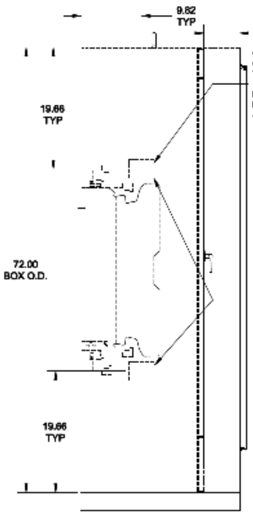
Transfer Switch Details

#12	ATS	AMPS: 0800	QTY: 4

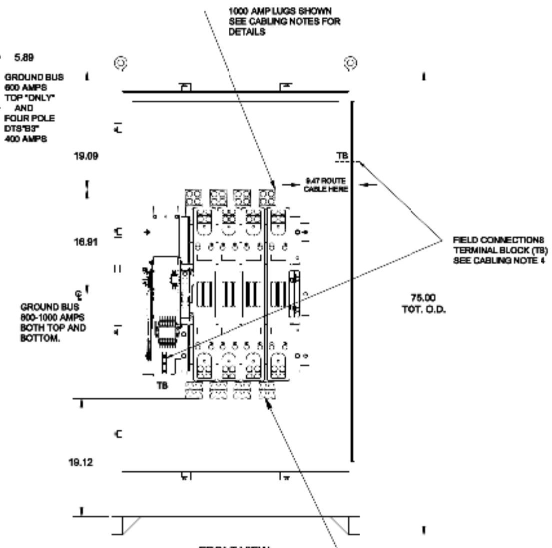
Product	:	Series 300	Catalog Number	:	H03ATSB30800NGXM
Service Voltage / Hz	:	480V/60Hz	Optional Accessories	:	11BE,44G
Bypass Isolation	:	Not Applicable	Product Description	:	300 Series, Automatic Open Transition Transfer Switch
No. of Switched Poles: 4	:	4	Neutral Configuration	:	Switched [B]
Withstand Rating: Frame = H, Switch Rating = 0800, Series = 300	:	See WCR Table Below	No. of Cables & Lug Size	:	4, 1/0 AWG to 600 MCM
Enclosure	:	3R(M)-UL Type 3R secure double door enclosure (See Disclaimer 3)	Service	:	Three Phase, 4-wire
Extended Warranty	:	Not Included	Markings	:	

#	ACCESSORY DESCRIPTIONS	
	Accessory Code	Description
1	11BE	Adds the following features to the Group G controller: (1) Serial RS-485 Modbus Communications (2) Multi-Schedule Engine Exerciser (3) a 300 Entry Event Log and (4) a common alarm output function. When applied on 3-phase systems it also enables: (1) 3-Phase Emergency Source VLL sensing (2) Phase Rotation Monitoring (3) Emergency Source VLL Unbalance Monitoring.
2	44G	Strip heater w/ thermostat, wired to load terminals: 208-600 volts

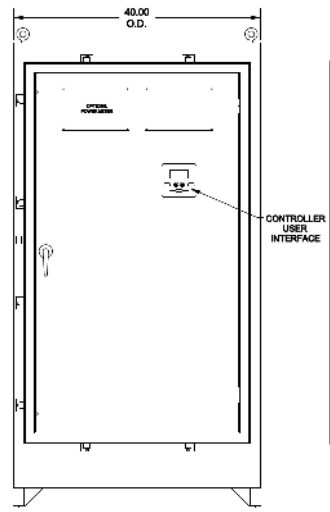
OUTLINE FOR ASCO SERIES 600-1000 AMPERE "H" FRAME (3ATS,3ACTS,3ADTS) FRONT CONNECTED TRANSFER SWITCHES TYPE 3R, 4, 4X, 12 SECURE ENCLOSURE



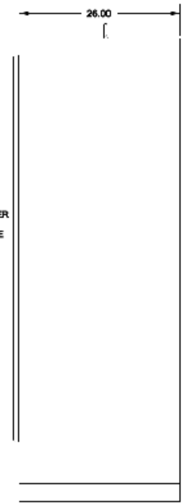
LEFT SIDE

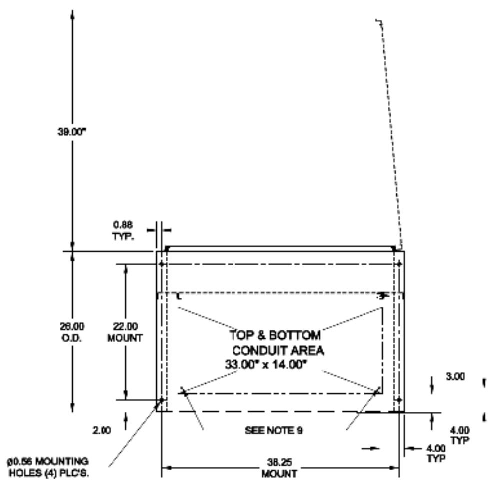


FRONT VIEW
WITHOUT INNER AND OUTER DOOR

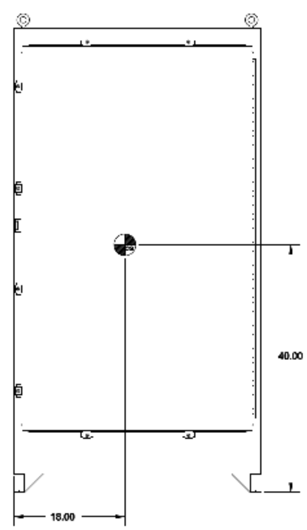


FRONT VIEW
WITHOUT OUTER DOOR

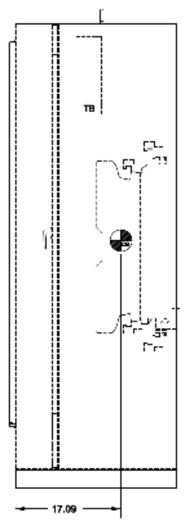




BOTTOM VIEW



FRONT VIEW
WITH DOOR



RIGHT SIDE

GENERAL NOTES

1. TYPE 3R/4/4X/12 ENCLOSURE. FREE STANDING. FLOOR MOUNTED. CODE GAUGE CONSTRUCTION.
2. DOOR HINGED ON RIGHT SIDE. DOOR CLAMPS AND LOCKABLE HASP ON LEFT SIDE.
3. STANDARD FINISH TYPE 3R/4/12: ANSI 61 GRAY, POLYESTER POWDER STANDARD. TYPE 4X FINISH UNPAINTED BRUSHED STAINLESS STEEL. OTHER ANSI COLORS AVAILABLE CONSULT FACTORY.
4. RECOMMENDED CLEARANCES: FRONT: 40 INCHES
5. A 20% RATED GROUND BUS IS PROVIDED.
6. UNIT IS DESIGNED FOR COMBINATION TOP AND BOTTOM CABLE ENTRY. THE STANDARD SWITCH CONFIGURATION IS FOR TOP LUGS EMERGENCY AND LOAD AND BOTTOM LUGS NORMAL. OPTIONALLY, THE SWITCH MAY BE SUPPLIED WITH REVERSE NORMAL & EMERGENCY LUGS. (REFER TO THE WIRING DIAGRAM FURNISHED WITH EACH TRANSFER SWITCH TO DETERMINE TERMINATION POSITIONS).
7. NEUTRAL CONFIGURATIONS:
   AN OPTIONAL FULL RATED NEUTRAL CONFIGURATION FOR EACH SOURCE AND THE LOAD MAY BE PROVIDED. WHEN EQUIPPED IT IS IN ONE OF THE FOLLOWING FORMATS AS SPECIFIED BY THE CATALOG NUMBER NO. NEUTRAL TYPE:
   (A) SOLID (COPPER BUS) NEUTRAL
   (B) SWTICHED NEUTRAL POLE
8. CENTER OF GRAVITY.
9. REMOVE BOTTOM KNOCKOUTS FOR TYPE 3R.

