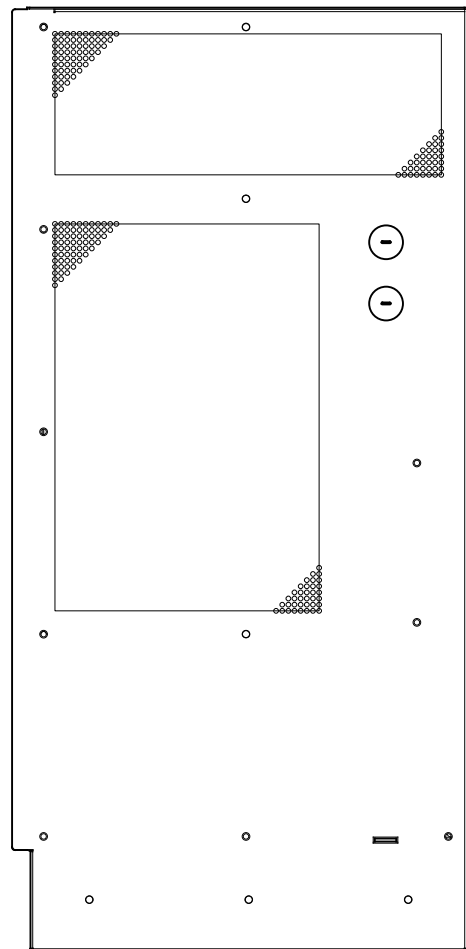
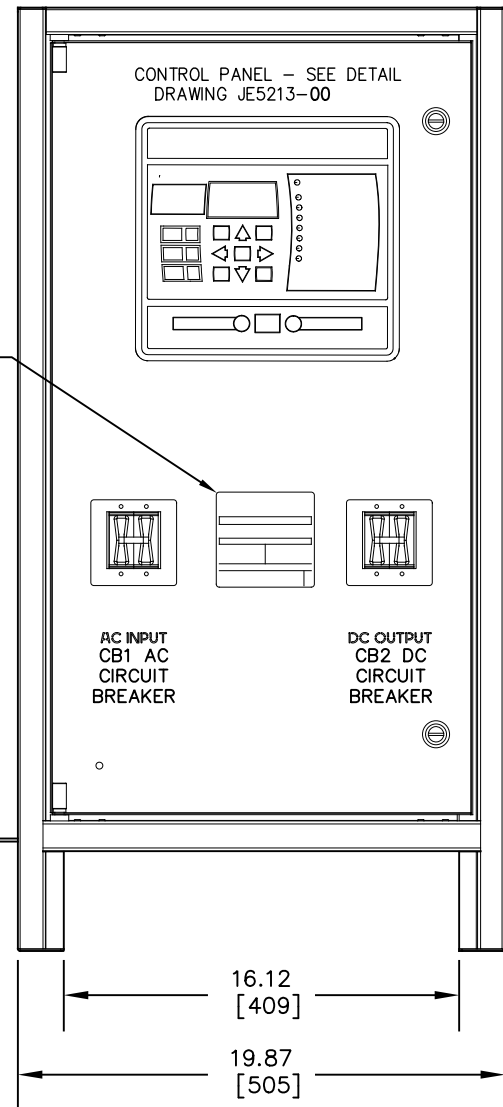


