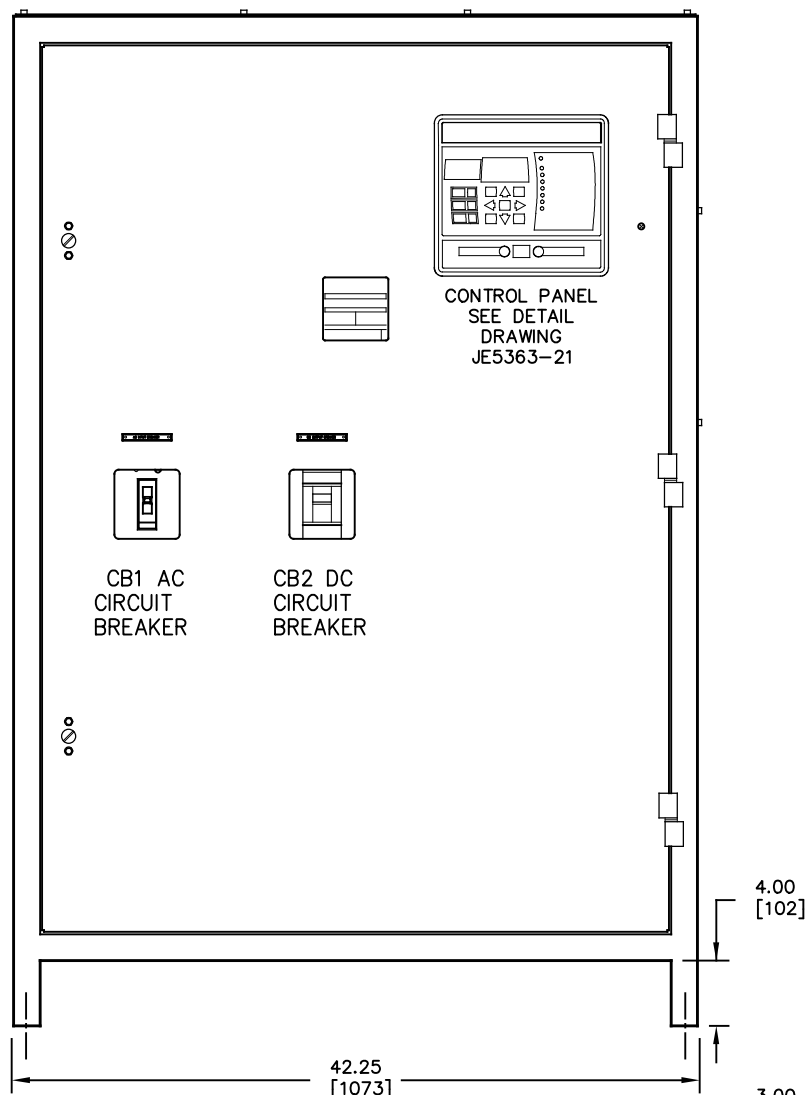
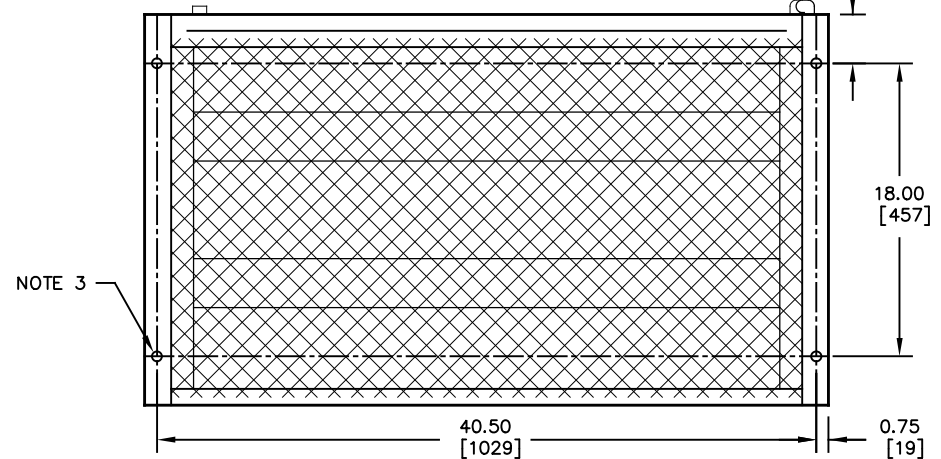
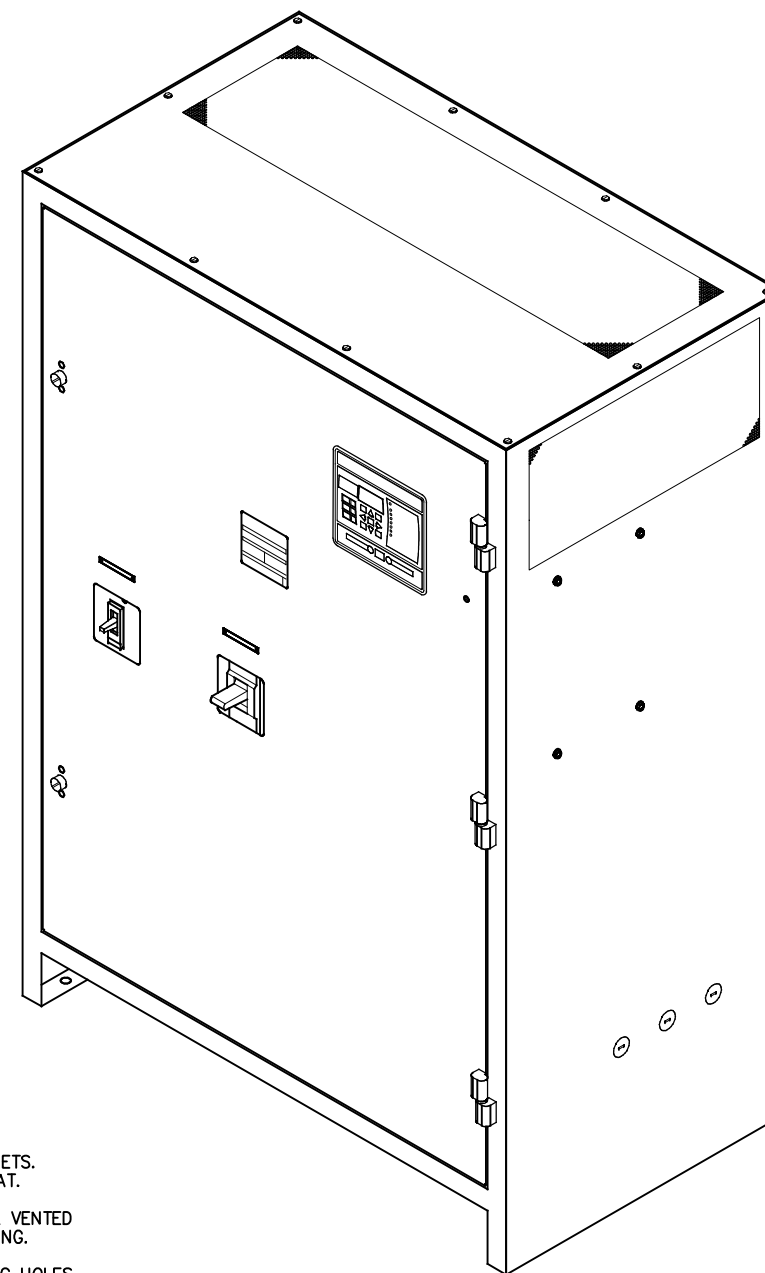
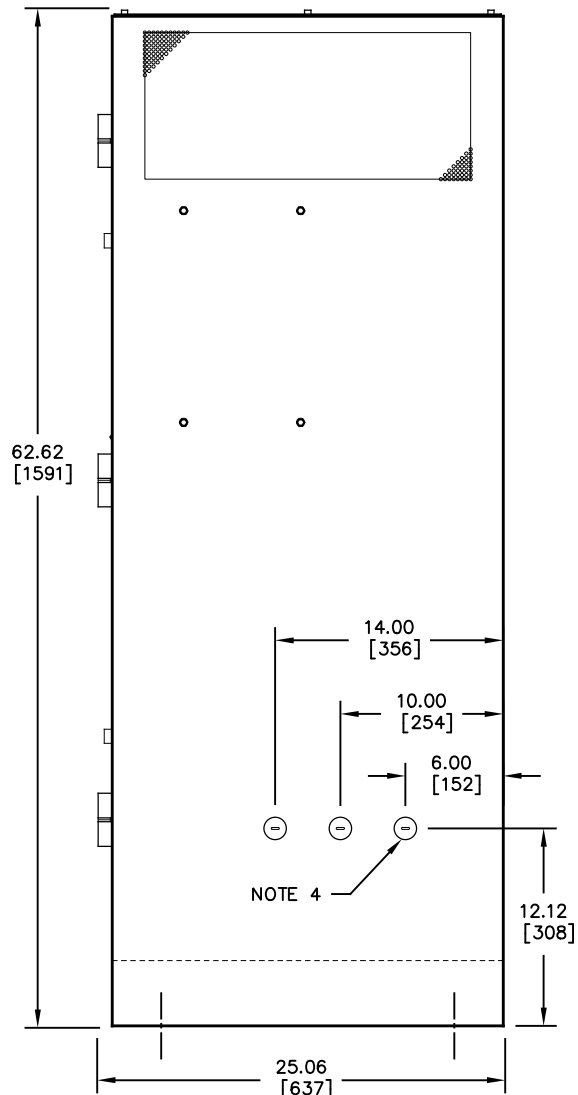