CABLING NOTES

1. ALL SIZES SUPPLIED STANDARD WITH MECHANICAL (SCREW TYPE) LUGS. (SEE AMP SIZE BELOW)
   A. LUG MATERIAL: ALUMINUN ALLOY 6061-T6 WITH ELECTRO TIN PLATED FINISH.
   B. SCREW MATERIAL: ALUMINUM ALLOY 6262-T9 WITH ELECTRO TIN PLATED FINISH.
   C. UL LISTED, CSA CERTIFIED.
   D. LUG SCREW TIGHTENING TORQUE PER UL 486B: 19 FT-LBS.
   E. SUITABLE WIRE BENDING SPACE IS PROVIDED. (SEE AMP SIZE BELOW)
2. CONSULT FACTORY FOR OTHER TERMINATION REQUIREMENTS.
3. GROUND LUGS ARE PROVIDED STANDARD AS FOLLOWS. (SEE AMP SIZE BELOW).
4. CUSTOMER TERMINAL BLOCKS:
   FOR ALL 300 SERIES 3NDTS, 3ADTS UNITS THE TB WILL BE MOUNTED ON THE UPPER RIGHT INSIDE OF ENCLOSURE.
   FOR ALL 3ATS AND 3NTS UNITS TB WILL BE MOUNTED ON THE TRANSFER SWITCH FRAME AS INDICATED.

NOTES 600 AMP SWITCHES

1. SUPPLIED WITH STANDARD MECHANICAL (SCREW TYPE) LUGS ON THE NORMAL, EMERGENCY & LOAD BUS STABS. ONE (1) LUG PER PHASE AND NEUTRAL EACH SUITABLE FOR CONNECTION OF TWO (2) #2 -600MCM CU/AL CABLE.
   A. SUITABLE WIRE BENDING SPACE IS PROVIDED FOR UP TO TWO (2) 600MCM CABLES PER TERMINAL PER NEC.
2. GROUND LUGS ARE PROVIDED STANDARD AS FOLLOWS;
   (6) 1/0 - 750MCM CU/AL CABLE CONNECTIONS.

NOTES 800-1000 AMP SWITCHES

1. SUPPLIED WITH STANDARD MECHANICAL (SCREW TYPE) LUGS ON THE NORMAL, EMERGENCY & LOAD BUS STABS. ONE (1) LUG PER PHASE AND NEUTRAL EACH SUITABLE FOR CONNECTION OF FOUR (4) 1/0 -750MCM CU/AL CABLE.
   A. SUITABLE WIRE BENDING SPACE IS PROVIDED FOR UP TO FOUR (4) 600MCM CABLES PER TERMINAL PER NEC.
2. GROUND LUGS ARE PROVIDED STANDARD AS FOLLOWS;
   (12) 1/0 - 750MCM CU/AL CABLE CONNECTIONS.

NOTES 400A (ADTS"B3" 4 POLE ONLY)

1. GROUND LUGS ARE PROVIDED STANDARD AS FOLLOWS;
   (3) #6 - 250MCM CU/AL CABLE CONNECTIONS.

APPROXIMATE SHIPPING WEIGHT, LBS (KG)

SWITCH RATING (AMPS)	POLES	WEIGHTS LB (KG)
600,800	2	569 (258)
600,800	3	592 (269)
1000	2	581 (264)
1000	3	610 (277)
1000	4	639 (290)

REV.	ECN NO.	BY	APP.	DATE
B	279783 SEE ECN	WK	BK	07/03/19
A	276441 SEE ECN	BCS	RN	
-	247557 ISSUED	TR	BK	

PROJECT NAME:

OUTLINE
300 SERIES 72x40x26
"H" FRAME 600-1000 AMP, TYPE 4/4X/12 SECURE ENCLOSURES

THIRD ANGLE PROJECTION

	BY	DATE
DRAWN BY	DJB	04/17/14
CHECKED	BK	04/17/14
PROJECT APPROVAL	BK	04/17/14
FINAL APPROVAL		

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1605. FOR PLASTIC PARTS SEE MP-1606

ASSEM. REF. NO.

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

COMPUTER GENERATED DRAWING
SCALE NONE | SIZE DS
DWG. NO. 1001394-006
DRAWING REV. B | ECN NO. 279783 | SHEET 1 OF 1

THREE PHASE WIRING FOR ASCO 300 SERIES TRANSFER SWITCHES TYPES H3ATS & H3NTS RATED 800, 1000 & 1200 AMPERES

GENERAL INFORMATION

THIS WIRING APPLIES TO 300 SERIES TRANSFER SWITCHES THAT UTILIZE THE "H" FRAME POWER TRANSFER SWITCH RATED 800-1200 AMPERES.

THE GROUP G CONTROLLER PROVIDES EITHER AUTOMATIC (D3ATS) OR NON-AUTOMATIC [MANUAL] (H3NTS) OPERATION BASED ON ITS FACTORY SETTING ACCORDING TO THE CUSTOMER ORDER REQUIREMENTS.

THE TYPE OF TRANSFER SWITCH PROVIDED CAN BE DETERMINED FROM THE PRODUCT IDENTIFICATION MARKINGS LOCATED ON BOTH THE POWER TRANSFER SWITCH AND THE COVER OF THE GROUP G CONTROLLER.

ALL OPERATIONAL SETTINGS AND SEQUENCES OF THE GROUP G CONTROLLER AND ITS RELATED OPTIONAL ACCESSORIES (1UP, 18RX, 23G) ARE PROVIDED IN THE USER'S GUIDE, ASCO GROUP G CONTROLLER FOR AUTOMATIC & NON-AUTOMATIC TRANSFER SWITCHES, PART NUMBER 381333-400.

INFORMATION FOR INSTALLATION AND TESTING OF THE TRANSFER SWITCH IS PROVIDED IN THE INSTALLATION MANUAL, ASCO 3ATS & 3NTS, H-DESIGN 800-1200 A TRANSFER SWITCHES, PART NUMBER 381333-405.

ENGINE CONTROL CONTACTS

FEATURE 7 & FEATURE 8:
ONE SET OF FORM C CONTACTS "NR" (FEAT. 7 N/C, FEAT. 8 N/O) THAT CHANGE POSITION ON EXPIRATION OF THE FEATURE 1C, OVERRIDE MOMENTARY NORMAL SOURCE OUTAGES TIME DELAY, AND RESET ON EXPIRATION OF THE FEATURE 2E ENGINE COOLDOWN TIME DELAY.
AN AUXILIARY CONTACT THAT IS CLOSED WHEN THE TRANSFER SWITCH IS CONNECTED TO THE EMERGENCY SOURCE, IS CONNECTED ACROSS THE N/C CONTACT (FEATURE 7).

AN ADDITIONAL SET OF ENGINE STARTING CONTACTS ARE AVAILABLE ON THE GROUP 3 CONTROLLER WHEN THE FEATURE SETTING OF THE CONTROLLER OUTPUT CONTACTS "OP1" IS SET TO OPERATE AS "NR2".

ADDITIONAL, OPTIONAL ENGINE STARTING CONTACTS "NR2" ARE AVAILABLE WHEN OPTIONAL ACCESSORY 18RX (RELAY EXPANSION MODULE) IS INCLUDED IN THE TRANSFER SWITCH ASSEMBLY. OUTPUT CONTACTS "OP2" AND/OR "OP3" PROVIDE THE ENGINE STARTING FUNCTION WHEN THE FEATURE SETTING OF EACH IS SET TO OPERATE AS "NR2".

CONTACTS ARE RATED 5 AMPS RESISTIVE AT 30 VDC MAXIMUM, 100 mA AT 5 VDC MINIMUM.

REFER TO USER'S GUIDE, ASCO GROUP G CONTROLLERFOR AUTOMATIC & NON-AUTOMATIC TRANSFER SWITCHES, PART NUMBER 381333-400 FOR SETTING INFORMATION.

LOAD DISCONNECT FEATURE

FEATURE 31: INCLUDES SUB-FEATURES 31F, 31G, 31M, 31N
A SET OF FORM C CONTACTS ARE PROVIDED ON THE GROUP G CONTROLLER AS "OP1". WHEN THE FEATURE SETTING OF "OP1" IS SET TO OPERATE THE CONTACTS AS "FEATURE 31", THE TIME DELAY SETTINGS OF THE SUB-FEATURES ARE AVAILABLE.

