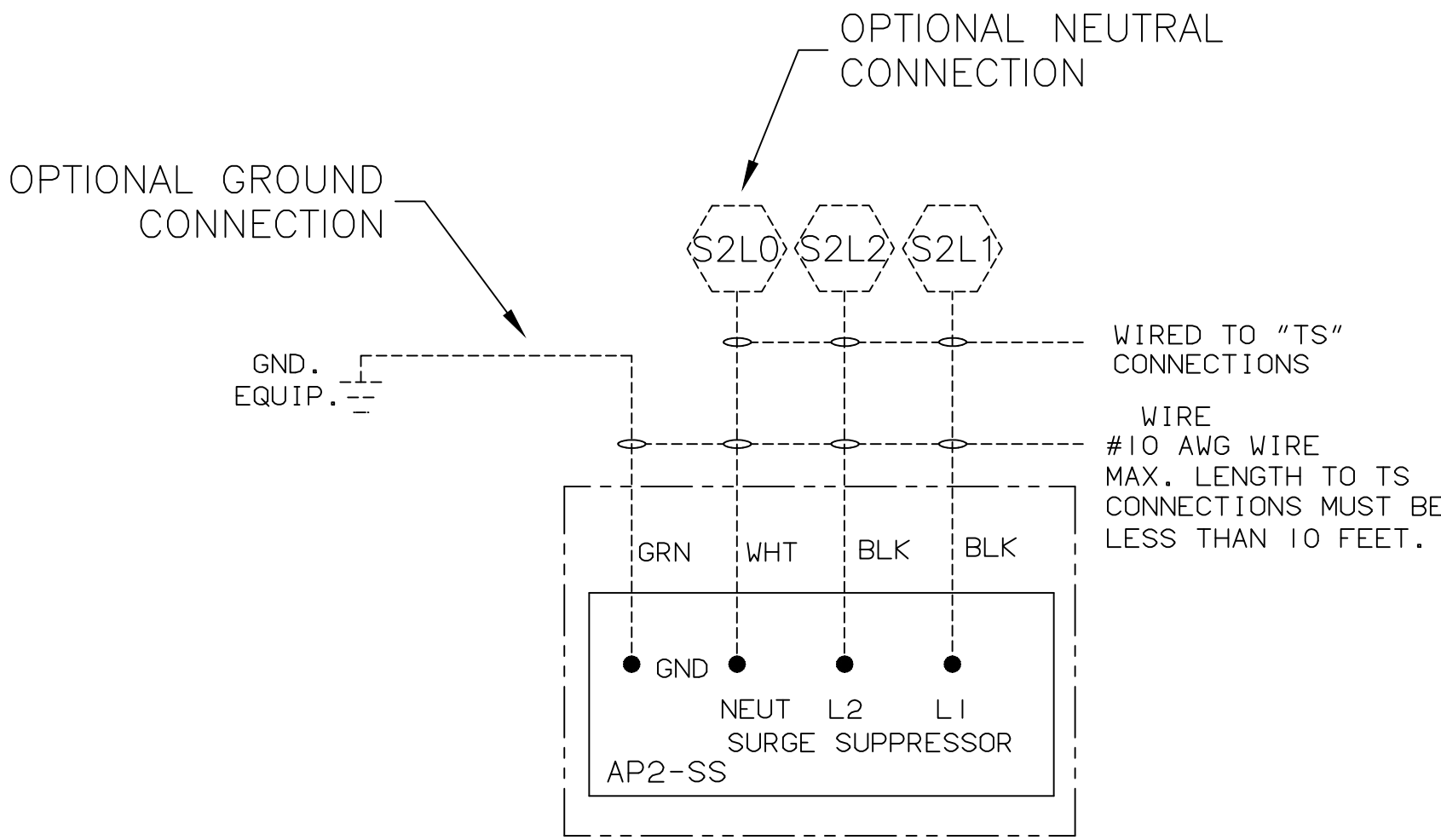


NOTE:
TS SHOWN CLOSED ON SOURCE 1.