FRONT VIEW



SIDE VIEW



BOTTOM VIEW

NOTES:

- 1) ENCLOSURE IS A NEMA TYPE 1 / IP20 TOP-VENTED STEEL CABINET WITHOUT GASKETS. FINISH IS ANSI-61 GRAY EPOXY POWDERCOAT.
- 2) ALLOW 12in / 305mm OF FREE AIR ON ALL VENTED SURFACES (TOP, SIDES & REAR) FOR COOLING.
- 3) FOUR (4) 0.625in / 16mm FLOOR-MOUNTING HOLES ARE PROVIDED ON BOTTOM OF ENCLOSURE AS SHOWN.
- 4) SIX (6) 1.31in / 33mm DIA STANDARD PRE-FAB CONDUIT KNOCKOUTS ARE PROVIDED AS SHOWN FOR 1in / 25mm CABLE ENTRY. BOTTOM CONDUIT ENTRY IS POSSIBLE THROUGH EXPANDED METAL UNDERSIDE. IF ADDITIONAL CONDUIT ENTRANCES ARE REQUIRED, ENCLOSURE SHOULD BE FIELD-MODIFIED BY INSTALLER.
- 5) BATTERY CHARGER SHIPPING WEIGHT: APPROXIMATELY TBD lb / TBD kg

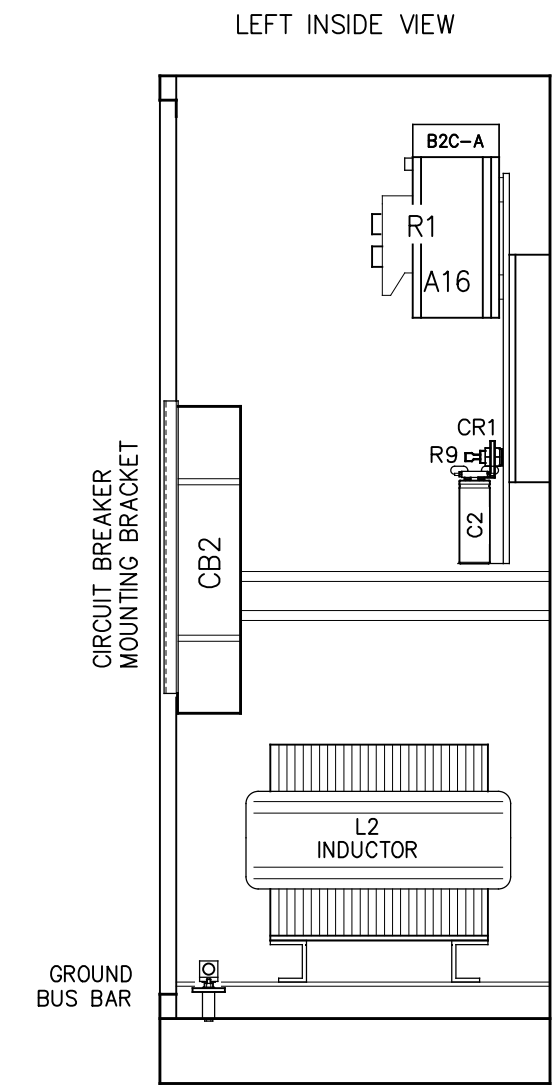
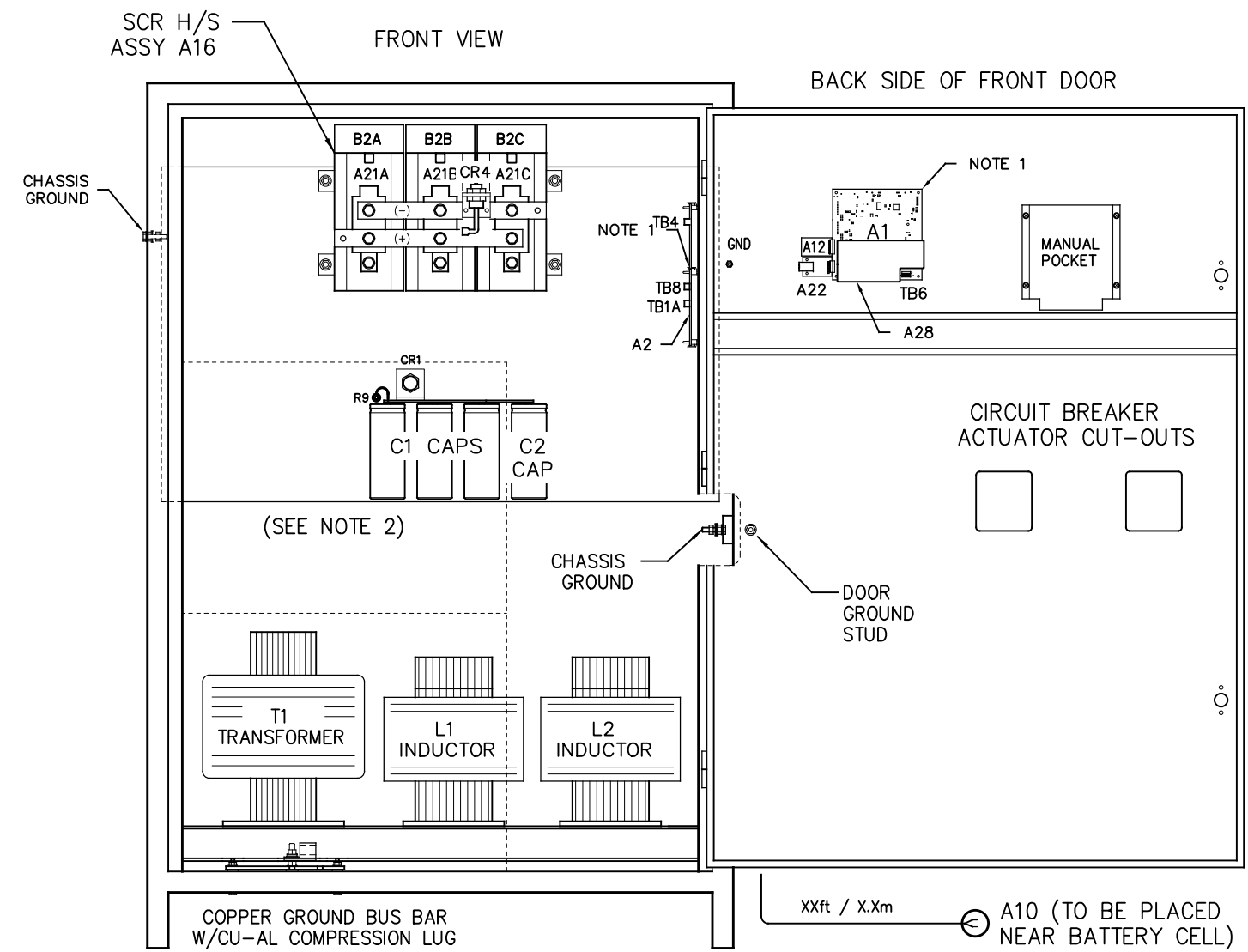
DUAL DIMENSIONS in mm

REV. DRN BY 0 KJB	CHK BY MCR	APP BY MCR	DATE 10/29/2021	DRN BY KJB	DATE 10/29/2021		1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com
DESCRIPTION STANDARD DRAWINGS.				CHK BY MCR	DATE 10/29/2021		
ECN NO. #ECN#				CHK BY MCR	DATE 10/29/2021	TITLE ATEVO BATTERY CHARGER OUTLINE: NEMA-1 STYLE-163 ENCL 3Ø WITH COMMON OPTIONS 150-600A	SCALE NTS
						DWG No JE5361-21	REV 0
						SHEET 1 OF 1	