"OP1" CAN BE SET TO OPERATE TO PROVIDE THE FOLLOWING FUNCTIONS USING THE TIME DELAY SETTINGS ASSOCIATED WITH EACH SUB-FEATURE;

31F - NORMAL TO EMERGENCY PRE-TRANSFER SIGNAL
31G - EMERGENCY TO NORMAL PRE-TRANSFER SIGNAL
31M - NORMAL TO EMERGENCY POST-TRANSFER SIGNAL
31N - EMERGENCY TO NORMAL POST TRANSFER SIGNAL

THE "OP1" OUTPUT CONTACTS CHANGE POSITION FOLLOWING EACH OF THE ABOVE TIME DELAYS.

ADDITIONAL LOAD DISCONNECT CONTACTS, "FEATURE 31" ARE AVAILABLE WHEN OPTIONAL ACCESSORY 18RX (RELAY EXPANSION MODULE) IS INCLUDED IN THE TRANSFER SWITCH ASSEMBLY. OUTPUT CONTACTS "OP2 AND/OR "OP3" WILL PROVIDE LOAD DISCONNECT FUNCTIONS WHEN THE FEATURE SETTING OF EACH IS SET TO OPERATE AS "FEATURE 31"

ALL OUTPUT CONTACTS ("OP1", "OP2", "OP3") SET TO OPERATE AS "FEATURE 31", SHARE THE COMMON TIME DELAY SETTINGS OF SUB-FEATURES 31F,31G, 31M, AND 31N.

CONTACTS ARE RATED 5 AMPS RESISTIVE AT 30 VDC MAXIMUM, 100 mA AT 5 VDC MINIMUM.

REFER TO USER'S GUIDE, ASCO GROUP G CONTROLLERFOR AUTOMATIC & NON-AUTOMATIC TRANSFER SWITCHES, PART NUMBER 381333-400 FOR SETTING INFORMATION.

INPHASE TRANSFER FEATURE FOR LOAD TRANSFER

INPHASE TRANSFER CONTROL INITIATES AN INPHASE TRANSFER OF LOADS BETWEEN LIVE SOURCES. THIS IS USED TO PREVENT NUISANCE TRIPPING OF DISTRIBUTION CIRCUIT BREAKERS AND POSSIBLE DAMAGE TO MECHANICAL LOADS ASSOCIATED WITH OUT OF PHASE TRANSFER.

REFER TO USER'S GUIDE, ASCO GROUP G CONTROLLERFOR AUTOMATIC & NON-AUTOMATIC TRANSFER SWITCHES, PART NUMBER 381333-400 FOR SETTING INFORMATION.

SOURCE AVAILABILITY SIGNALS

SIGNALS INDICATING THE AVAILABILITY OF THE NORMAL & EMERGENCY SOURCES IS PROVIDED WHEN OPTIONAL ACCESSORY 18RX (RELAY EXPANSION MODULE) IS INCLUDED IN THE TRANSFER SWITCH ASSEMBLY. OUTPUT CONTACTS "RL5" (EMERGENCY SOURCE AVAILABLE) AND "RL6" (NORMAL SOURCE AVAILABLE) CHANGE POSITION WHEN THE SOURCE IS ACCEPTABLE.

CONTACTS ARE RATED 5 AMPS RESISTIVE AT 30 VDC MAXIMUM, 100 mA AT 5 VDC MINIMUM.

COMMON ALARM &NOT IN AUTO SIGNALING FEATURES

A SET OF FORM C CONTACTS IS PROVIDED ON THE GROUP G CONTROLLER AS "OP1". THE FEATURE SETTING OF "OP1" CAN BE SET TO OPERATE THE CONTACTS AS A "NOT IN AUTO" SIGNAL.

WHEN "OP1" IS SET FOR "NOT IN AUTO", THE OUTPUT CONTACTS CHANGE POSITION WHEN THE TRANSFER IS BEING INHIBITED FROM TRANSFERRING TO THE EMERGENCY SOURCE (FEATURE 34B) OR THE TRANSFER SWITCH HAS BEEN SET FOR NON-AUTOMATIC (MANUAL) OPERATION.

WHEN OPTIONAL ACCESSORY 11BE "SOFTWARE BUNDLE" IS PART OF THE TRANSFER SWITCH ASSEMBLY, "OP1" MAY ALTERNATIVELY SET FOR A "COMMON ALARM" SIGNAL. THE OUTPUT CONTACTS CHANGE POSITION WHEN A "COMMON ALARM" IS NOT PRESENT AND RESET WHEN A "COMMON ALARM" CONDITION IS PRESENT. THE "COMMON ALARM" SIGNAL CONDITIONS ARE SELECTABLE.

ADDITIONAL "COMMON ALARM" AND "NOT IN AUTO" CONTACTS ARE AVAILABLE WHEN OPTIONAL ACCESSORY 18RX (RELAY EXPANSION MODULE) IS INCLUDED IN THE TRANSFER SWITCH ASSEMBLY. OUTPUT CONTACTS "OP2 AND/OR "OP3" WILL PROVIDE SIGNAL FUNCTIONS WHEN THE FEATURE SETTING OF EACH IS SET TO OPERATE AS "COMMON ALARM" OR "NOT IN AUTO".

CONTACTS ARE RATED 5 AMPS RESISTIVE AT 30 VDC MAXIMUM, 100 mA AT 5 VDC MINIMUM.

REFER TO USER'S GUIDE, ASCO GROUP G CONTROLLER FOR AUTOMATIC & NON-AUTOMATIC TRANSFER SWITCHES, PART NUMBER 381333-400 FOR SETTING INFORMATION.

EXTERNAL POWER SUPPLY COMPATIBILITY

USE OF AN EXTERNAL POWER SUPPLY IS USEFUL WHEN REQUIRED TO EXTEND THE FOLLOWING CONTROLLER TIME DELAYS BEYOND 6 SECONDS;

FEATURE 1C - OVERRIDE MOMENTARY NORMAL SOURCE OUTAGES
FEATURE 1F - OVERRIDE MOMENTARY EMERGENCY SOURCE OUTAGES

AN EXTERNAL POWER SUPPLY IS ALSO USEFUL WHEN THE TRANSFER SWITCH IS USED WITH COMMUNICATIONS FEATURES BY ENABLING THE CONTROLLER TO CONTINUE COMMUNICATING.

AN EXTERNAL POWER SOURCE MAY BE PROVIDED TO THE CONTROLLER, UNTIL THE NORMAL SOURCE OR EMERGENCY SOURCE IS AVAILABLE, BY USE OF;

- AN EXTERNAL 24 VDC POWER SUPPLY WITH ACCESSORY 18RX (RELAY EXPANSION MODULE)
  OR
- OPTIONAL ACCESSORY 1UP (UNINTERRUPTIBLE POWER SUPPLY MODULE)

EXTERNAL 24 VDC POWER SUPPLY "1G":
AN EXTERNAL 24 VDC POWER SUPPLY MAY BE USED TO POWER THE CONTROLLER WHEN ACCESSORY 18RX (RELAY EXPANSION MODULE) IS INCLUDED IN THE TRANSFER SWITCH ASSEMBLY. OUTPUT CONTACTS "OP2" WILL PROVIDE EXTERNAL 24 VDC POWER SUPPLY FUNCTIONALITY WHEN IT'S FEATURE SETTING IS SET TO OPERATE AS "1G". ADDITIONALLY, JUMPERS MUST BE RECONFIGURED ON ACCESSORY 18RX (RELAY EXPANSION MODULE) TO ENABLE THIS FUNCTION AS FOLLOWS;

REMOVE JUMPERS "J1" 1-2 & "J1" 3-4
CONNECT JUMPERS "J1" 5-7 & "J1" 6-8

THE OUTPUT CONTACTS CHANGE POSITION WHEN EITHER THE NORMAL SOURCE OR EMERGENCY SOURCE IS AVAILABLE AND RESET WHEN NEITHER SOURCE IS AVAILABLE. THE "OP2" N/C CONTACT SWITCHES CUSTOMER PROVIDED +24 VDC FROM THE EXTERNAL POWER SUPPLY TO THE CONTROLLER.