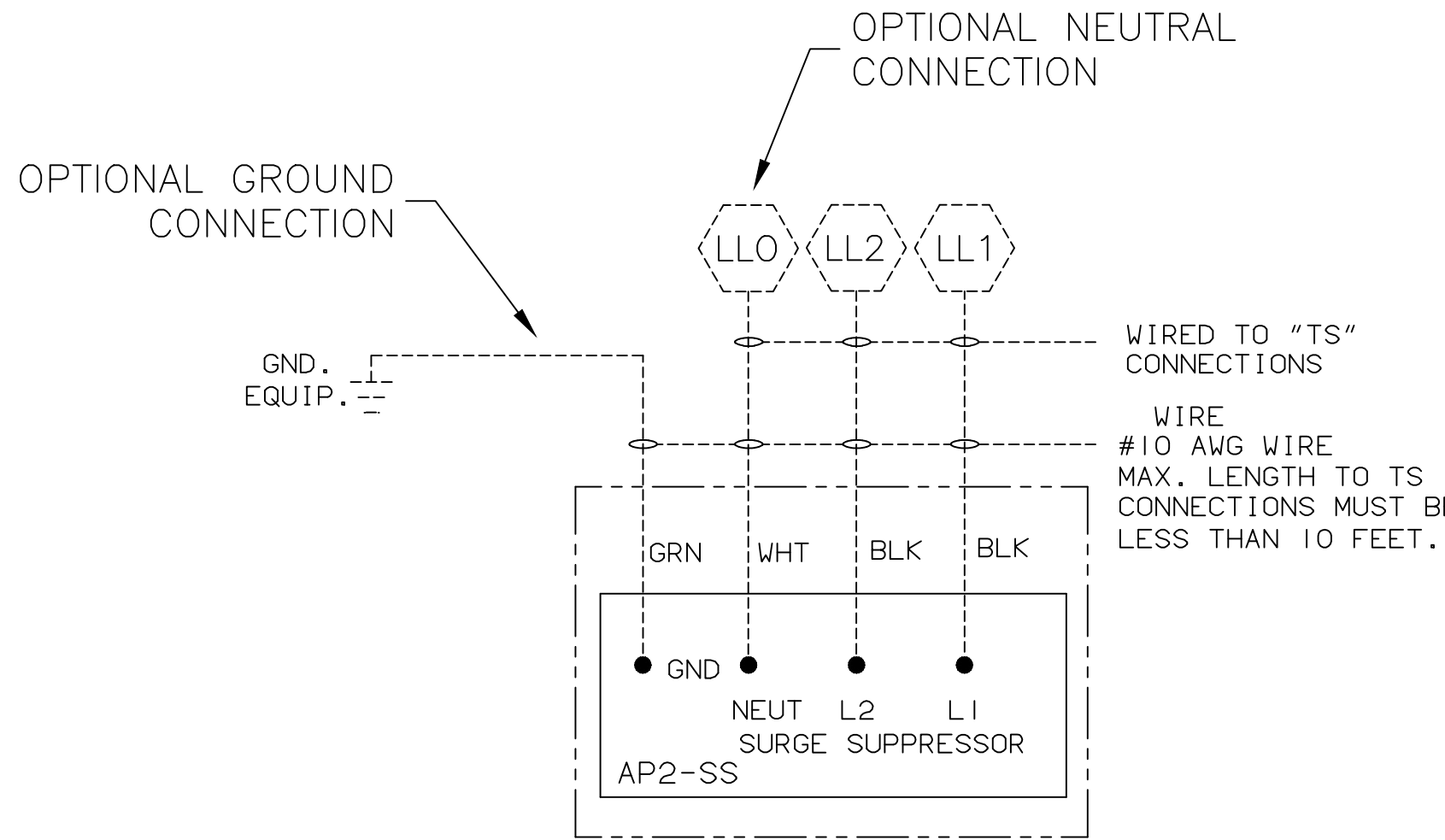
73CA1 SOURCE 1 (SS1)