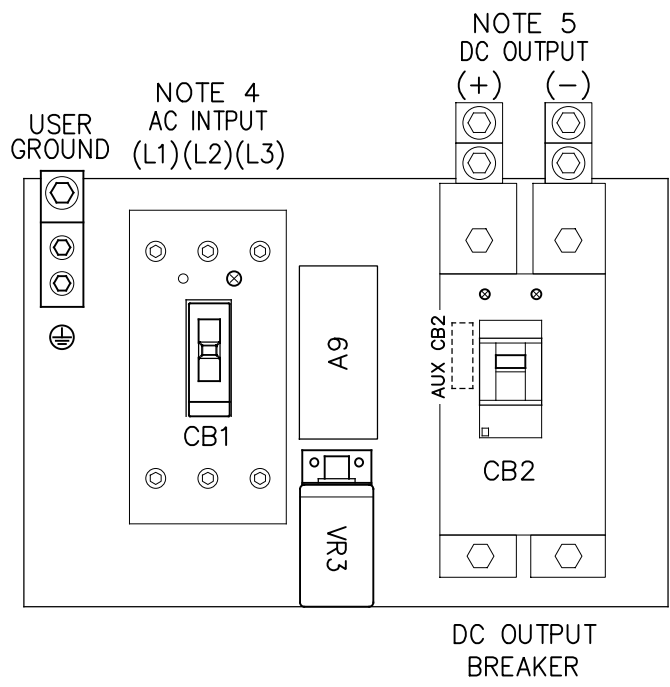
SYM	STANDARD COMPONENT DESCRIPTION
A1	MAIN CONTROL PC BOARD
A2	POWER BOARD
A9	MOV PC BOARD
A16	3PH SCR MODULE ASSY (1x6 Q1-Q6)
B2x	SCR MODULE (A16) COOLING FAN
C1x	DC OUTPUT FILTER CAPACITOR
CB1	AC INPUT CIRCUIT BREAKER (HJ3)
CB2	DC OUTPUT CIRCUIT BREAKER (LGL#)
CR1	POLARITY DIODE
CR4	FREE-WHEELING DIODE
L1	MAIN INDUCTOR
L2	FILTER INDUCTOR
R1	MAIN DC SHUNT, NEG(-) BUS
T1	POWER ISOLATION TRANSFORMER
TB1	INPUT TERMINAL BOARD
TB6	SUMMARY ALARM CONTACTS
TB8	OPT. TEMPCO PROBE TERM BLOCK
R9	FILTER CAP (C1) BLEED RESISTOR
A21x	SCR MODULE (A16) THERMOSTAT

SYM	FEATURED OPTION COMP DESCRIPTION
A4	AUXILIARY ALARM RELAY PC BOARD
A10	EXTERNAL TEMPCO PROBE
A12	COMMUNICATIONS MODULE PC BOARD
A28	METER MODULE PC BOARD
C2x	BATTERY ELIMINATOR FILTER CAP
F3	DC OUTPUT FUSE (+ LEG)
F4	DC OUTPUT FUSE (- LEG)
TB4	AUX ALARM PCB (A5) TERM BLOCK
VR3	AC INPUT LIGHTNING ARRESTOR

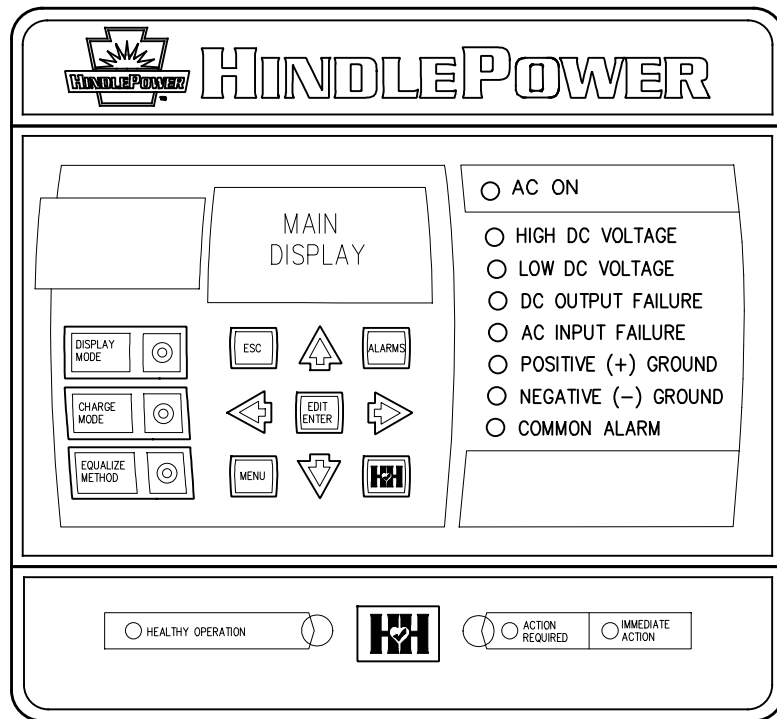


- NOTES:
- FOR DETAIL VIEWS OF ALL PC BOARDS (A1, A2, etc.) SEE DRAWING JE5363-21.
  - CIRCUIT BREAKER(S) MOUNTED ON SIDE BRACKET, NOT FULLY SHOWN FOR CLARITY.
  - USER AC INPUT TERMINALS:
    - UTILIZES TOP OF AC OUTPUT BREAKER (CB1)
    - THREE (3) ALUMINUM COMPRESSION LUGS
    - TOTAL OF THREE (3) #14-3/0 AWG WIRES
  - USER DC OUTPUT TERMINALS:
    - UTILIZES TOP OF DC OUTPUT BREAKER (CB2)
    - FOUR (4) REMOVABLE ALUMINUM COMPRESSION LUGS
    - TWO (1) LUG PER POLE (+/-)
    - TWO (2) USER CONNECTIONS PER LUG
    - TOTAL OF FOUR (4) 2/0-500 MCM WIRES



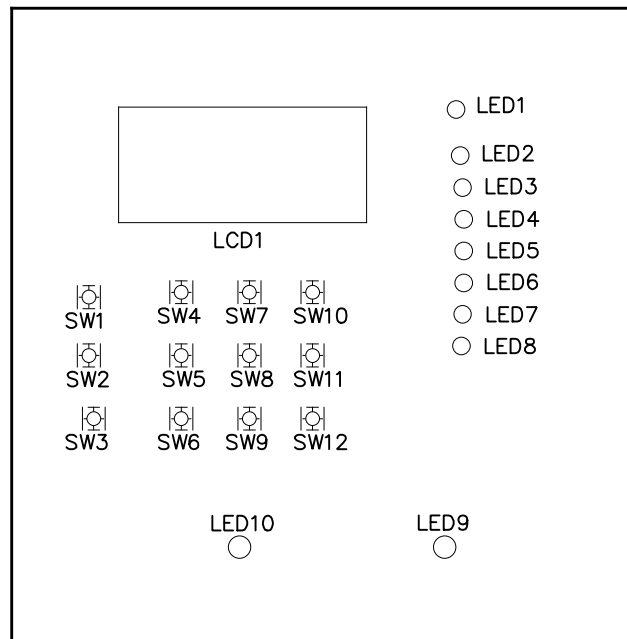
I/O TERMINAL	DESCRIPTION - TYPE	CONNECTION
(2) TB1-GND	USER GROUND TERMINAL - CU-ALUMINUM COMPRESSION LUG	#6 AWG-350 MCM
(A1) TB6	SUMMARY ALARM TERMINAL BLOCK (A1) - SOLDERLESS COMPRESSION SCREW	#22-14 AWG
(A2) TB1	POS/NEG REMOTE SENSE TERMS (A2) - SOLDERLESS COMPRESSION SCREW	#22-14 AWG
(A2) TB8	TEMPCO PROBE (A10) TERM BLK - SOLDERLESS COMPRESSION SCREW	#22-14 AWG
(A4) TB4	AUX I/O RELAY CONTACTS (A4) - SOLDERLESS COMPRESSION SCREW	#22-14 AWG