REFER TO USER'S GUIDE, ASCO GROUP G CONTROLLER FOR AUTOMATIC & NON-AUTOMATIC TRANSFER SWITCHES, PART NUMBER 381333-400 FOR SETTING INFORMATION.

ACCESSORY 1UP (UNINTERRUPTIBLE POWER SUPPLY):
WHEN OPTIONAL ACCESSORY 1UP IS INCLUDED IN THE TRANSFER SWITCH ASSEMBLY, THE CONTROLLER IS PROVIDED WITH LIMITED RESERVE POWER (APPROXIMATELY 3 MINUTES).

LOAD CURRENT METERING

WHEN OPTIONAL ACCESSORY 23GB IS PART OF THE TRANSFER SWITCH ASSEMBLY, THREE PHASE CURRENT MEASUREMENTS ARE AVAILABLE FOR DISPLAY ON THE GROUP 3 CONTROLLER.

REFER TO USER'S GUIDE, ASCO GROUP G CONTROLLER FOR AUTOMATIC & NON-AUTOMATIC TRANSFER SWITCHES, PART NUMBER 381333-400 FOR INFORMATION ON USE.

ADVANCED-FUNCTION SOFTWARE BUNDLE

WHEN OPTIONAL ACCESSORY 11BE IS PART OF THE TRANSFER SWITCH ASSEMBLY, AN ADVANCED-FUNCTION SOFTWARE BUNDLE IS AVAILABLE TO PERFORM THE FOLLOWING FUNCTIONS;

- SERIAL COMMUNICATIONS (RS-485)
- PROGRAMMABLE ENGINE EXERCISER
- EVENT LOG
- COMMON ALARM SIGNAL CAPABILITY ON 6ROUP G CONTROLLER "OP1" OUTPUT.

(3 PHASE SENSING ONLY)
- 3 PHASE EMERGENCY SOURCE SENSING.
- PHASE ROTATION SENSING.
- EMERGENCY VOLTAGE UNBALANCE SENSING.

REFER TO USER'S GUIDE, ASCO GROUP G CONTROLLER FOR AUTOMATIC & NON-AUTOMATIC TRANSFER SWITCHES, PART NUMBER 381333-400 FOR INFORMATION ON THESE FUNCTIONS.

NON-AUTOMATIC (MANUAL) OPERATION

TRANSFER SWITCH ASSEMBLIES FACTORY SET FOR NON-AUTOMATIC OPERATION PROVIDE USER INITIATED, ELECTRICAL OPERATION OF THE TRANSFER SWITCH TO EITHER AVAILABLE SOURCE. THE TRANSFER SWITCH ASSEMBLY IS PHYSICALLY IDENTICAL TO THAT OF THE AUTOMATIC TYPE.

WHEN THE TRANSFER SWITCH IS SET FOR NON-AUTOMATIC OPERATION, A CUSTOMER PROVIDED SELECTOR SWITCH MAY BE USED TO OPERATE IT FROM A REMOTE LOCATION.

REMOTE CONTROL FEATURES

THE FOLLOWING CONTROL PANEL INPUTS PROVDE REMOTE CONTROL FUNCTIONS FOR THE TRANSFER SWITCH. EACH FUNCTION CAN BE IMPLEMENTED BY THE CUSTOMER PROVIDING THE FORM OF CONTROL DESCRIBED. EACH CONTROL CONTACT MUST BE SUITABLE FOR A 5 VDC LOW ENERGY CIRCUIT.

EXTERNAL FEATURE 1T: REMOTE TRANSFER TO EMERGENCY FEATURE (FOR AUTOMATIC TRANSFER TYPE ONLY) - REQUIRES A CUSTOMER SUPPLIED, NORMALLY CLOSED CONTACT. OPENING OF THE CONTACT CAUSES ENGINE START AND TRANSFER TO THE EMERGENCY SOURCE. RE-CLOSURE OF THE CONTACT ACTIVATES THE FEATURE 3A "RETRANSFER TO NORMAL (IF JUST TEST) TIME DELAY PRIOR TO RETRANSFER. IN THE EVENT THAT THE EMERGENCY SOURCE FAILS WHILE THE TRANSFER SWITCH IS CONNECTED TO EMERGENCY AND THE CUSTOMER SUPPLIED CONTACT IS OPEN, THE TRANSFER SWITCH WILL AUTOMATICALLY RETRANSFER TO THE NORMAL SOURCE.

EXTERNAL FEATURE 8B: REMOTE BYPASS OF RETRANSFER TO NORMAL TIME DELAY - REQUIRES A CUSTOMER SUPPLIED, NORMALLY CLOSED CONTACT. OPENING OF THE CONTACT BYPASSES FEATURE 3A RETRANSFER TO NORMAL DELAY IF ACTIVE.

REFER TO USER'S GUIDE, ASCO GROUP G CONTROLLER FOR AUTOMATIC & NON-AUTOMATC TRANSFER SWITCHES, PART NUMBER 381333-400 FOR SETTNG INFORMATION.

NOTES

1. SWITCH SHOWN DE-ENERGIZED CONNECTED TO NORMAL SOURCE.
2. DEVICE SYMBOLS AND DESIGNATIONS ARE IN ACCORDANCE WITH NEMA PUB. ICS 1, PART 1-101A.
3. ALL WIRING IS #18 AWG, TINNED, STRANDED COPPER UNLESS OTHERWISE INDICATED).
4. INDICATES CUSTOMER CONNECTION POINTS.
5. INDICATES FACTORY CONNECTION POINTS.
6. CONNECTION POINTS THAT HAVE BOTH CUSTOMER CONNECTIONS AND FACTORY CONNECTIONS ARE SHOWN OPEN AS CUSTOMER CONNECTION POINTS.
7. 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.
8. AN OPERATOR'S MANUAL IS FURNISHED WITH EACH AUTOMATIC TRANSFER SWITCH. REFER TO THIS PUBLICATION PRIOR TO INSTALLATION AND OPERATION OF THE SWITCH.
9. GROUND STRAP ON CONTROL PANEL IS AFFIXED TO CHASSIS (ENCLOSURE) AT LOWER LEFT CONTROL PANEL MOUNTING STUD.

BASE CATALOG NUMBER

TS FRAME	CATALOG TYPE	NEUTRAL TYPE	PHASE POLES
H	3ATS 3NTS	A B	3

CATALOG NUMBER SUFFIXES

AMPS	VOLT CODE
800	C D E F H J K L M N P Q R
1000	
1200	

CONTROLLER	OPTIONAL ACCESSORY	ENCLOSURE CODE
G	X	C E F G H J K L M N P Q
	BLANK FOR NONE	BLANK FOR OPEN TYPE

EXPLANATION OF CATALOG NUMBER CODES

CATALOG TYPE CODE	DESCRIPTION
3ATS	AUTOMATIC
3NTS	MANUAL

NEUTRAL TYPE CODE	DESCRIPTION
A	SOLID
B	SWITCHING

VOLTAGE CODES (ARRANGE 3 OR 4 WIRE) 50 OR 60 Hz CODE	NOMINAL VOLTAGE
	BLANK
C	208
D	220
E	230
F	240
H	380
J	400
K	415
L	440
M	460
N	480
P	550
Q	575
R	600

CODE	TYPE
C	1
E	2
F	3R
G	4
H	4X
J	4X
K	7
L	12
M	3R
N	4
P	4X
Q	12

ENCLOSURE CODES

CODE	DESCRIPTION
	OPEN TYPE (NO ENCLOSURE)
1	GENERAL PURPOSE, INDOOR
2	INDOOR, WATER & DUST RESISTANT
3R	OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT
4	INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT
4X	TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL)
4X	TYPE 4 PLUS CORROSION RESISTANCE (FIBERGLASS)
7	EXPLOSION PROOF
12	INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT
	(SECURE ENCLOSURES)
3R	OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT
4	INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT
4X	TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL)
12	INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT