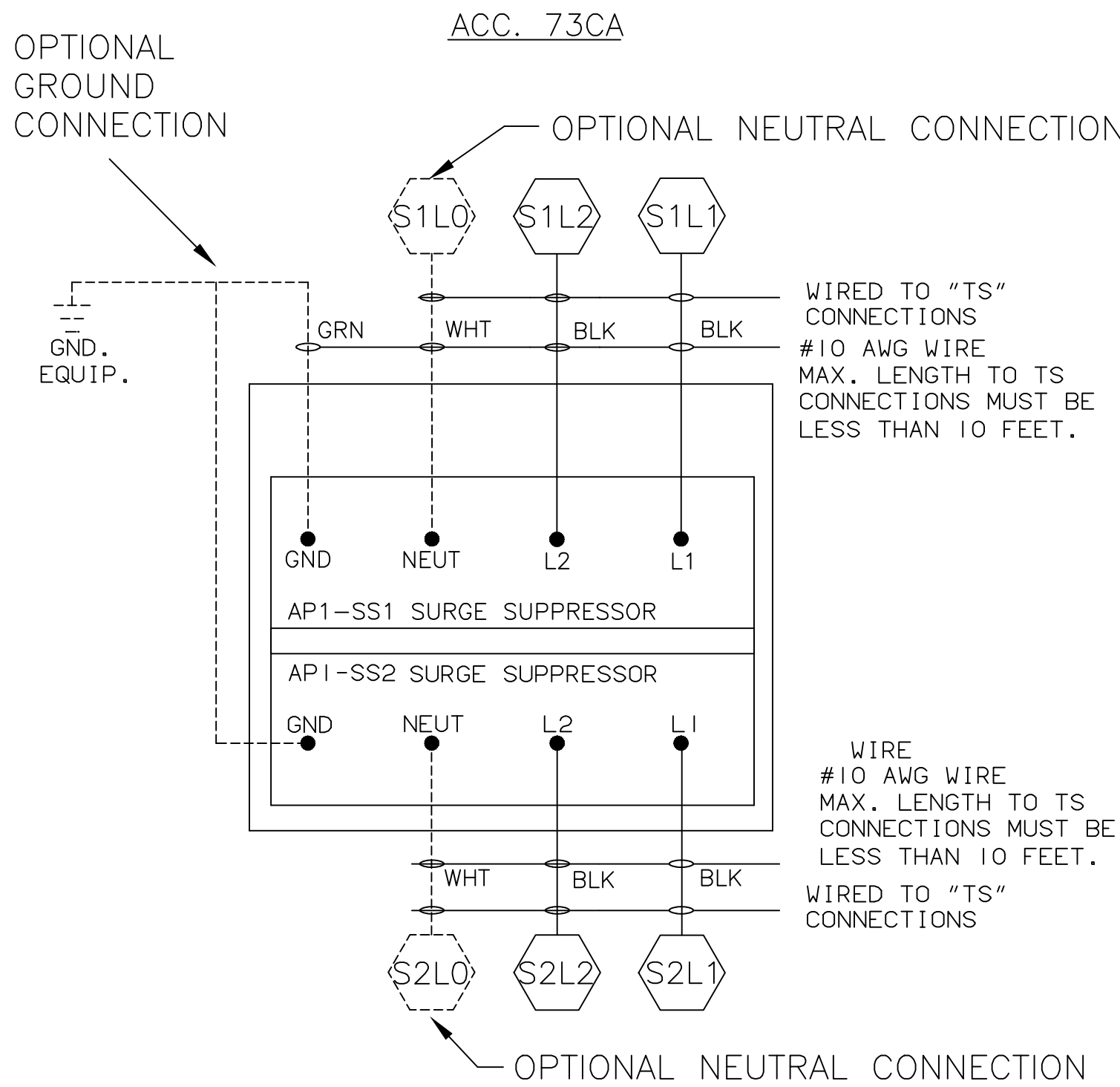
73CA2 SOURCE 2 (SS2)



73CA3 LOAD (SS)