REV. DRN BY 0 KJB	CHK BY MCR	APP BY MCR	DATE 10/29/2021	DRN BY KJB	DATE 10/29/2021		1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com		
DESCRIPTION STANDARD DRAWINGS.				CHK BY MCR	DATE 10/29/2021				
ECN NO. #ECN#				CHK BY MCR	DATE 10/29/2021	TITLE <b>ATEVO BATTERY CHARGER</b> <b>INTERNAL COMPONENT LAYOUT: STYLE-163</b> <b>3Ø WITH COMMON OPTIONS 150-600A</b>			
						<b>B</b> SCALE NTS	DWG No <b>JE5362-21</b>	REV 0	SHEET 1 OF 1

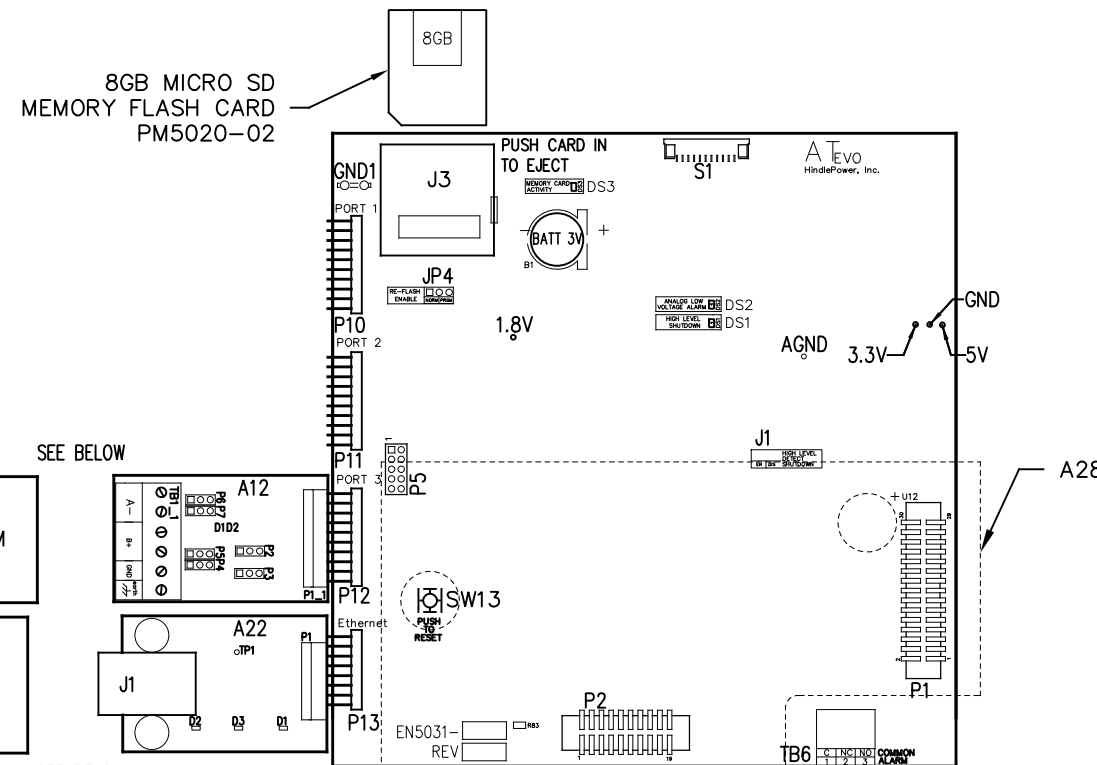


**CONTROL PANEL**  
(PART No. FK5047-00)

NOTE: ALL ALARM CONTACTS ARE ENERGIZED WHEN IN THE NON-ALARM STATE (FAIL SAFE). ALL ALARM CONTACTS WILL CHANGE STATE WHEN CHARGER IS POWERED DOWN. CONTACT RATING IS 0.5A @ 125VAC/VDC RESISTIVE.

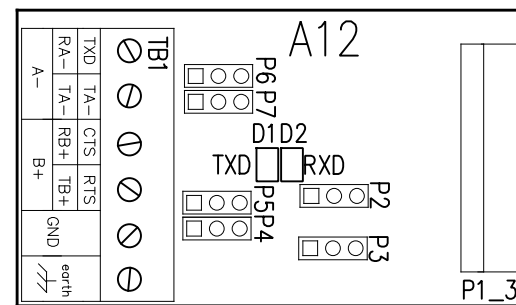


**MAIN CONTROL PC BOARD (A1)**  
FRONT VIEW - FACING CHARGER DOOR WHEN INSTALLED



**MAIN CONTROL PC BOARD (A1)**  
BACK VIEW - FACING CHARGER COMPONENTS WHEN INSTALLED

**SERIAL COMMUNICATION ADAPTER (A12)**



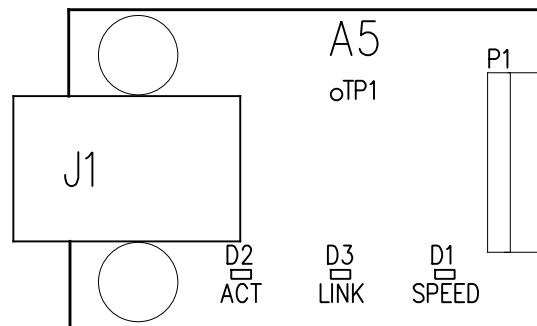
**CONNECTORS (A12):**  
P1 - MAIN CONTROL BOARD

**JUMPERS & CONFIGURATION SWITCHES (A12):**  
P2 - RECEIVER ENABLE CONTROL SELECTION  
P3 - MEDIA CONTROL SELECTION (RS-234 OR RS-485)  
P4 - RS-485 TERMINATION RESISTOR ENABLE (RECEIVE)  
P5 - RS-485 TERMINATION RESISTOR ENABLE (TRANSMIT)  
P6 - RS-485 INTERFACE 2 WIRE/4 WIRE SELECTION (A)  
P7 - RS-485 INTERFACE 2 WIRE/4 WIRE SELECTION (B)

**TERMINAL BLOCKS (A12):**  
TB1 - USER CONNECTIONS TO SERIAL INTERFACE

**INDICATOR LIGHTS (A12):**  
TXD (D1) - SERIAL DATA BEING SENT  
RXD (D2) - SERIAL DATA BEING RECEIVED

**ETHERNET ADAPTER (A22)**

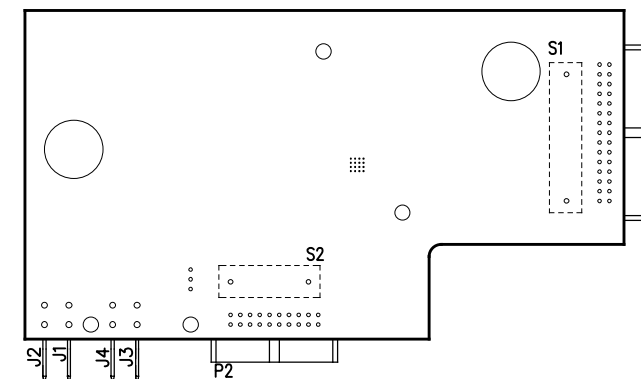


**CONNECTORS (A5):**  
P1 - MAIN CONTROL BOARD  
J1 - RJ-45 ETHERNET USER CONNECTION

**INDICATOR LIGHTS (A5 LEDs):**  
D1 - ORANGE - ETHERNET SPEED INDICATION 10/100 MBPS  
D2 - YELLOW - ETHERNET ACTIVITY (FLASHING)  
D3 - RED - ETHERNET LINK