CATALOG NUMBER
ASCO® CERTIFIED TO S.O.
BY
DATE
FORM REV G
PROJECT NAME:
WIRING | DIAGRAM
300 SERIES (H3ATS/H3NTS) 3PH 800-1200 AMPS
"H" FRAME, GROUP G CONTROLS
THIRD ANGLE PROJECTION

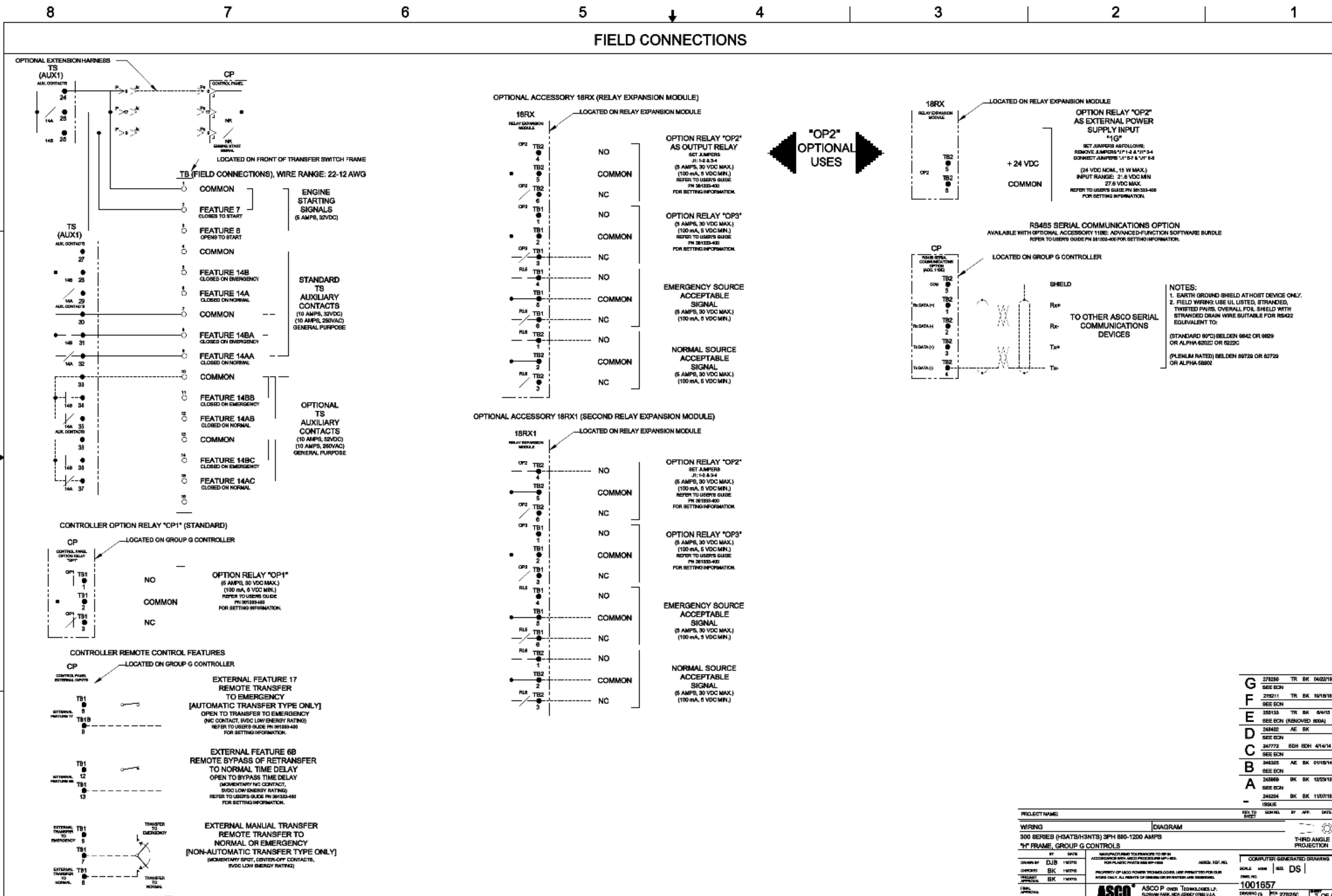
REV. TO SHEET	ISSUE	SCH NO.	BY	APP.	DATE
G	278290		TR	BK	04/22/19
	SEE ECN				
F	278211		TR	BK	10/15/18
	SEE ECN				
E	358133		TR	BK	6/4/18
	SEE ECN (REMOVED 600A)				
D	348402		AE	BK	
	SEE ECN				
C	347772		SDH	SDH	4/14/14
	SEE ECN				
B	346325		AE	BK	01/15/14
	SEE ECN				
A	345869		BK	BK	12/23/13
	SEE ECN				
–	345264		BK	BK	11/07/13
	ISSUE				

	BY	DATE
DRAWN BY	DJB	1/16/19
CHECKED	BK	1/16/19
PROJECT APPROVAL	BK	1/16/19
ENGR. APPROVAL		

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP1-003, FOR PLASTIC PARTS SEE MP1-004.
ASSOC. REF. NO.
PROPRIETARY OF ASCO POWER TECHNOLOGIES, LP. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.

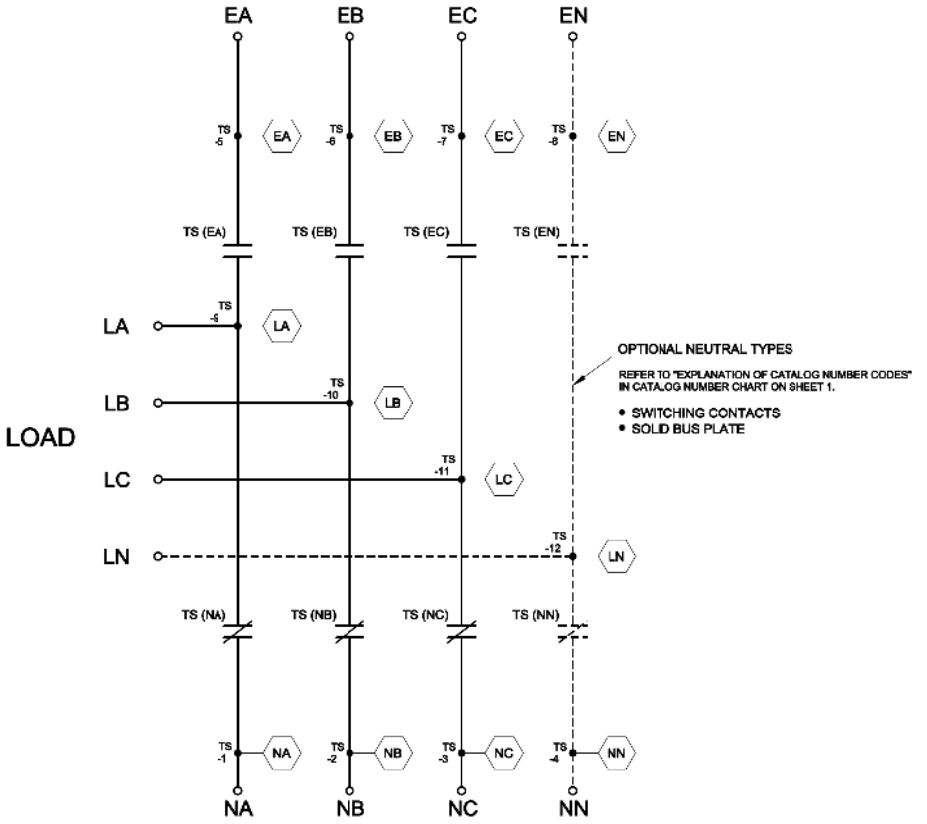
COMPUTER GENERATED DRAWING
SCALE NONE | SIZE D | DS
DWG. NO. 1001657
DRAWING REV. G | ECN NO. 278290 | SHEET 1 OF 8