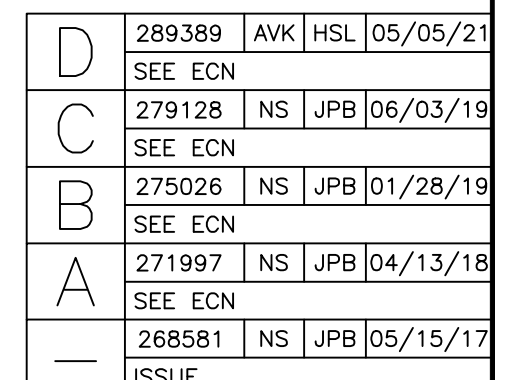
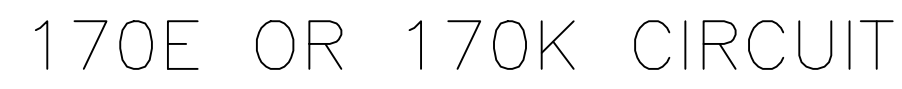
73CA SOURCE 1(SS1) & SOURCE 2(SS2)

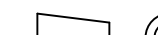
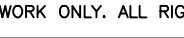


PROJECT NAME:				REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING				DIAGRAM				
300 SERIES (H3MTS) 1PH 600-1200 AMPS								
"H" FRAME, MANUALLY OPERATED TS								
DRAWN BY	NS	05/15/17	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005		ASSEM. REF. NO.	COMPUTER GENERATED DRAWING		
CHECKED	JPB	05/15/17	PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.			SCALE	1:1	SIZE DS
PROJECT APPROVAL						DWG. NO.	1190033	
FINAL APPROVAL						DRAWING D	ECN NO. 289389	SHEET 3 OF 6

ACCESSORIES CIRCUIT MATRIX

170B CIRCUIT



PROJECT NAME:				REV. TO SHEET	ECON NO.	BY	APP.	DATE
WIRING DIAGRAM						 THIRD ANGLE PROJECTION		
300 SERIES (H3MSTS) 1PH 600-1200 AMPS "H" FRAME, MANUALLY OPERATED TS								
BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS USE MP-1-005			ASSEM. REF. NO.			
DRAWN BY	NS	05/15/17				COMPUTER GENERATED DRAWING		
CHECKED	JPB	05/15/17	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.			SCALE	1:1	SIZE DS
PROJECT APPROVAL						DWG. NO. 1190033		
FINAL APPROVAL						DRAWING 4 OF 6		
 ASCO POWER TECHNOLOGIES, L.P. FLORENCE PARK, NEW JERSEY 07932 U.S.A.			ECON			289389		SHEET 4 OF 6

D

C

B

A

D

C

B

A

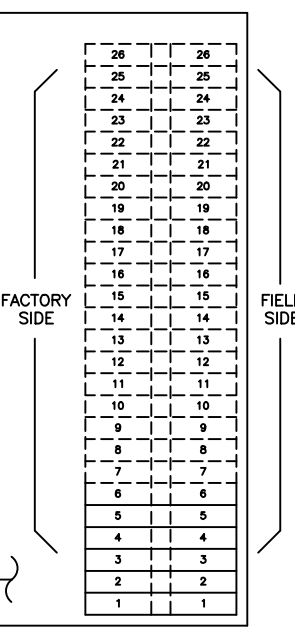
PHYSICAL DIAGRAM

ENCLOSURE

DOOR, INSIDE

TS (TRANSFER SWITCH)
VIEW FROM INSIDE FRONT

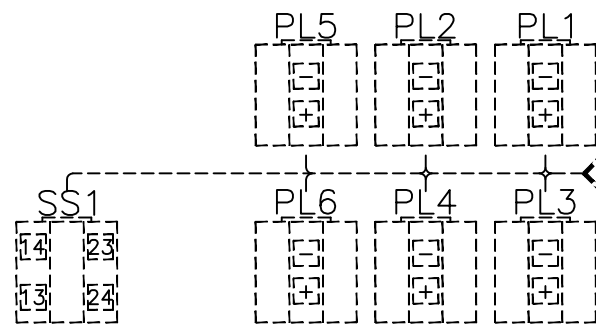
TB



STANDARD:
SOURCE 1 & LOAD OUT
OF THE TOP AND SOURCE 2
OUT THE BOTTOM.