**TEST POINTS (A5):**  
TP1 - CLOCK OUT

**METER MODULE PC BOARD (A28)**  
MOUNTED ON MAIN CONTROL PC BOARD



**MAIN CONTROL PC BOARD (A1)**

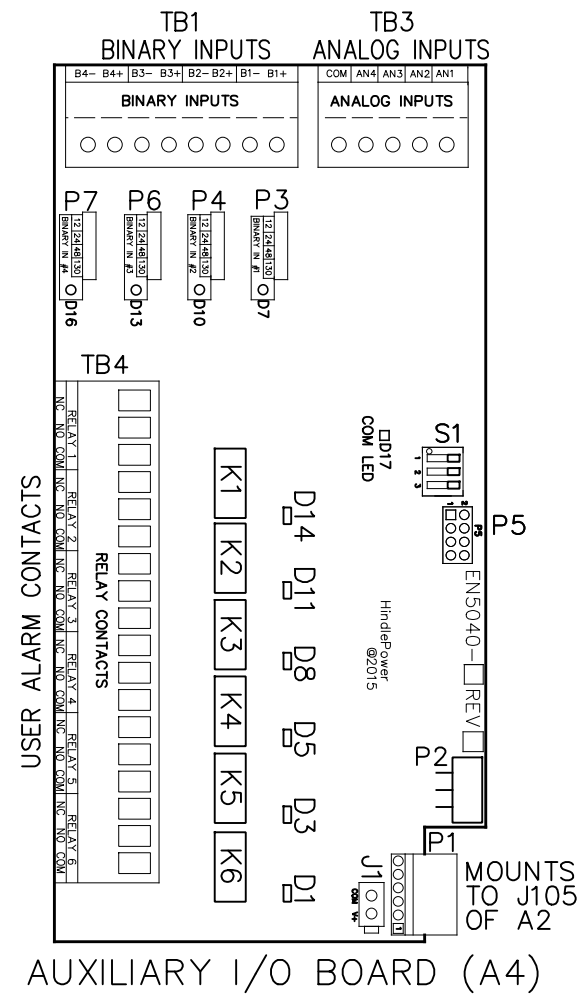
- |  |   |   |   |
|--|---|---|---|
| <p><b>INDICATOR LIGHTS (LEDs):</b><br/>LED1 - GREEN - AC ON<br/>LED2 - RED - HIGH DC VOLTAGE ALARM<br/>LED3 - RED - LOW DC VOLTAGE ALARM<br/>LED4 - RED - DC OUTPUT FAILURE ALARM<br/>LED5 - RED - AC INPUT FAILURE ALARM<br/>LED6 - RED - POSITIVE (+) GROUND ALARM<br/>LED7 - RED - NEGATIVE (-) GROUND ALARM<br/>LED8 - RED - COMMON ALARM<br/>LED9 - RED - ACTION REQUIRED ALARM<br/>LED10 - GREEN - HEALTHY OPERATION<br/>DS1 - RED - HIGH LEVEL SHUTDOWN (HLD)<br/>DS2 - RED - ANALOG LOW VOLTAGE ALARM (LLD)<br/>DS3 - RED - MEMORY CARD ACTIVITY</p> | <p><b>JUMPERS:</b><br/>J1 - ANALOG HIGH VOLTAGE SHUTDOWN JUMPER<br/>J3 - SD CARD PORT<br/>JP4 - RE-FLASH (FIELD PROGRAMMING) JUMPER</p> <p><b>TERMINAL BLOCKS:</b><br/>TB6 - COMMON ALARM RELAY CONTACTS</p> <p><b>TEST POINTS:</b><br/>1.8V - 1.8 VOLTS<br/>3.3V - 3.3 VOLTS<br/>5V - 5.0 VOLTS<br/>GND - GROUND<br/>AGND - ANALOG GROUND<br/>SDA - MAIN BOARD 12C DATA<br/>SCL - MAIN BOARD 12C CLOCK</p> | <p><b>SWITCHES:</b><br/>S1 - DISPLAY BUTTON<br/>S2 - CHARGE MODE BUTTON<br/>S3 - EQUALIZE METHOD BUTTON<br/>S4 - ESCAPE (ESC) BUTTON<br/>S5 - LEFT ARROW BUTTON<br/>S6 - MENU BUTTON<br/>S7 - UP ARROW BUTTON<br/>S8 - EDIT / ENTER BUTTON<br/>S9 - DOWN ARROW BUTTON<br/>S10 - ALARM BUTTON<br/>S11 - RIGHT ARROW BUTTON<br/>S12 - HINDLE HEALTH (HHS) BUTTON<br/>SW13 - SYSTEM RESET BUTTON (BACK OF BOARD)</p> | <p><b>CONNECTORS:</b><br/>P1 - POWER BOARD RIBBON<br/>P2 - 3 PHASE RECTIFIER RIBBON<br/>P3 - USB EXPANSION PORT<br/>P4 - SPI &amp; I2C EXPANSION PORT #1<br/>P5 - SPI &amp; I2C EXPANSION PORT #2<br/>P6 - DISPLAY SPI PORT<br/>P7 - DISPLAY JTAG PORTS<br/>P10 - SERIAL INTERFACE PORT #1<br/>P11 - SERIAL INTERFACE PORT #2<br/>P12 - SERIAL INTERFACE PORT #3<br/>P13 - ETHERNET INTERFACE PORT<br/>P17 - GENERAL EXPANSION PORT</p> |
|--|---|---|---|

I/O TERMINAL	DESCRIPTION - TYPE	CONNECTION
(A1) TB6	SUMMARY ALARM TERMINAL BLOCK (A1) - SOLDERLESS COMP SCREW	#22-14 AWG
(A12) TB1	RS-232 / RS-485 USER CONNECTIONS - SOLDERLESS COMP SCREW	#22-14 AWG
(A22) J1	SERIAL ETHERNET CONNECTION - RJ45 PLUG	CAT5

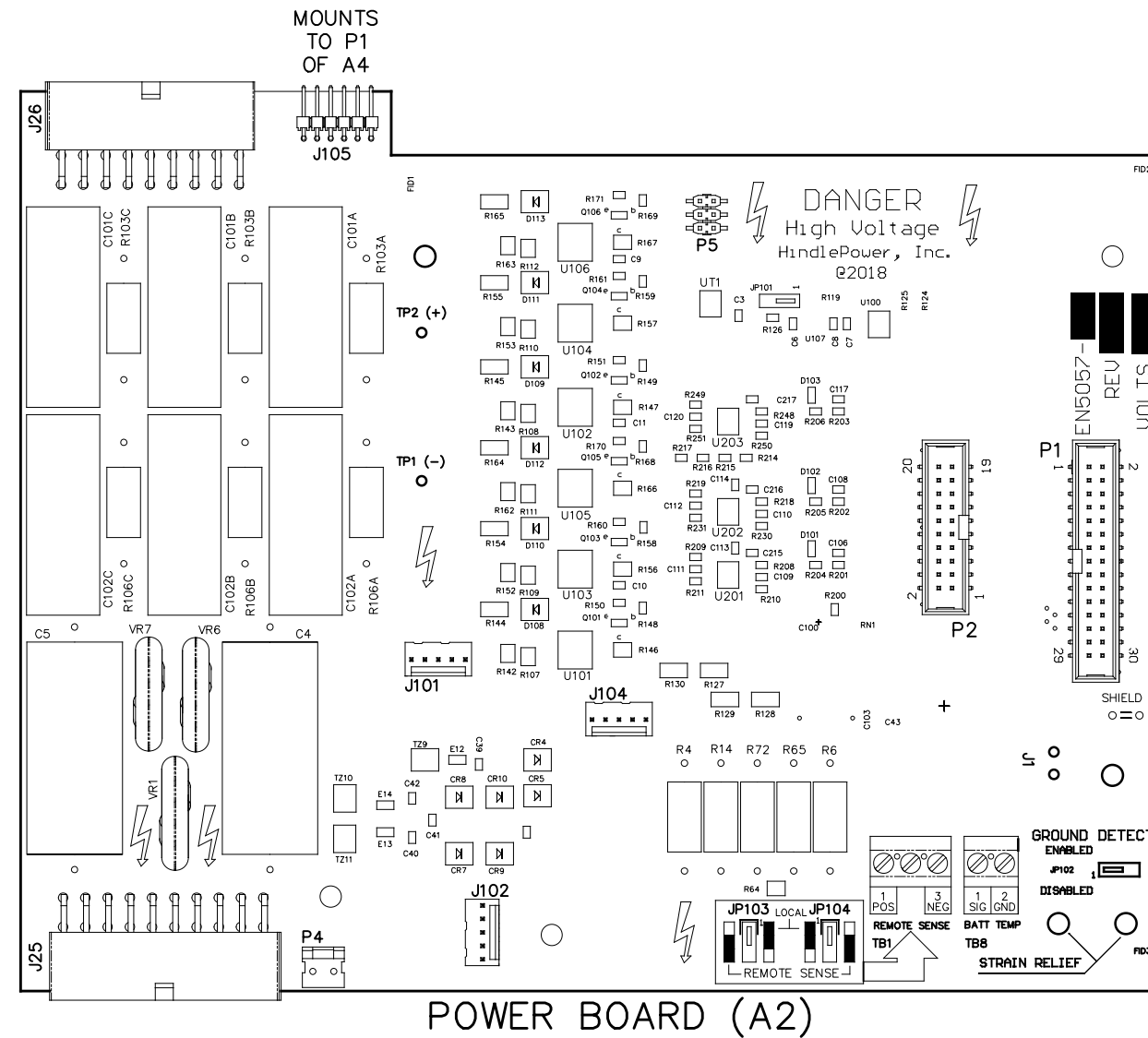
REV. DRN BY 0 KJB	CHK BY MCR	APP BY MCR	DATE 10/29/2021	DRN BY KJB	DATE 10/29/2021	<p>1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com</p>
DESCRIPTION STANDARD DRAWINGS.				CHK BY MCR	DATE 10/29/2021	
ECN NO. #ECN#				CHK BY MCR	DATE 10/29/2021	