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


FIELD CONNECTIONS
OPTIONAL EXTENSION HARNESS
TS (AUX1)
CP
LOCATED ON FRONT OF TRANSFER SWITCH FRAME
TB (FIELD CONNECTIONS), WIRE RANGE: 22-12 AWG
COMMON
FEATURE 7
CLOSES TO START
FEATURE 8
OPENS TO START
ENGINE STARTING SIGNALS
(5 AMPS, 32VDC)
COMMON
FEATURE 14B
CLOSED ON EMERGENCY
FEATURE 14A
CLOSED ON NORMAL
COMMON
FEATURE 14BA
CLOSED ON EMERGENCY
FEATURE 14AA
CLOSED ON NORMAL
STANDARD TS AUXILIARY CONTACTS
(10 AMPS, 32VDC)
(10 AMPS, 250VAC)
GENERAL PURPOSE
COMMON
FEATURE 14BB
CLOSED ON EMERGENCY
FEATURE 14AB
CLOSED ON NORMAL
COMMON
FEATURE 14BC
CLOSED ON EMERGENCY
FEATURE 14AC
CLOSED ON NORMAL
OPTIONAL TS AUXILIARY CONTACTS
(10 AMPS, 32VDC)
(10 AMPS, 250VAC)
GENERAL PURPOSE
CONTROLLER OPTION RELAY "CP1" (STANDARD)
LOCATED ON GROUP G CONTROLLER
NO
COMMON
NC
OPTION RELAY "OP1"
(5 AMPS, 30 VDC MAX.)
(100 mA, 5 VDC MIN.)
REFER TO USER'S GUIDE PN 381333-400 FOR SETTING INFORMATION.
CONTROLLER REMOTE CONTROL FEATURES
LOCATED ON GROUP G CONTROLLER
EXTERNAL FEATURE 17
REMOTE TRANSFER TO EMERGENCY
[AUTOMATIC TRANSFER TYPE ONLY]
OPEN TO TRANSFER TO EMERGENCY
(N/C CONTACT, 5VDC LOW ENERGY RATING)
REFER TO USER'S GUIDE PN 381333-400 FOR SETTING INFORMATION.
EXTERNAL FEATURE 6B
REMOTE BYPASS OF RETRANSFER TO NORMAL TIME DELAY
OPEN TO BYPASS TIME DELAY
(MOMENTARY N/C CONTACT, 5VDC LOW ENERGY RATING)
REFER TO USER'S GUIDE PN 381333-400 FOR SETTING INFORMATION.
EXTERNAL MANUAL TRANSFER
REMOTE TRANSFER TO NORMAL OR EMERGENCY
[NON-AUTOMATIC TRANSFER TYPE ONLY]
(MOMENTARY SPDT, CENTER-OFF CONTACTS, 5VDC LOW ENERGY RATING)
TRANSFER TO EMERGENCY
TRANSFER TO NORMAL
OPTIONAL ACCESSORY 18RX (RELAY EXPANSION MODULE)
18RX
LOCATED ON RELAY EXPANSION MODULE
OPTION RELAY "OP2" AS OUTPUT RELAY
SET JUMPERS J1: 1-2 & 3-4
(5 AMPS, 30 VDC MAX.)
(100 mA, 5 VDC MIN.)
REFER TO USER'S GUIDE PN 381333-400 FOR SETTING INFORMATION.
OPTION RELAY "OP3"
(5 AMPS, 30 VDC MAX.)
(100 mA, 5 VDC MIN.)
REFER TO USER'S GUIDE PN 381333-400 FOR SETTING INFORMATION.
EMERGENCY SOURCE ACCEPTABLE SIGNAL
(5 AMPS, 30 VDC MAX.)
(100 mA, 5 VDC MIN.)
NORMAL SOURCE ACCEPTABLE SIGNAL
(5 AMPS, 30 VDC MAX.)
(100 mA, 5 VDC MIN.)
OPTIONAL ACCESSORY 18RX1 (SECOND RELAY EXPANSION MODULE)
18RX1
LOCATED ON RELAY EXPANSION MODULE
OPTION RELAY "OP2"
SET JUMPERS J1: 1-2 & 3-4
(5 AMPS, 30 VDC MAX.)
(100 mA, 5 VDC MIN.)
REFER TO USER'S GUIDE PN 381333-400 FOR SETTING INFORMATION.
OPTION RELAY "OP3"
EMERGENCY SOURCE ACCEPTABLE SIGNAL
NORMAL SOURCE ACCEPTABLE SIGNAL
"OP2" OPTIONAL USES
18RX
LOCATED ON RELAY EXPANSION MODULE
OPTION RELAY "OP2" AS EXTERNAL POWER SUPPLY INPUT "1G"
+ 24 VDC
COMMON
(24 VDC NOM., 15 W MAX.)
INPUT RANGE: 21.6 VDC MIN 27.6 VDC MAX.
REFER TO USER'S GUIDE PN 381333-400 FOR SETTING INFORMATION.
RS485 SERIAL COMMUNICATIONS OPTION
AVAILABLE WITH OPTIONAL ACCESSORY 11BE: ADVANCED-FUNCTION SOFTWARE BUNDLE
REFER TO USER'S GUIDE PN 381333-400 FOR SETTING INFORMATION.
CP
LOCATED ON GROUP G CONTROLLER
SHIELD
Rx+
Rx-
Tx+
Tx-
TO OTHER ASCO SERIAL COMMUNICATIONS DEVICES
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 RS422 EQUIVALENT TO:
(STANDARD 80°C) BELDEN 9842 OR 9829 OR ALPHA 6202C OR 6222C
(PLENUM RATED) BELDEN 89729 OR 82729 OR ALPHA 58902
WIRING DIAGRAM
300 SERIES (H3ATS/H3NTS) 3PH 800-1200 AMPS
"H" FRAME, GROUP G CONTROLS
THIRD ANGLE PROJECTION
COMPUTER GENERATED DRAWING
ASCO POWER TECHNOLOGIES L.P.
FLORHAM PARK, NEW JERSEY 07932 U.S.A.
DS
1001657
2 OF 8

MAIN POWER POLES

EMERGENCY

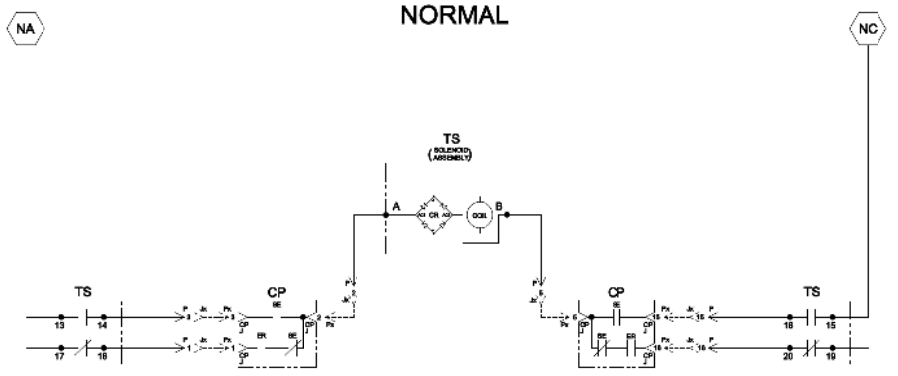


NORMAL

NOTE:
ATS/NTS SHOWN CLOSED ON NORMAL SOURCE.