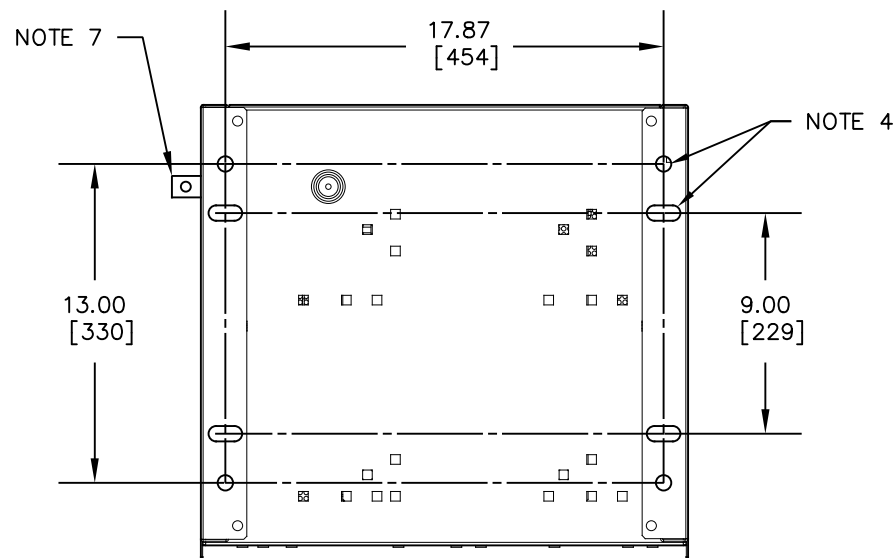
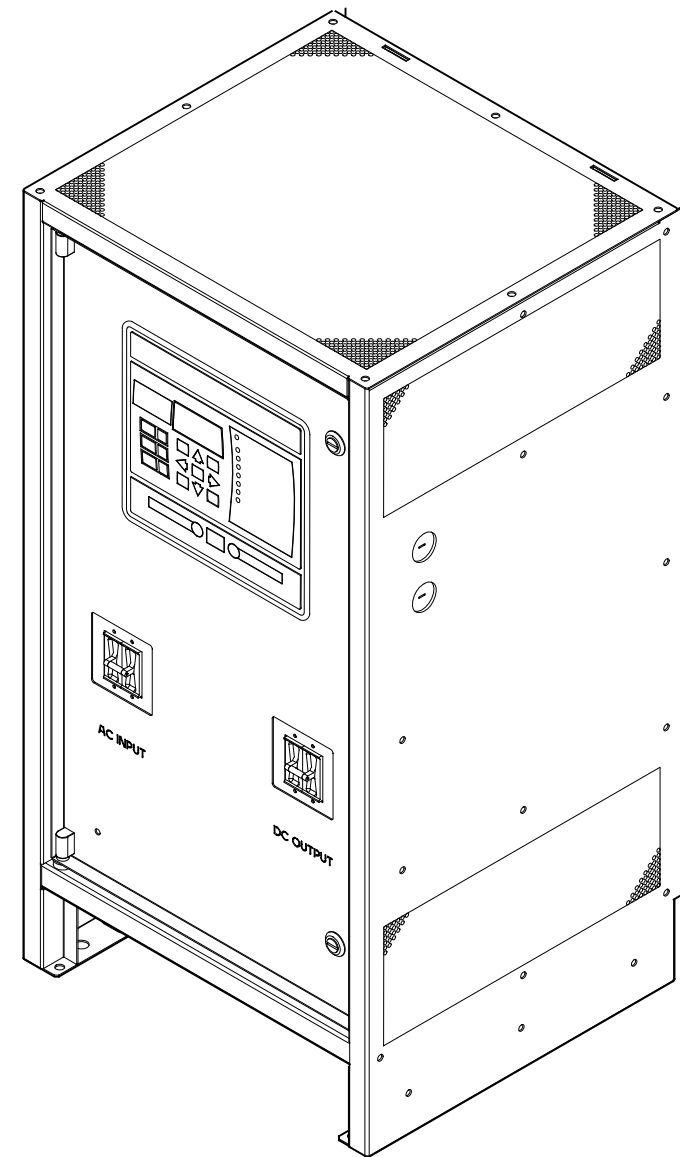
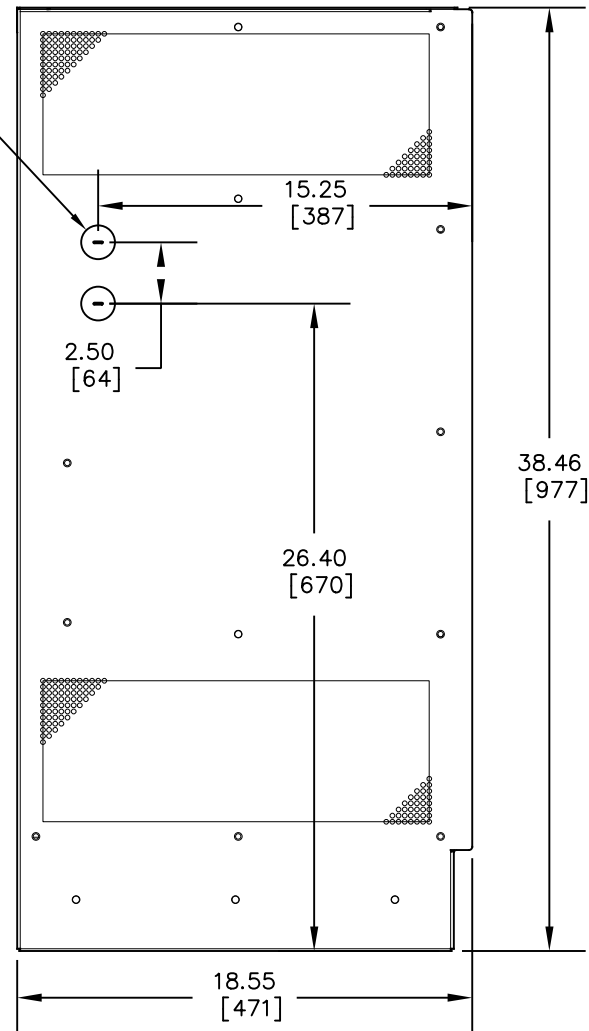
LEFT SIDE VIEW



FRONT VIEW



RIGHT SIDE VIEW



BOTTOM MOUNTING VIEW

NOTES:

- ENCLOSURE IS A NEMA TYPE 1 / IP20 TOP-VENTED STEEL CABINET WITHOUT GASKETS. FINISH IS ANSI-61 GRAY EPOXY POWDERCOAT.
- ALLOW 6in / 152mm OF FREE AIR ON ALL VENTED SURFACES (TOP, SIDES & REAR) FOR COOLING.
- DATA NAMEPLATE (WITH CHARGER RATINGS) MOUNTED ON DOOR.
- FOUR (4) 0.5in / 12mm FLOOR-MOUNTING HOLES AND FOUR (4) 1in x 0.625in / 25mm x 16mm FLOOR-MOUNTING SLOTS ARE PROVIDED ON BOTTOM OF ENCLOSURE AS SHOWN.
- FOUR (4) 1.31in / 33mm DIA STANDARD PRE-FAB KEY-SLOT KNOCKOUTS ARE PROVIDED AS SHOWN FOR 1in / 25mm CONDUIT ENTRY. IF ADDITIONAL CONDUIT ENTRANCES ARE REQUIRED, ENCLOSURE SHOULD BE FIELD-MODIFIED BY INSTALLER.
- BATTERY CHARGER SHIPPING WEIGHT: APPROXIMATELY TBD lbs / TBD kg
- OPTIONAL GROUND BUS BAR WITH 0.41 in / 10.41 mm DIA HOLE.