**TITLE**  
ATEVO BATTERY CHARGER  
INSTRUMENT PANEL / PC BOARD DETAIL  
3Ø WITH COMMON OPTIONS 150-600A

**B** SCALE NTS DWG No JE5363-21 REV 0 SHEET 1 OF 2



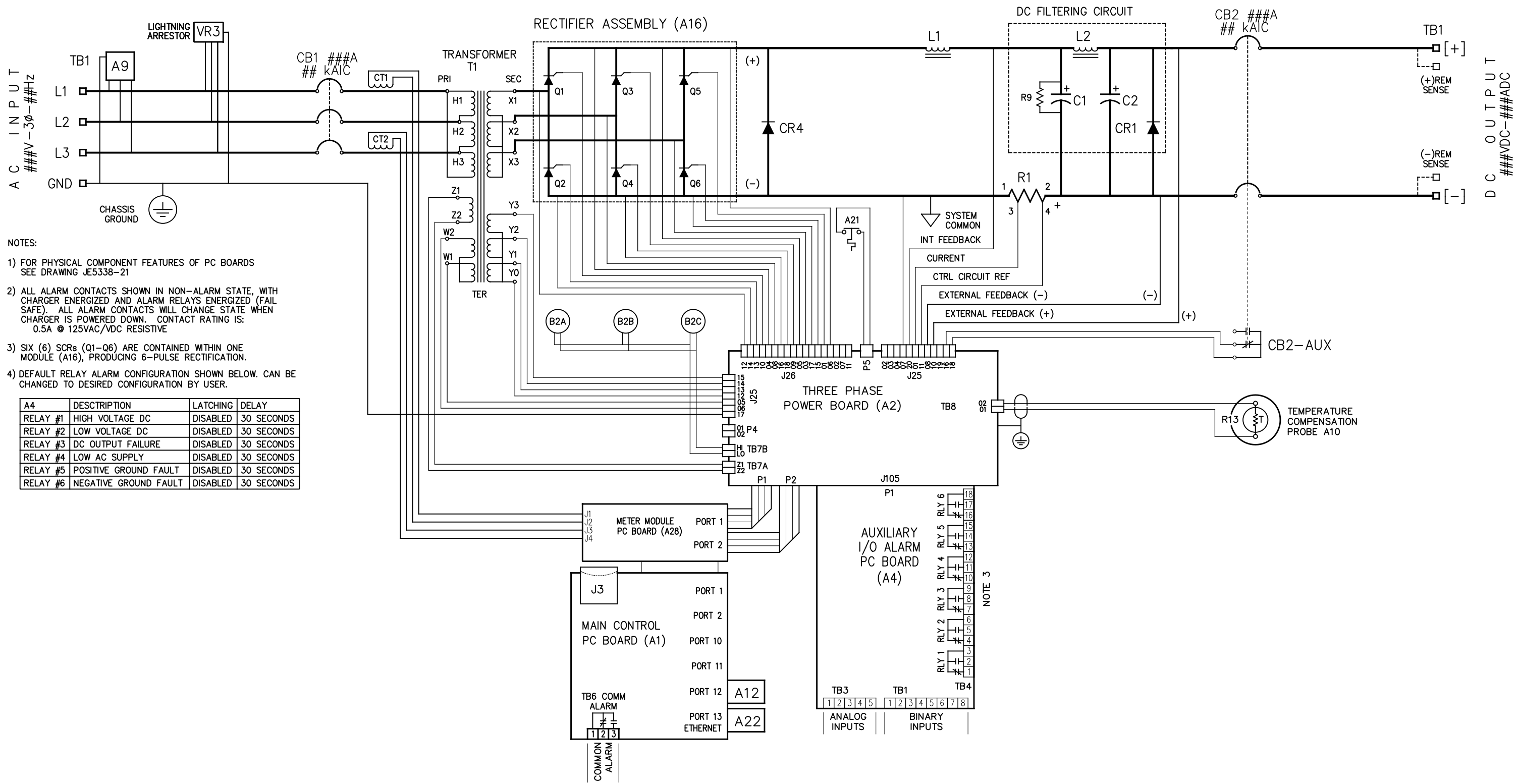
- JUMPERS & CONFIGURATION SWITCHES FOR AUX I/O BOARD (A4)**
- J1 - AUXILIARY POWER INPUT
  - P1 - POWER BOARD (PRIMARY POWER & COMM SOURCE)
  - P5 - PROGRAMMING HEADER
- USER TERMINALS ON RELAY BOARD (A4):**
- D1 - RED - RELAY #6 IN ALARM STATE
  - D3 - RED - RELAY #5 IN ALARM STATE
  - D5 - RED - RELAY #4 IN ALARM STATE
  - D7 - YELLOW - BINARY INPUT #1 IS ABOVE THRESHOLD
  - D8 - RED - RELAY #3 IN ALARM STATE
  - D10 - YELLOW - BINARY INPUT #2 IS ABOVE THRESHOLD
  - D11 - RED - RELAY #2 IN ALARM STATE
  - D13 - YELLOW - BINARY INPUT #3 IS ABOVE THRESHOLD
  - D14 - RED - RELAY #1 IN ALARM STATE
  - D16 - YELLOW - BINARY INPUT #4 IS ABOVE THRESHOLD
  - D17 - GREEN - COMMUNICATION TO MAIN BOARD (FLASHING)
- USER TERMINALS ON RELAY BOARD (A4):**
- TB1 - BINARY INPUTS
  - TB2 - SERIAL INTERFACE
  - TB3 - ANALOG INPUTS
  - TB4 - AUXILIARY I/O RELAY CONTACTS
- JUMPERS & CONFIGURATION SWITCHES**
- P3, 4, 6, 7 - BINARY INPUT VOLTAGE CONFIGURATION JUMPERS
  - S1 - BOARD ADDRESS DIPSWITCH



- USER TERMINALS ON POWER BOARD (A2):**
- TB1 - REMOTE VOLTAGE SENSE
  - TB8 - BATTERY TEMPERATURE COMPENSATION
- JUMPERS ON POWER BOARD (A2):**
- JP102 - GROUND DETECT CIRCUIT ENABLE / DISABLE
  - JP103 - REMOTE OR LOCAL SENSE SELECTOR (+)
  - JP104 - REMOTE OR LOCAL SENSE SELECTOR (-)
- CONNECTORS ON POWER BOARD (A2):**
- J1 - POWER OUT
  - J25 - MAIN CONTROL SIGNAL HARNESS
  - J101 - DC POWER SUPPLY
  - J102 - DC POWER SUPPLY
  - J104 - BATTERY SHUNT
  - J105 - AUXILIARY I/O BOARD
  - P1 - MAIN CONTROL BOARD RIBBON 2
  - P2 - MAIN CONTROL BOARD RIBBON 1
  - P4 - CB1 AUX
  - P5 - RECTIFIER TEMP SENSOR INTERFACE
- TEST POINTS ON POWER BOARD (A2):**
- TP1 - PRE-FILTERED DC BUS (-)
  - TP2 - PRE-FILTERED DC BUS (+)

I/O TERMINAL	DESCRIPTION - TYPE	CONNECTION
(A2) TB1	POS/NEG REMOTE SENSE TERMS (A2) - SOLDERLESS COMPRESSION SCREW	#22-14 AWG
(A2) TB8	TEMPCO PROBE (A10) TERM BLK - SOLDERLESS COMPRESSION SCREW	#22-14 AWG
(A4) TB4	AUX I/O RELAY CONTACTS (A4) - SOLDERLESS COMPRESSION SCREW	#22-14 AWG
(A4) TB1	AUX I/O BINARY INPUTS (A4) - SOLDERLESS COMPRESSION SCREW	#22-14 AWG
(A4) TB3	AUX I/O ANALOG INPUTS (A4) - SOLDERLESS COMPRESSION SCREW	#22-14 AWG