TS OPERATOR CIRCUIT

NORMAL



EMERGENCY

TS CONTROL CONTACTS

TS	SOLENOID POSITION: CLOSED/NORMAL	BEFORE TDC*	> <	BEFORE CLOSED TDC	BEFORE OPENING
13-14					
15-16					
17-18					
19-20					

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

REV				
G	278250	TR	BK	04/22/19
	SEE ECN			
F	278211	TR	BK	10/15/18
	SEE ECN			
E	358133	TR	BK	6/4/15
	SEE ECN (REMOVED 600A)			
D	348402	AE	BK	
	SEE ECN			
C	347772	SDH	SDH	4/14/14
	SEE ECN			
B	346325	AE	BK	01/15/14
	SEE ECN			
A	345969	BK	BK	12/23/13
	SEE ECN			
–	345264	BK	BK	11/07/13
	ISSUE			

PROJECT NAME:
WIRING DIAGRAM
300 SERIES (H3ATS/H3NTS) 3PH 800-1200 AMPS
"H" FRAME, GROUP G CONTROLS

THIRD ANGLE PROJECTION

COMPUTER GENERATED DRAWING

	BY	DATE
DRAWN BY	DJB	11/07/13
CHECKED	BK	11/07/13
PROJECT APPROVAL	BK	11/07/13
ENGL APPROVAL		

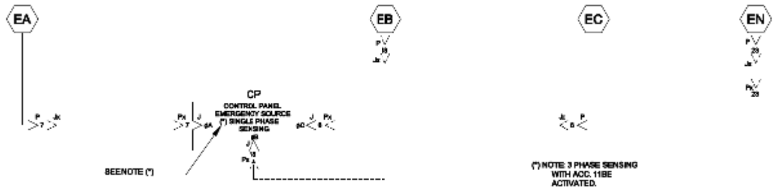
ASSOC. REF. NO.

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

SCALE NONE SIZE DS
DWG. NO. 1001657
DRAWING REV. G
ECN NO. 278250
SHEET 3 OF 8

EMERGENCY SOURCE CIRCUITS

EMERGENCY

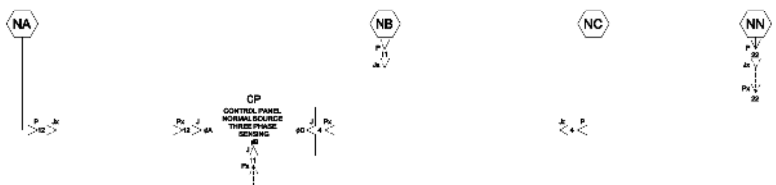


LOAD TERMINAL CIRCUITS

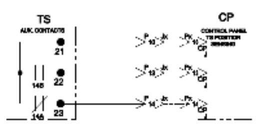
LOAD

NORMAL SOURCE CIRCUITS

NORMAL



CONTROL CIRCUITS

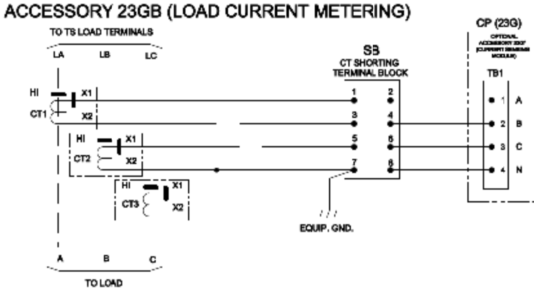


ADDITIONAL CIRCUITS

OPTIONAL ACCESSORY 23GB (LOAD CURRENT METERING)

CURRENT TRANSFORMER RATIO TABLE

SWITCH RATING	CT RATIO
800A	800:5A
1000A	1200:5A
1200A	



REV. TO SHEET	ECN NO.	BY	APP.	DATE
G	278250 SEE ECN	TR	BK	04/22/19
F	276211 SEE ECN	TR	BK	10/18/18
E	258133 SEE ECN (REMOVED 800A)	TR	BK	6/4/15
D	248402 SEE ECN	AE	BK	
C	247772 SEE ECN	SDH	SDH	4/14/14
B	246325 SEE ECN	AE	BK	01/16/14
A	245969 SEE ECN	BK	BK	12/23/13
-	245204 ISSUE	BK	BK	11/07/13

PROJECT NAME:

WIRING DIAGRAM
300 SERIES (H3ATS/H3NTS) 3PH 800-1200 AMPS
"H" FRAME, GROUP G CONTROLS

THIRD ANGLE PROJECTION

	BY	DATE
DRAWN BY	DJB	11/07/13
CHECKED	BK	11/07/13
PROJECT APPROVAL	BK	11/07/13
FINAL APPROVAL		

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-000

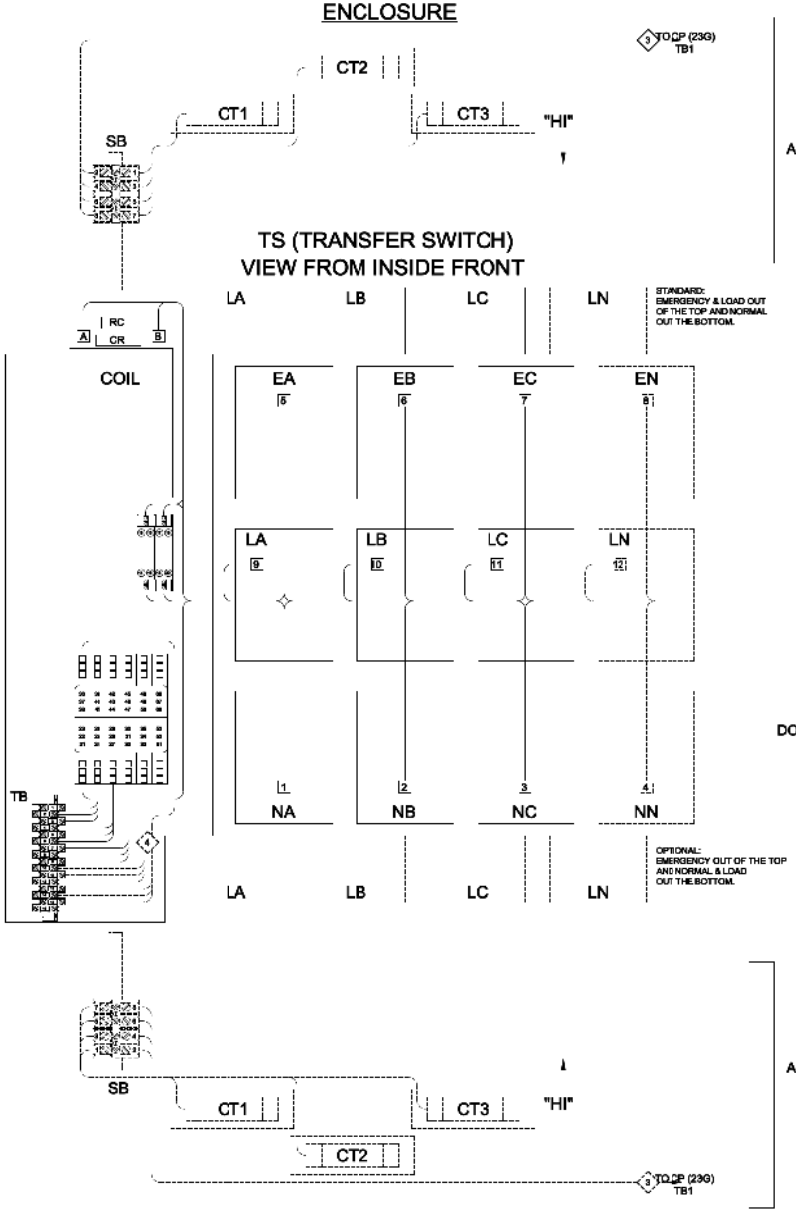
ASSEM. REF. NO.