DUAL DIMENSIONS in [mm]

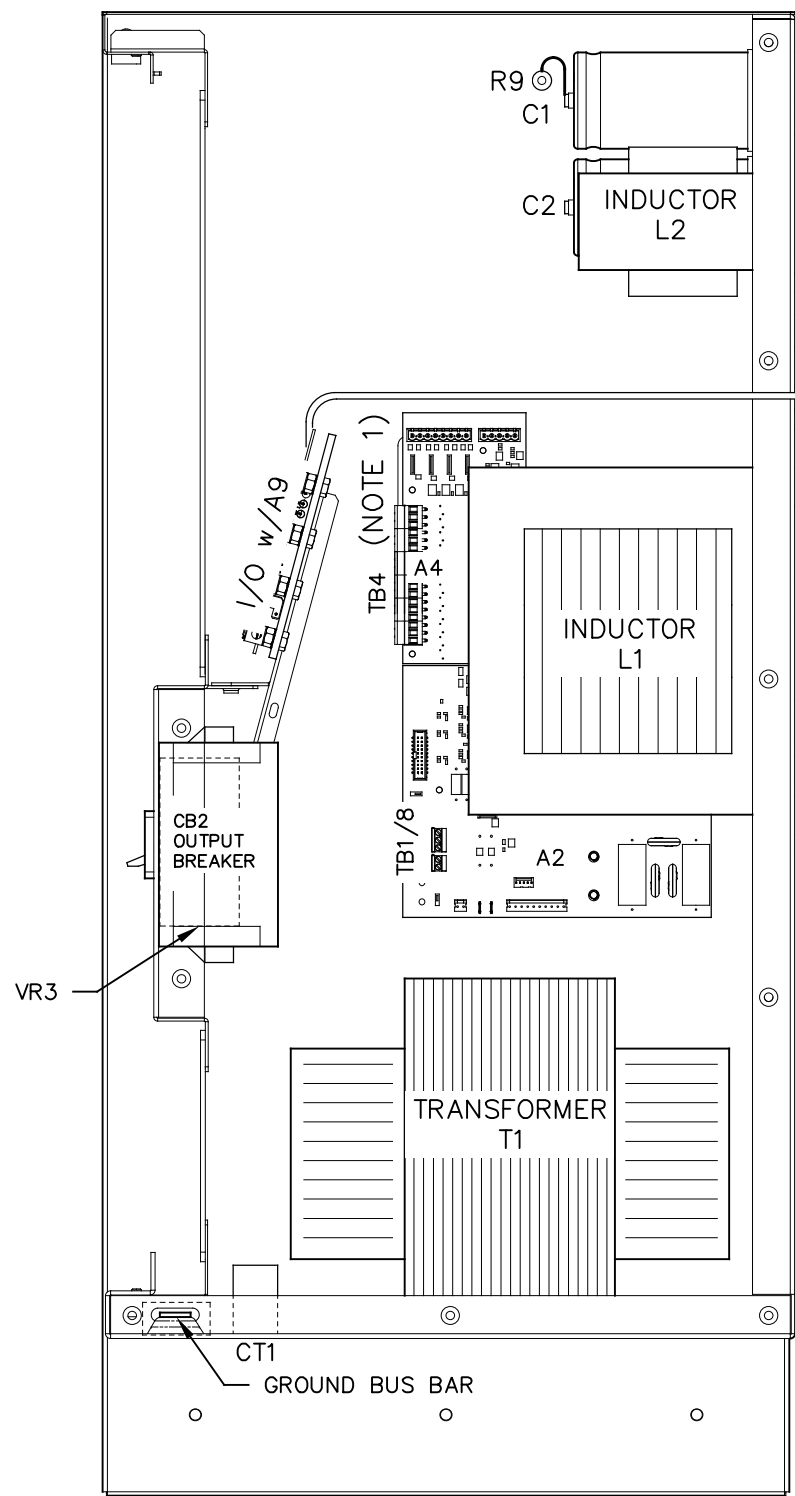
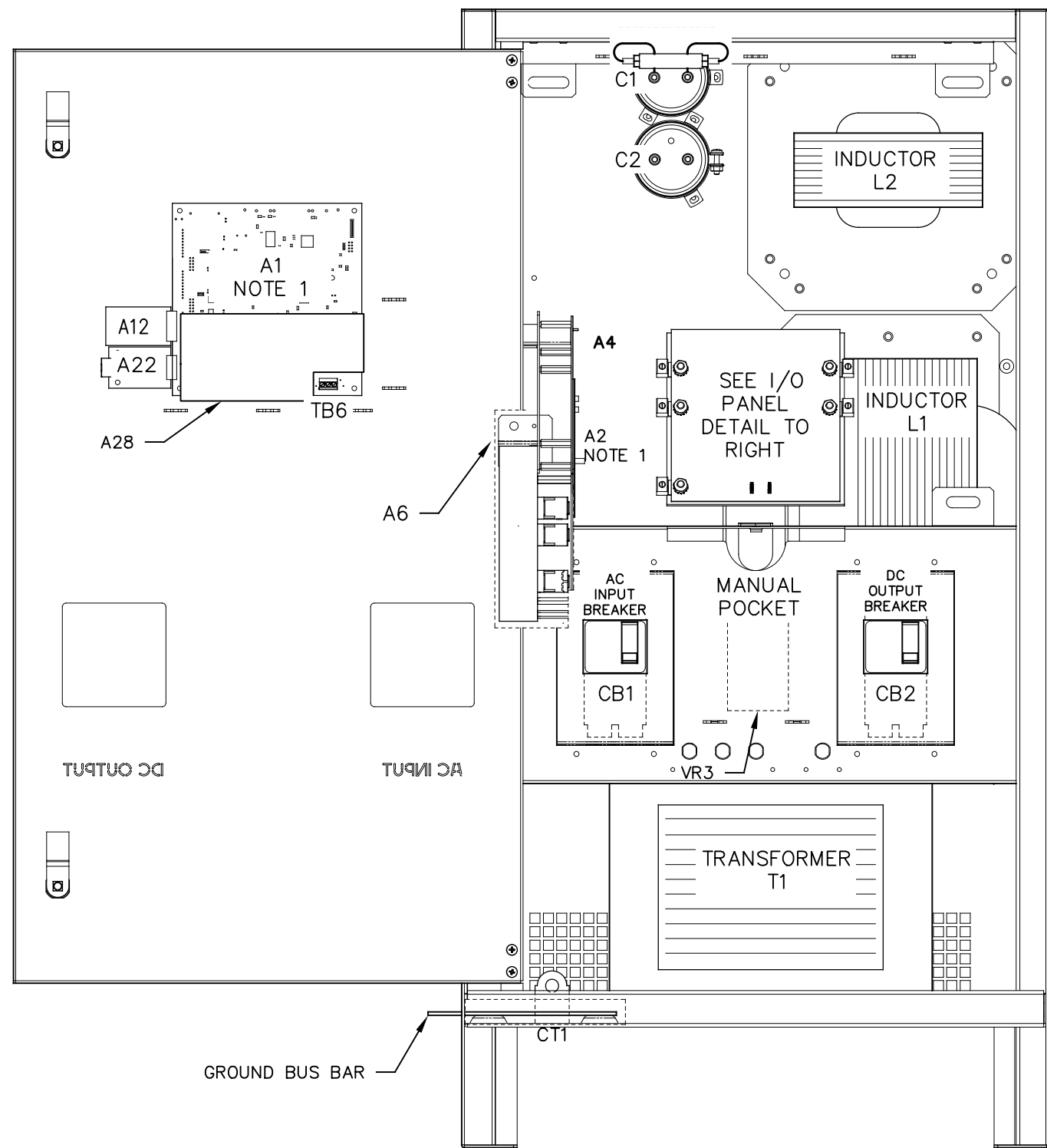
REV. 0	DRN BY KJB	CHK BY MCR	APP BY MCR	DATE 11/07/19	DRN BY KJB	DATE 11/07/19
DESCRIPTION STANDARD DRAWINGS.					CHK BY MCR	DATE 11/07/19
					APP BY MCR	DATE 11/07/19