DRN BY KJB	DATE: 10/29/2021		1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-9510 www.hindlepowerinc.com		
CHK BY MCR	DATE: 10/29/2021		<b>ATEVO BATTERY CHARGER</b> <b>INSTRUMENT PANEL / PC BOARD DETAIL</b> <b>3Ø WITH COMMON OPTIONS 150-600A</b>		
CHK BY MCR	DATE: 10/29/2021				
		SCALE NTS	DWG No JE5363-21	REV 0	SHEET 2 OF 2



- NOTES:
- 1) FOR PHYSICAL COMPONENT FEATURES OF PC BOARDS SEE DRAWING JE5338-21
  - 2) ALL ALARM CONTACTS SHOWN IN NON-ALARM STATE, WITH CHARGER ENERGIZED AND ALARM RELAYS ENERGIZED (FAIL SAFE). ALL ALARM CONTACTS WILL CHANGE STATE WHEN CHARGER IS POWERED DOWN. CONTACT RATING IS: 0.5A @ 125VAC/VDC RESISTIVE
  - 3) SIX (6) SCRs (Q1-Q6) ARE CONTAINED WITHIN ONE MODULE (A16), PRODUCING 6-PULSE RECTIFICATION.
  - 4) DEFAULT RELAY ALARM CONFIGURATION SHOWN BELOW. CAN BE CHANGED TO DESIRED CONFIGURATION BY USER.

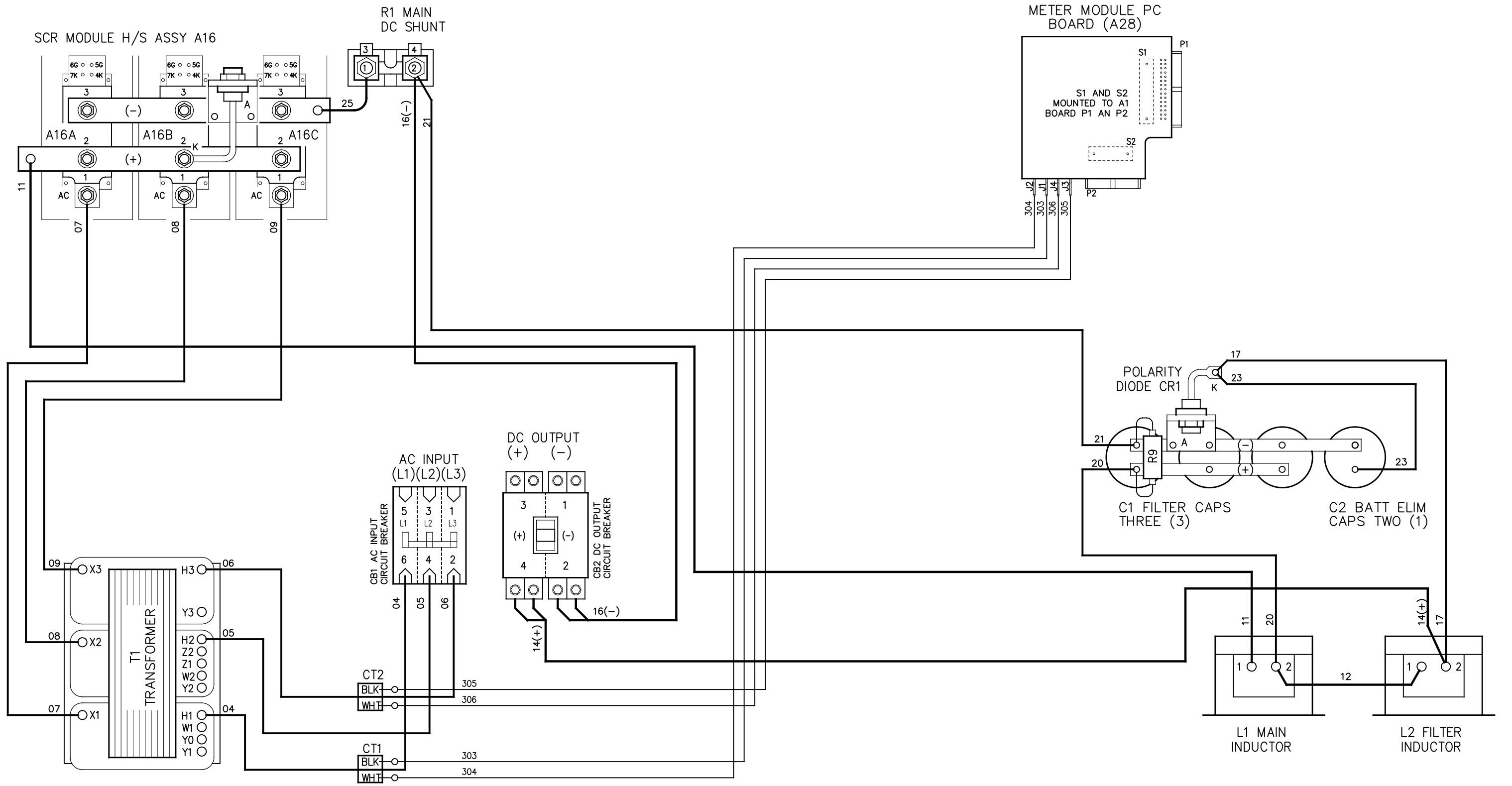
A4	DESCRIPTION	LATCHING	DELAY
RELAY #1	HIGH VOLTAGE DC	DISABLED	30 SECONDS
RELAY #2	LOW VOLTAGE DC	DISABLED	30 SECONDS
RELAY #3	DC OUTPUT FAILURE	DISABLED	30 SECONDS
RELAY #4	LOW AC SUPPLY	DISABLED	30 SECONDS
RELAY #5	POSITIVE GROUND FAULT	DISABLED	30 SECONDS
RELAY #6	NEGATIVE GROUND FAULT	DISABLED	30 SECONDS

REV. DRN BY 0 KJB	CHK BY MCR	APP BY MCR	DATE 10/29/2021	DRN BY KJB	DATE 10/29/2021
DESCRIPTION STANDARD DRAWINGS.				CHK BY MCR	DATE 10/29/2021
ECN NO. #ECN#				CHK BY MCR	DATE 10/29/2021

1075 Saint John Street  
Easton, PA 18042-6661  
PH 610-330-9000 FAX 610-330-8510  
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**ATEVO BATTERY CHARGER  
SCHEMATIC: STYLE 163  
3Ø WITH COMMON OPTIONS 150-600A**

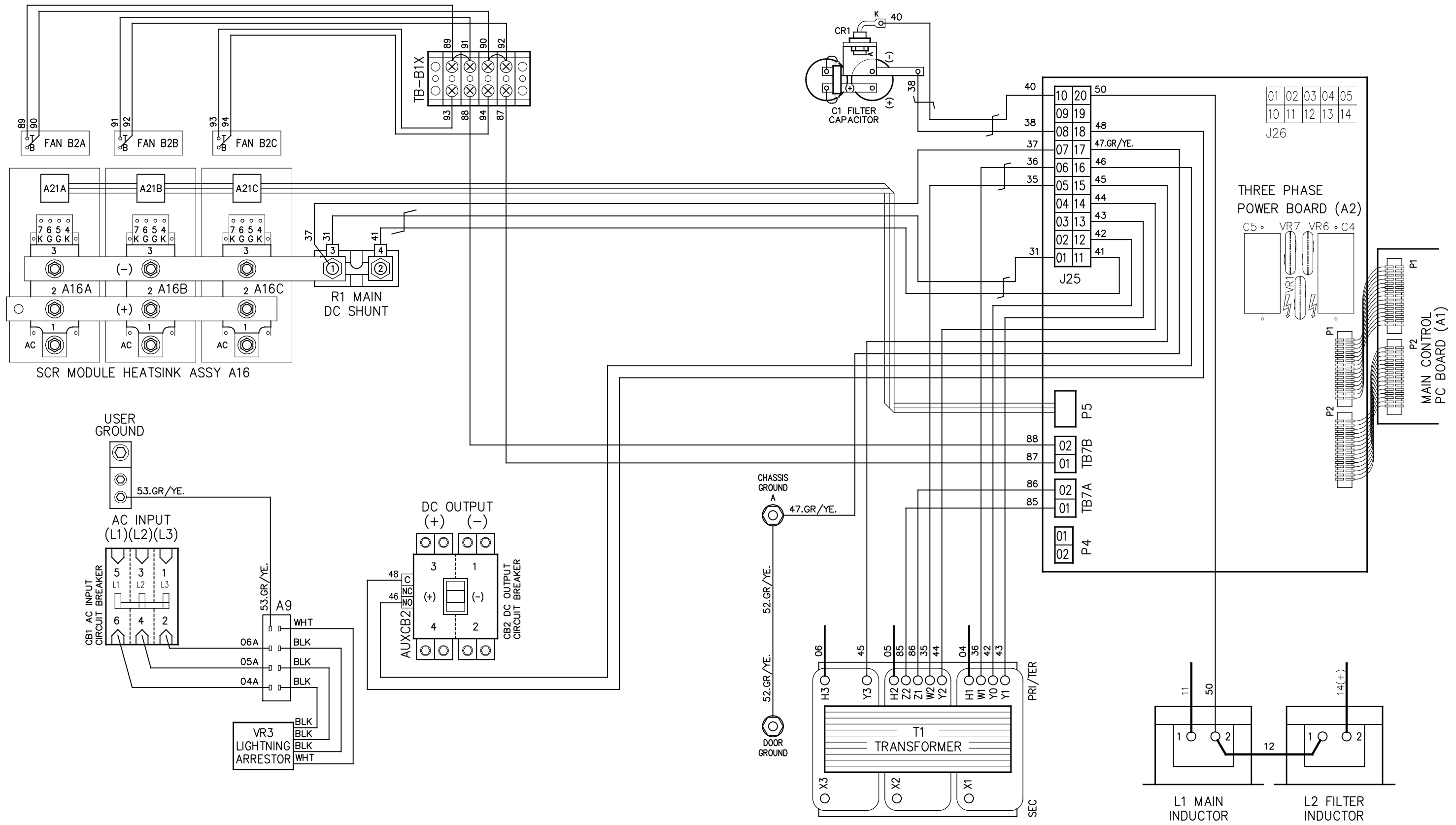
<b>B</b>	SCALE NTS	DWG No JE5364-21	REV 0	SHEET 1 OF 1
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NOTES:

1. CHARGER COMPONENTS ARE CONNECTED WITH FLAME-RETARDANT SWITCHBOARD INSULATION SYSTEM (SIS) TYPE WIRING, IDENTIFIED ON EACH END WITH NUMBER-CODED MARKERS. GROUND WIRE #10 IS GREEN WITH YELLOW STRIPE.
2. THIS DRAWING (SHEET 1 OF 3) SHOWS MAINFRAME POWER WIRING. SEE SUBSEQUENT SHEETS FOR:
  - SHEET 2 OF 3 - SENSE (SIGNAL) WIRING.
  - SHEET 3 OF 3 - SCR (A16x) TRIGGER WIRING

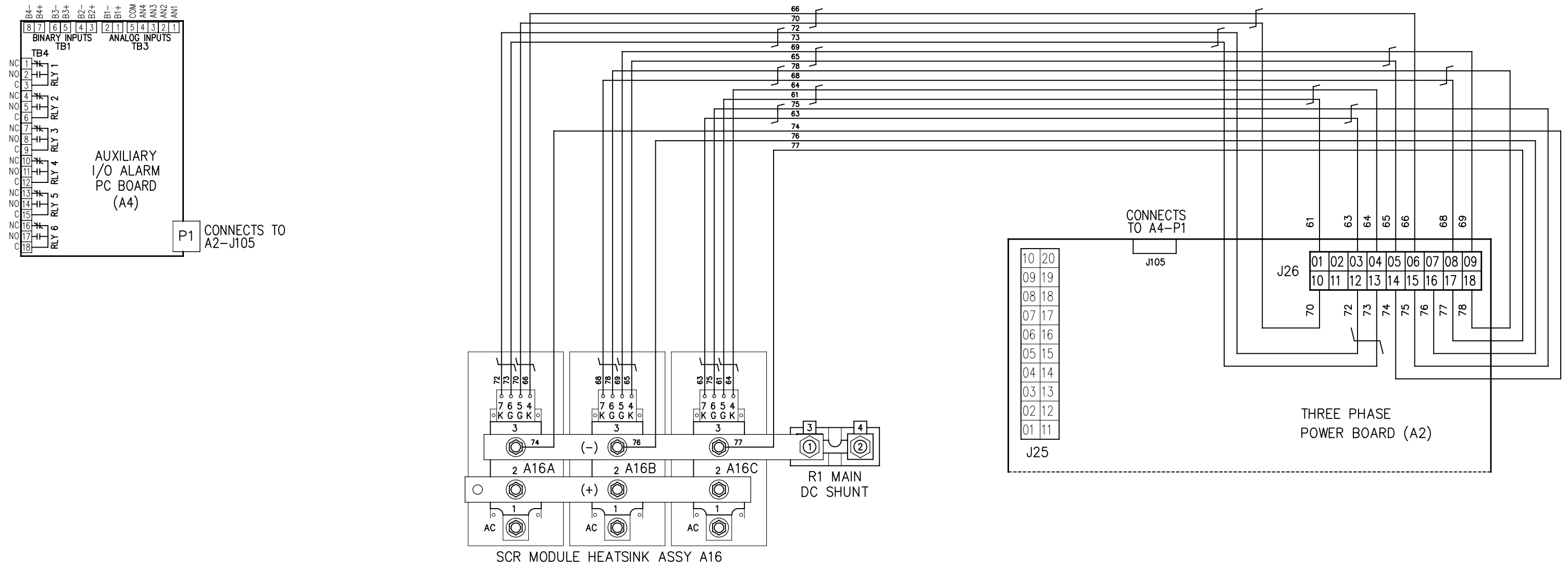
REV. DRN BY	CHK BY	APP BY	DATE	DRN BY	DATE	<b>HINDLEPOWER</b> 1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com
1	KJB	MCR	MCR	12/2/2021	10/29/2021	
DESCRIPTION				CHK BY	DATE	TITLE <b>ATEVO BATTERY CHARGER</b> <b>CONNECTION DIAGRAM: STYLE 163</b> <b>3Ø WITH COMMON OPTIONS 150-600A</b>
UPDATED CAP WIRING.				MCR	10/29/2021	
ECN NO. #ECN#				CHK BY	DATE	SCALE DWG No <b>B</b> NTS JE5365-21
				MCR	10/29/2021	
						REV SHEET 1 1 OF 3



NOTES:

1. CHARGER COMPONENTS ARE CONNECTED WITH FLAME-RETARDANT SWITCHBOARD INSULATION SYSTEM (SIS) TYPE WIRING, IDENTIFIED ON EACH END WITH NUMBER-CODED MARKERS. GROUND WIRE #10 IS GREEN WITH YELLOW STRIPE.
2. THIS DRAWING (SHEET 1 OF 3) SHOWS MAINFRAME POWER WIRING. SEE SUBSEQUENT SHEETS FOR:
  - SHEET 1 OF 3 - MAINFRAME POWER WIRING
  - SHEET 3 OF 3 - SCR (A16x) TRIGGER WIRING

DRN BY KJB	DATE: 10/29/2021		1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com
CHK BY MCR	DATE: 10/29/2021		
CHK BY MCR	DATE: 10/29/2021		
TITLE		<b>ATEVO BATTERY CHARGER</b> <b>CONNECTION DIAGRAM: STYLE 163</b> <b>3ø WITH COMMON OPTIONS 150-600A</b>	
		<b>B</b> SCALE NTS	DWG No <b>JE5365-21</b>
		REV 1	SHEET 2 OF 3



- NOTES:
1. CHARGER COMPONENTS ARE CONNECTED WITH FLAME-RETARDANT SWITCHBOARD INSULATION SYSTEM (SIS) TYPE WIRING, IDENTIFIED ON EACH END WITH NUMBER-CODED MARKERS. GROUND WIRE #10 IS GREEN WITH YELLOW STRIPE.
  2. THIS DRAWING (SHEET 1 OF 3) SHOWS MAINFRAME POWER WIRING. SEE SUBSEQUENT SHEETS FOR:
    - SHEET 1 OF 3 - MAINFRAME POWER WIRING
    - SHEET 2 OF 4 - SENSE (SIGNAL) WIRING.

DRN BY KJB	DATE: 10/29/2021		1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com			
CHK BY MCR	DATE: 10/29/2021		<b>ATEVO BATTERY CHARGER</b> <b>CONNECTION DIAGRAM: STYLE 163</b> <b>3∅ WITH COMMON OPTIONS 150-600A</b>			
CHK BY MCR	DATE: 10/29/2021					
		<b>B</b>	SCALE NTS	DWG No JE5365-21	REV 1	SHEET 2 OF 3