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

COMPUTER GENERATED DRAWING
SCALE: NONE | SIZE: DS
DWG. NO. 1001657
DRAWING REV. G | ECN NO. 278250 | SHEET 4 OF 8

PHYSICAL DIAGRAM

ENCLOSURE



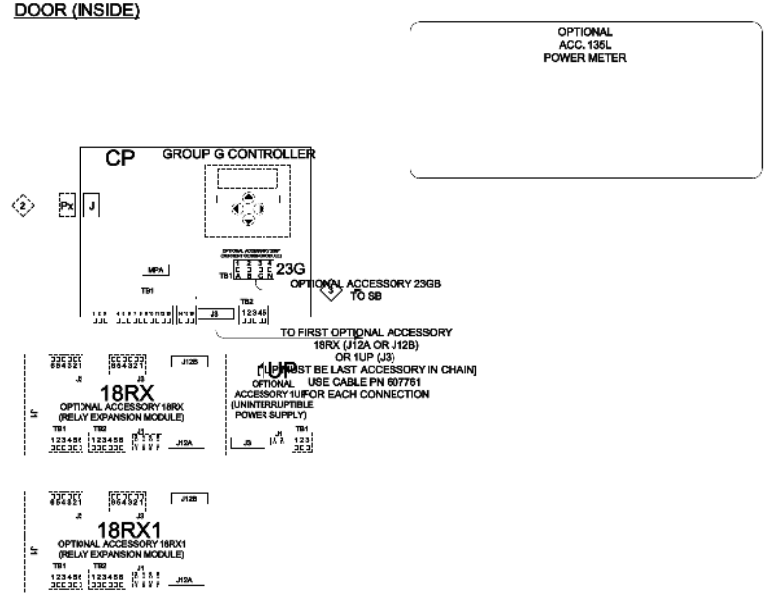
OPTIONAL ACCESSORY 23GB

OPTIONAL ACCESSORY 23GB WITH OPTIONAL BOTTOM LOAD

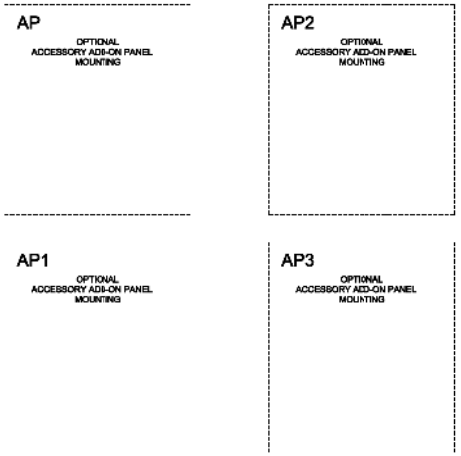
DOOR HINGE

BONDING STRAP PN 098323-019

DOOR (INSIDE)



BOTTOM DOOR (INSIDE)



G	278250	TR	BK	04/22/19	
	SEE ECN				
F	278211	TR	BK	10/15/18	
	SEE ECN				
E	355133	TR	BK	6/4/15	
	SEE ECN (REMOVED 600A)				
D	348402	AE	BK		
	SEE ECN				
C	347772	SDH	SDH	4/14/14	
	SEE ECN				
B	346325	AE	BK	01/15/14	
	SEE ECN				
A	345869	BK	BK	12/23/13	
	SEE ECN				
-	345264	BK	BK	11/07/13	
	ISSUE				

PROJECT NAME:

WIRING DIAGRAM

300 SERIES (H3ATS/H3NTS) 3PH 800-1200 AMPS

"H" FRAME, GROUP G CONTROLS

THIRD ANGLE PROJECTION

	BY	DATE
DRAWN BY	DJB	11/07/13
CHECKED	BK	11/07/13
PROJECT APPROVAL	BK	11/07/13
ENGR. APPROVAL		

MANUFACTURED TO & PAINTED TO REF IN ACCORDANCE WITH ASCO PROCEDURE MP1-003, FOR PLASTIC PARTS SEE MP1-006

ASSOC. REF. NO.

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

COMPUTER GENERATED DRAWING

SCALE NONE SIZE DS

DWG. NO. 1001657

DRAWING REV. G REV. 278250

SHEET 5 OF 8

WIRE RUN LISTING

<1> HARNESS LOCATOR

WIRE No.	HARNESS 713082 (P) MAIN TS	CLR	AWG
1	P-1,TS-18		16
2	P-2,TS-A		
3	P-3,TS-14		
4	P-4,TS-3		
4	TS-3,TS-15		
5	P-5,TS-8		
6	P-6,TS-7		
6	TS-7,TS-19		
7	P-7,TS-5		
7	TS-5,TS-17		
8	P-8,TS-24		
8	TS-24,TB-1		
9	P-9,TS-25		
9	TS-25,TB-2		
10	P-10,TS-21		
11	P-11,TS-2		
12	P-12,TS-1		
12	TS-1,TS-13		
13	P-13,TS-22		
14	P-14,TS-23		
15	P-15,TS-16		
16	P-16,TS-20		
17	P-17,TB-3		
18	P-18,TS-6		
19	P-19,TS-9		
20	P-20,TS-10		
21	P-21,TS-11		
22	P-22,TS-4		
23	P-23,TS-8		
24	P-24,TS-12		
25	TS-27,TB-4		
26	TS-28,TB-5		
27	TS-29,TB-6		
	ADD WIRES		
31	TS-30,TB-7		
32	TS-31,TB-8		
33	TS-32,TB-9		

<2> HARNESS LOCATOR

WIRE No.	HARNESS 309320-006 (Px,Jx OPTIONAL 8" EXTENSION HARNESS	CLR	AWG
1	Px-1,Jx-1		16
2	Px-2,Jx-2		
3	Px-3,Jx-3		
4	Px-4,Jx-4		
5	Px-5,Jx-5		
6	Px-6,Jx-6		
7	Px-7,Jx-7		
8	Px-8,Jx-8		
9	Px-9,Jx-9		
10	Px-10,Jx-10		
11	Px-11,Jx-11		
12	Px-12,Jx-12		
13	Px-13,Jx-13		
14	Px-14,Jx-14		
15	Px-15,Jx-15		
16	Px-16,Jx-16		
17	Px-17,Jx-17		
18	Px-18,Jx-18		
19	Px-19,Jx-19		
20	Px-20,Jx-20		
21	Px-21,Jx-21		
22	Px-22,Jx-22		
23	Px-23,Jx-23		
24	Px-24,Jx-24		
	REMOVE WIRES		
	ADD WIRES		

<3> HARNESS LOCATOR

WIRE No.	OPTIONAL ACCESSORY 23GB (CT,SB,CP(23G)-TB1)	CLR	AWG
300	CT1-X1,SB-1		16
301	CT2-X1,SB-3		
302	CT3-X1,SB-5		
300	SB-2,CP(23G)-TB1-1		
301	SB-4,CP(23G)-TB1-2		
302	SB-6,CP(23G)-TB1-3		
303	CT1-X2,CT2-X2	GRN	
303	CT2-X2,CT3-X2	GRN	
303	CT3-X2,SB-7	GRN	
303	SB-7,EQUIP-GND	GRN	
303	SB-8,CP(23G)-TB1-4	GRN	

<4> HARNESS LOCATOR

WIRE No.	OPTIONAL AUX. CONTACTS	CLR	AWG
35	TB-10,TS(AUX1)-33		16
36	TB-11,TS(AUX1)-34		
37	TB-12,TS(AUX1)-35		
38	TB-13,TS(AUX1)-36		
39	TB-14,TS(AUX1)-38		
40	TB-15,TS(AUX1)-37		

WIRE No.	ADDITIONAL WIRES	CLR	AWG
			16

REV. TO SHEET	ECN NO.	BY	APP.	DATE
G	278250 SEE ECN	TR	BK	04/22/19
F	276211 SEE ECN	TR	BK	10/19/18
E	255133 SEE ECN (REMOVED 800A)	TR	BK	6/4/15
D	248402 SEE ECN	AE	BK	
C	247772 SEE ECN	SDH	SDH	4/14/14
B	246325 SEE ECN	AE	BK	01/16/14
A	245969 SEE ECN	BK	BK	12/23/13
-	245204 ISSUE	BK	BK	11/07/13

PROJECT NAME:

WIRING DIAGRAM

300 SERIES (H3ATS/H3NTS) 3PH 800-1200 AMPS

"H" FRAME, GROUP G CONTROLS

THIRD ANGLE PROJECTION

	BY	DATE
DRAWN BY	DJB	11/07/13
CHECKED	BK	11/07/13
PROJECT APPROVAL	BK	11/07/13
FINAL APPROVAL		

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-004

ASSEM. REF. NO.

ASCO

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

COMPUTER GENERATED DRAWING

SCALE NONE | SIZE DS

DWG. NO. 1001657

DRAWING REV. G | ECN NO. 278250 | SHEET 8 OF 8