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TITLE  
**ATEVO BATTERY CHARGER  
OUTLINE: NEMA-1 STYLE-5070 ENCL**

**B** SCALE NTS DWG No **JE5309-00** REV 0 SHEET 1 OF 1



TO BE PLACED NEAR BATTERY CELL

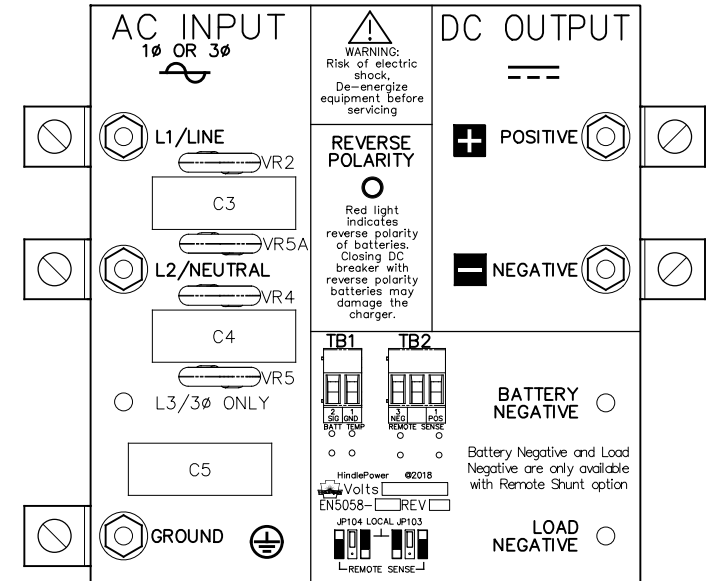
SYM STANDARD COMPONENT DESCRIPTION

- A1 MAIN CONTROL PC BOARD
- A2 POWER BOARD
- A6 RECTIFIER ASSEMBLY
- A9 MOV PC BOARD
- C1 FILTER CAPACITOR
- CB1 AC INPUT CIRCUIT BREAKER (Bx2)
- CB2 DC OUTPUT CIRCUIT BREAKER (Bx2)
- AUXCB2 DC CKT BKR (CB2) AUXILIARY CONTACTS
- L1 MAIN INDUCTOR
- L2 FILTER INDUCTOR
- R9 FILTER CAP BLEED RESISTOR
- T1 POWER TRANSFORMER

SYM OPTIONAL COMP DESCRIPTION

- A4 AUXILIARY I/O BOARD
- A10 TEMPERATURE COMPENSATION PROBE
- A12 SERIAL COMMUNICATION ADAPTER
- A22 ETHERNET ADAPTER
- A28 METER MODULE PC BOARD
- C2 BATTERY ELIMINATOR FILTER CAP
- CT1 CURRENT TRANSFORMER
- VR3 AC INPUT LIGHTNING ARRESTOR

ST-5070 INPUT-OUTPUT TERMINAL BOARD DETAIL



MOV PC BOARD (A9)

I/O TERMINAL	DESCRIPTION - TYPE	CONNECTION
I/O (+/-)	POS/NEG OUTPUT TERMINALS - CU-ALUMINUM COMPRESSION LUG	#14-1/0 AWG
GND LUG	USER GROUND TERMINAL - CU-ALUMINUM COMPRESSION LUG	#14-1/0 AWG
I/O (L1/L2)	AC INPUT TERMINALS - CU-ALUMINUM COMPRESSION LUG	#14-1/0 AWG
GND BUS	COPPER GROUND BUS - 0.41 in / 10.41 mm DIA HOLE	0.38in RING LUG
(A2) TB1	POS/NEG REMOTE SENSE TERMS (A2) - SOLDERLESS COMP SCREW	#22-14 AWG
(A2) TB8	TEMPCO PROBE (A10) TERM BLK - SOLDERLESS COMP SCREW	#22-14 AWG
(A4) TB4	AUX I/O RELAY CONTACTS (A4) - SOLDERLESS COMP SCREW	#22-14 AWG
(A1) TB6	SUMMARY ALARM TERMINAL BLOCK (A1) - SLDRLESS COMP SCREW	#22-14 AWG

NOTES:  
1. FOR DETAIL VIEWS OF ALL PC BOARDS (A1, A2, etc.) SEE DRAWING JE5313 - 00, 20, 30.