MOUNT BRACKET 779026 ON
CORNER POST FOR FIELD TB

OPERATOR CONTROLS

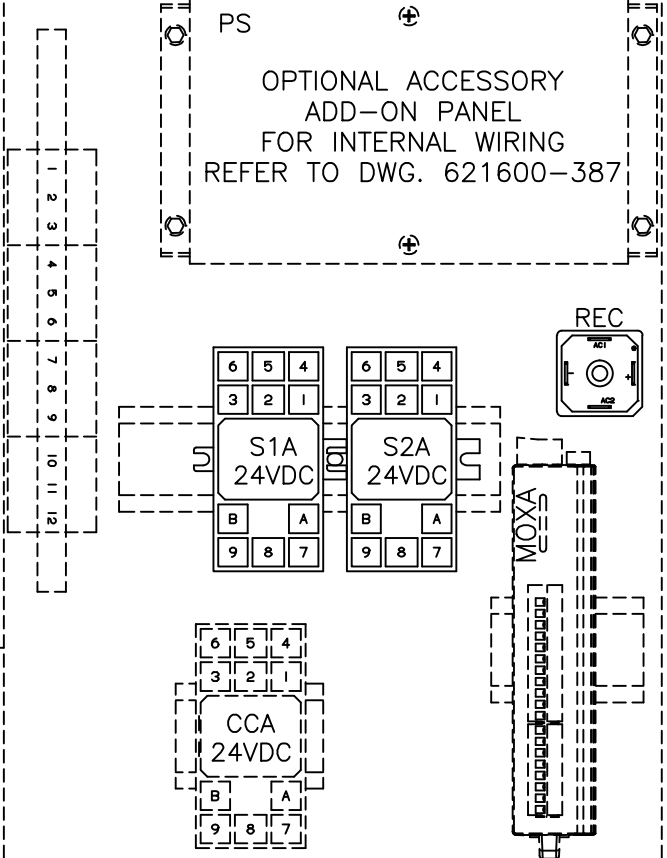


OPTIONAL CONTROLS FOR
ACC.. 170**

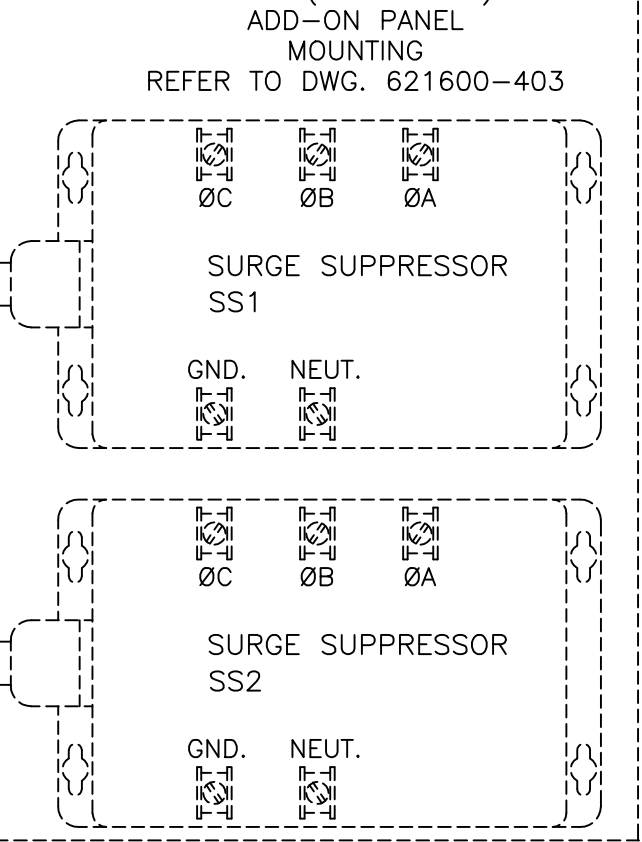
OPERATOR CONTROLS

ID	DESCRIPTION
SS1	MANUAL ENGINE START
PL1	LOAD CONNECTED TO SOURCE 1 (GREEN)
PL2	LOAD CONNECTED TO SOURCE 2 (RED)
PL3	SOURCE 1 AVAILABLE (GREEN)
PL4	SOURCE 2 AVAILABLE (RED)
PL5	TS DISCONNECTED (YELLOW)
PL6	EXTERNAL COMMON ALARM ACTIVE (YELLOW)