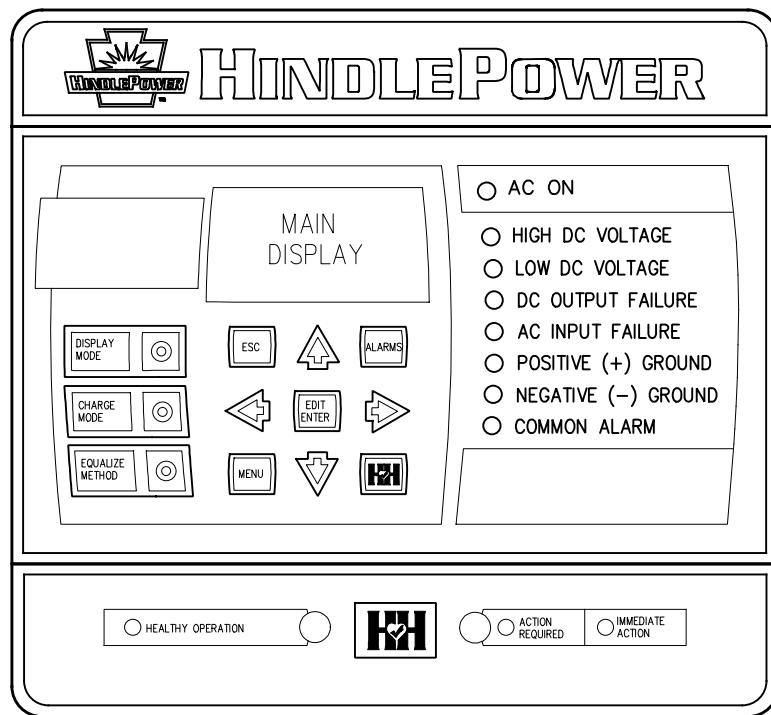
REV. DRN BY	CHK BY	APP BY	DATE	DRN BY	DATE:
C	KJB	MCR	6/28/2021	KJB	2/7/2020
DESCRIPTION				CHK BY	DATE:
STANDARD DRAWINGS.				MCR	2/7/2020
				APP BY	DATE:
				RDB	2/7/2020

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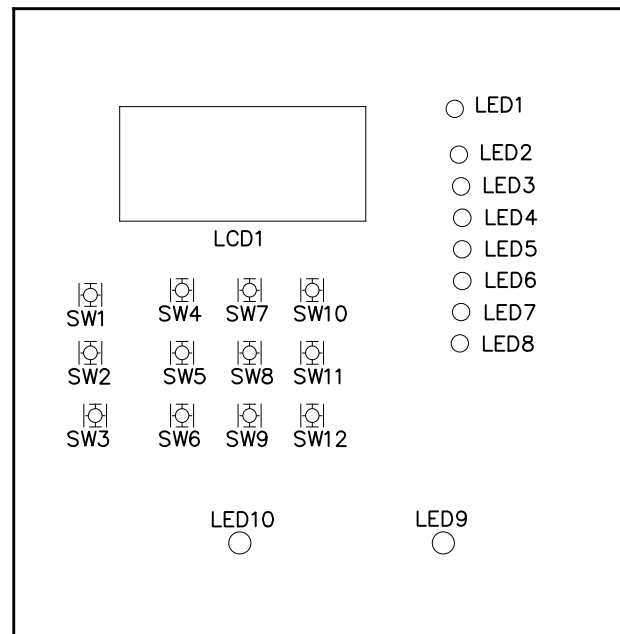
TITLE: ATEVO BATTERY CHARGER  
INTERNAL COMPONENT LAYOUT: STYLE-5070  
75-100ADC 1Ø WITH COMMON OPTIONS

<b>B</b>	SCALE	DWG No	JE5310-29	REV	SHEET
	NTS			C	1 OF 1

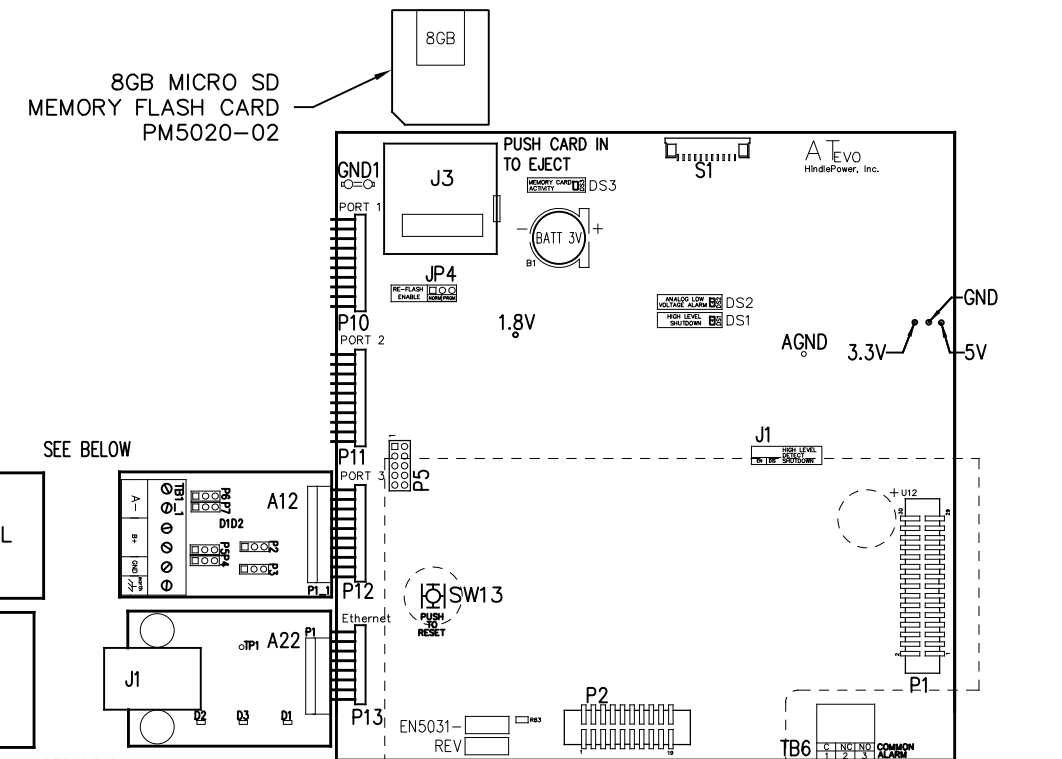


**CONTROL PANEL**  
(PART No. FK5047-00)

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.