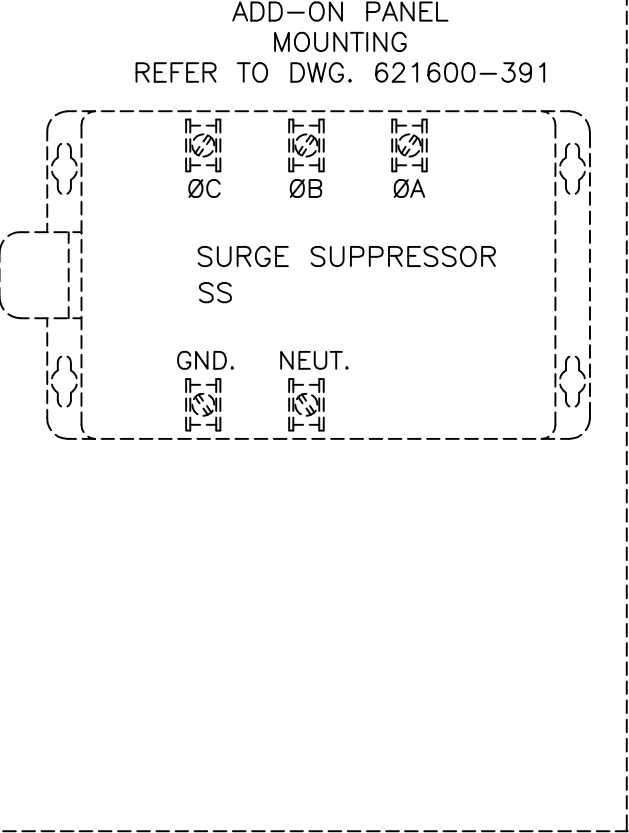
AP



AP1



AP2



NOTE: PHYSICAL MAY VARY BASED ON ENCLOSURE USED.

DOOR HINGE

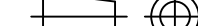
BONDING STRAP
PN 098323-019

D	289389	AVK	HSL	05/05/21
C	279128	NS	JPB	06/03/19
B	275026	NS	JPB	01/28/19
A	271997	NS	JPB	04/13/18
—	268581	NS	JPB	05/15/17
				ISSUE

PROJECT NAME:				REV. TO SHEET	ECN NO.	BY	APP.	DATE
WIRING				DIAGRAM				
300 SERIES (H3MTS) 1PH 600-1200 AMPS								
"H" FRAME, MANUALLY OPERATED TS								
DRAWN BY	BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005			ASSEM. REF. NO.		
CHECKED	JPB	05/15/17	PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.			SCALE 1:1 SIZE DS		
PROJECT APPROVAL						COMPUTER GENERATED DRAWING		
FINAL APPROVAL						DWG. NO. 1190033		
			ASCO® ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.			DRAWING D ECN NO. 289389 SHEET 5 OF 6		

WIRE RUN LISTING

[illegible]

PROJECT NAME:					REV. TO SHEET	ECN NO.	BY	APP.	DATE	
WIRING					DIAGRAM					
300 SERIES (H3MTS) 1PH 600-1200 AMPS					 THIRD ANGLE PROJECTION					
"H" FRAME, MANUALLY OPERATED TS										
BY	DATE	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			
DRAWN BY	NS	05/15/17	PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.			SCALE		1:1	SIZE	DS
CHECKED	JPB	05/15/17				DWG. NO.		1190033		
PROJECT APPROVAL						DRAWING NO.		D	ECN	289389
FINAL APPROVAL			 ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.							