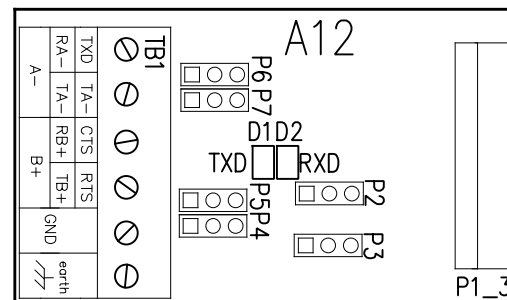


**MAIN CONTROL PC BOARD (A1)**  
FRONT VIEW - FACING CHARGER DOOR WHEN INSTALLED



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

**SERIAL COMMUNICATION ADAPTER (A12)**



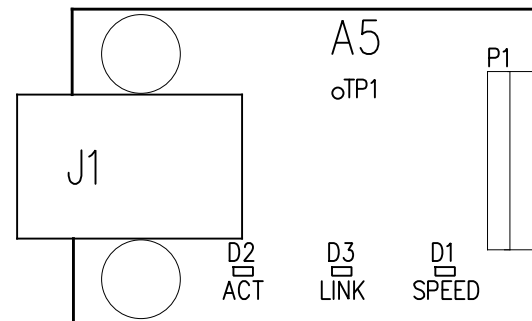
**CONNECTORS (A12):**  
P1 - MAIN CONTROL BOARD

**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)**

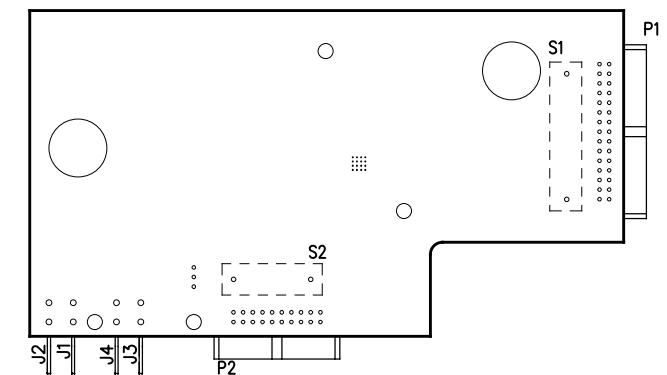


**CONNECTORS (A5):**  
P1 - MAIN CONTROL BOARD  
J1 - RJ-45 ETHERNET USER CONNECTION

**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

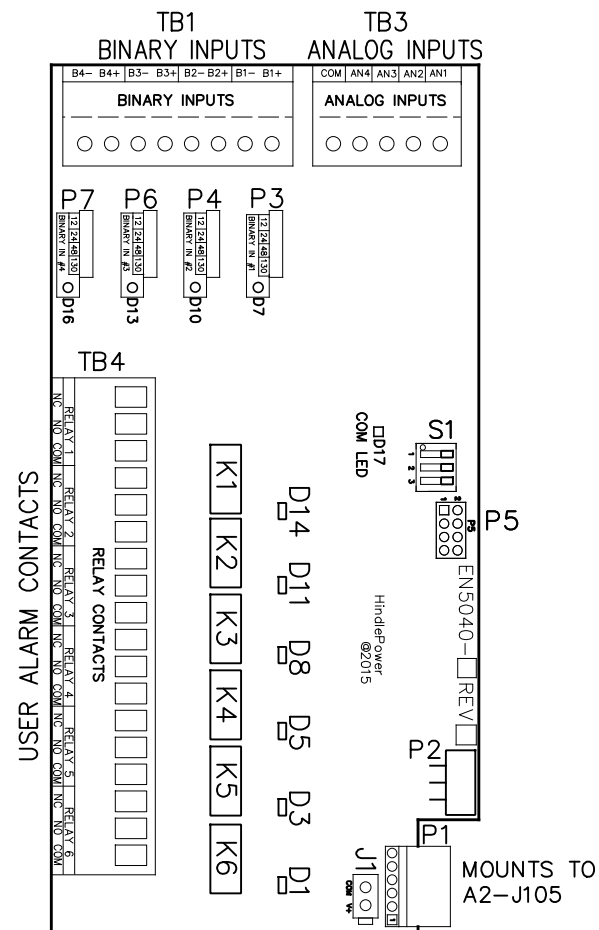


I/O TERMINAL	DESCRIPTION - TYPE	CONNECTION
(A1) TB6	SUMMARY ALARM TERMINAL BLOCK (A1) - SOLDERLESS COMP SCREW	#22-14 AWG
(A12) TB1	RS-232 / RS-485 USER CONNECTIONS - SOLDERLESS COMP SCREW	#22-14 AWG
(A22) J1	SERIAL ETHERNET CONNECTION - RJ45 PLUG	CAT5

**MAIN CONTROL PC BOARD (A1)**

<p><b>INDICATOR LIGHTS (LEDs):</b> LED1 - GREEN - AC ON LED2 - RED - HIGH DC VOLTAGE ALARM LED3 - RED - LOW DC VOLTAGE ALARM LED4 - RED - DC OUTPUT FAILURE ALARM LED5 - RED - AC INPUT FAILURE ALARM LED6 - RED - POSITIVE (+) GROUND ALARM LED7 - RED - NEGATIVE (-) GROUND ALARM LED8 - RED - COMMON ALARM LED9 - RED - ACTION REQUIRED ALARM LED10 - GREEN - HEALTHY OPERATION DS1 - RED - HIGH LEVEL SHUTDOWN (HLD) DS2 - RED - ANALOG LOW VOLTAGE ALARM (LLD) DS3 - RED - MEMORY CARD ACTIVITY</p>	<p><b>JUMPERS:</b> J1 - ANALOG HIGH VOLTAGE SHUTDOWN JUMPER J3 - SD CARD PORT JP4 - RE-FLASH (FIELD PROGRAMMING) JUMPER</p> <p><b>TERMINAL BLOCKS:</b> TB6 - COMMON ALARM RELAY CONTACTS</p> <p><b>TEST POINTS:</b> 1.8V - 1.8 VOLTS 3.3V - 3.3 VOLTS 5V - 5.0 VOLTS GND - GROUND AGND - ANALOG GROUND SDA - MAIN BOARD 12C DATA SCL - MAIN BOARD 12C CLOCK</p>	<p><b>SWITCHES:</b> S1 - DISPLAY BUTTON S2 - CHARGE MODE BUTTON S3 - EQUALIZE METHOD BUTTON S4 - ESCAPE (ESC) BUTTON S5 - LEFT ARROW BUTTON S6 - MENU BUTTON S7 - UP ARROW BUTTON S8 - EDIT / ENTER BUTTON S9 - DOWN ARROW BUTTON S10 - ALARM BUTTON S11 - RIGHT ARROW BUTTON S12 - HINDLE HEALTH (HHS) BUTTON SW13 - SYSTEM RESET BUTTON (BACK OF BOARD)</p>	<p><b>CONNECTORS:</b> P1 - POWER BOARD RIBBON P2 - 3 PHASE RECTIFIER RIBBON P3 - USB EXPANSION PORT P4 - SPI &amp; I2C EXPANSION PORT #1 P5 - SPI &amp; I2C EXPANSION PORT #2 P6 - DISPLAY SPI PORT P7 - DISPLAY JTAG PORTS P10 - SERIAL INTERFACE PORT #1 P11 - SERIAL INTERFACE PORT #2 P12 - SERIAL INTERFACE PORT #3 P13 - ETHERNET INTERFACE PORT P17 - GENERAL EXPANSION PORT</p>
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REV. B	DRN BY KJB	CHK BY MCR	APP BY MCR	DATE 7/21/2021	DRN BY KJB	DATE: 11/15/19	<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: 11/15/19	
ECN NO. N/A					APP BY MCR	DATE: 11/15/19	
					TITLE: ATEVO BATTERY CHARGER CONTROL PANEL / PC BOARD DETAIL 75-100ADC 1Ø WITH COMMON OPTIONS		
			SCALE: B	DWG No: JE5313-29	REV: B	SHEET: 1 OF 2	



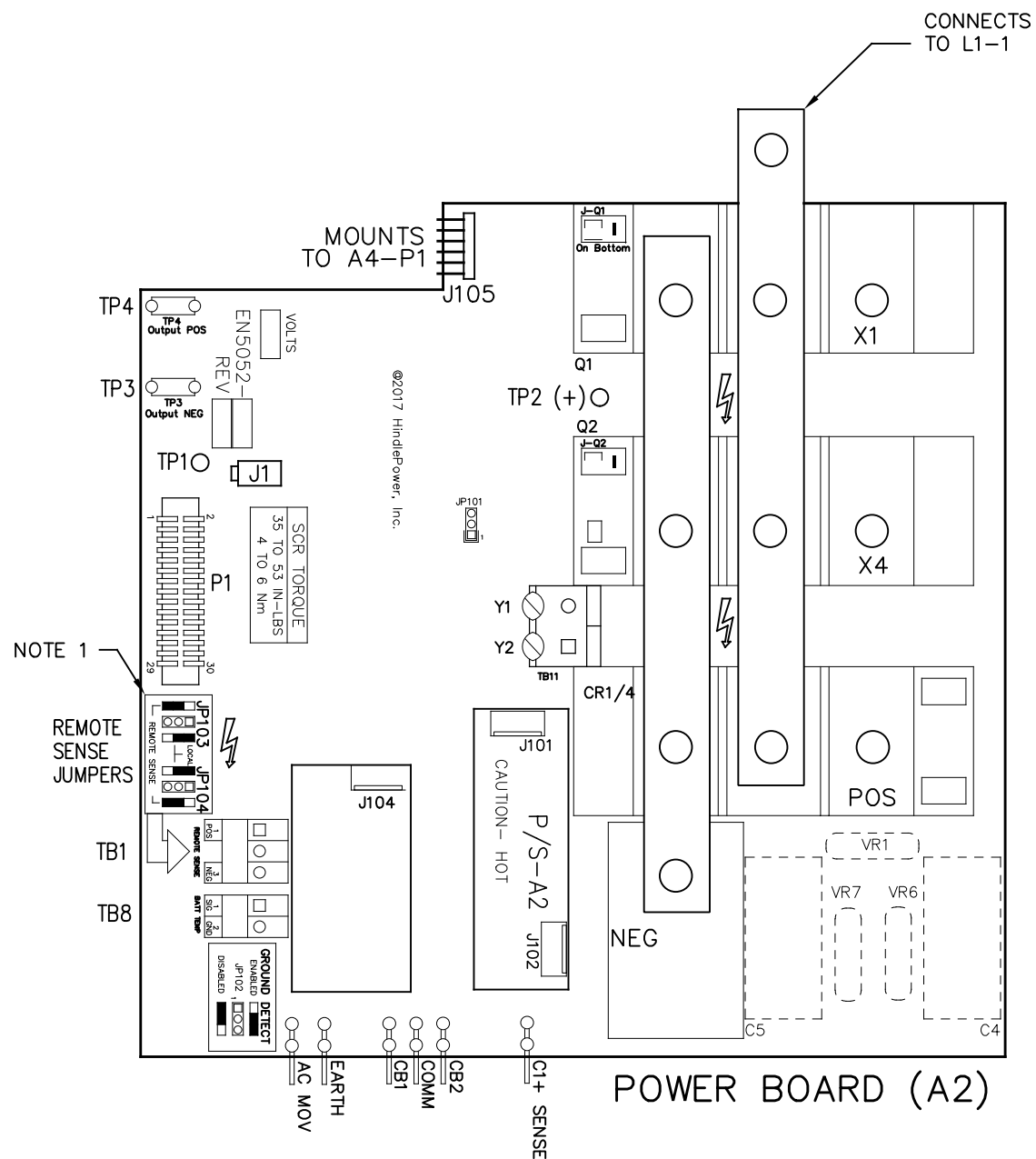
**AUXILIARY I/O BOARD (A4)**

**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



**POWER BOARD (A2)**

**USER TERMINALS ON POWER BOARD (A2):**  
 TB1 - REMOTE VOLTAGE SENSE  
 TB8 - BATTERY TEMPERATURE COMPENSATION  
 TB11 - 'Y' CONTROL WINDINGS

**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  
 J101 - DC POWER SUPPLY  
 J102 - DC POWER SUPPLY  
 J105 - AUXILIARY I/O BOARD  
 P1 - MAIN CONTROL BOARD RIBBON

**DISCRETE TERMINALS:**  
 AC MOV - CHASSIS EARTH GROUND  
 EARTH - CHASSIS EARTH GROUND (DOOR)  
 CB1 - AC BREAKER AUX SWITCH CONTACT  
 CB2 - DC BREAKER AUX SWITCH CONTACT  
 POS - POSITIVE CONNECTION POINT  
 NEG - NEGATIVE CONNECTION POINT  
 COMM - BREAKER AUX SWITCH COMMON  
 X1 - TRANSFORMER SECONDARY WINDING  
 X4 - TRANSFORMER SECONDARY WINDING  
 L1-1 - FILTER INDUCTOR #1 (TERMINAL #1)  
 L1-2 - FILTER INDUCTOR #1 (TERMINAL #2)

**TEST POINTS ON POWER BOARD (A2):**  
 TP1 - PRE-FILTERED DC BUS (-)  
 TP2 - PRE-FILTERED DC BUS (+)  
 TP3 - DC BUS (-)  
 TP4 - DC BUS (+)

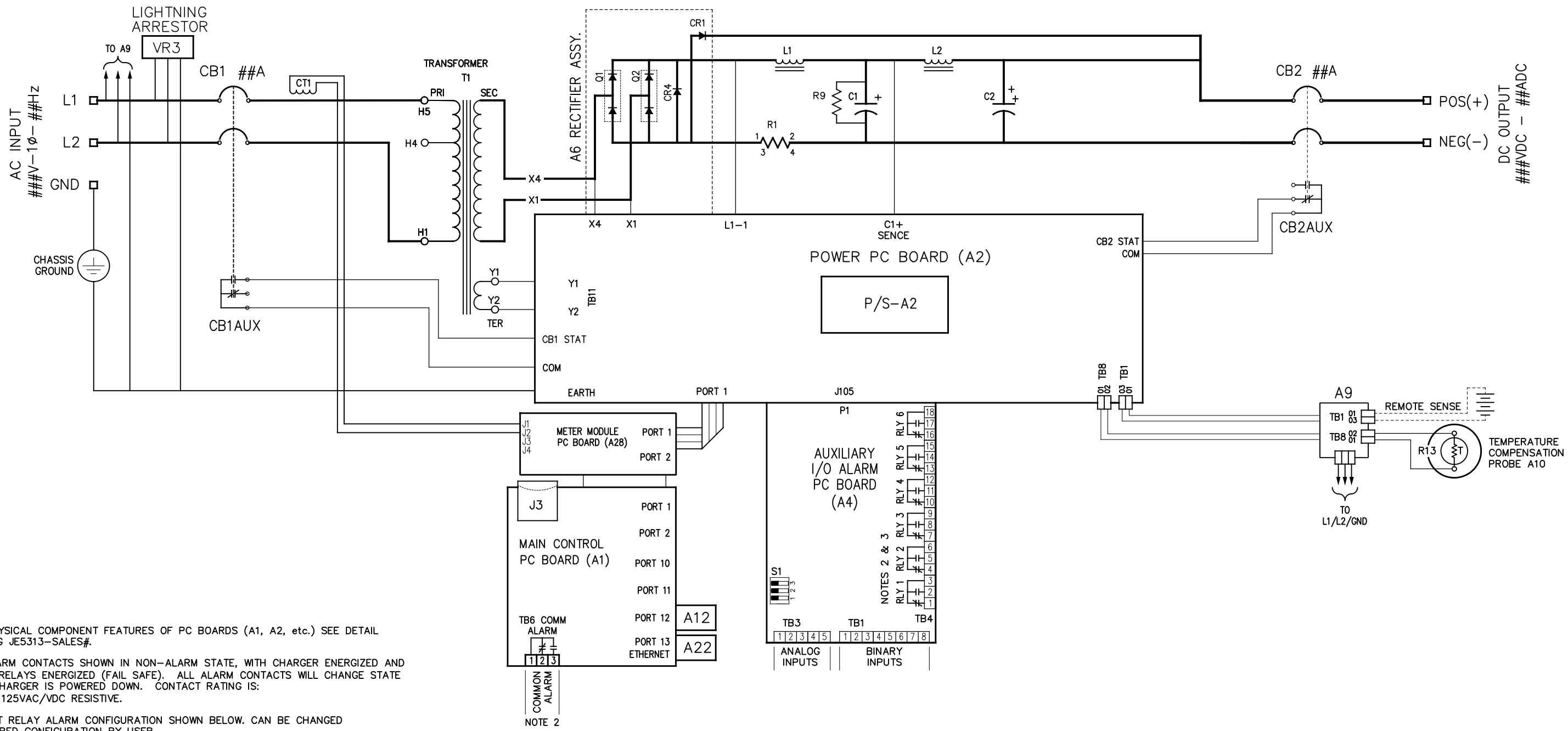
**NOTE:**  
 1. REMOTE SENSE JUMPERS JP103, JP104 MUST BE IN REMOTE SENSE POSITION IN 5070 CABINETS.

I/O TERMINAL	DESCRIPTION - TYPE	CONNECTION
(A2) TB1	POS/NEG REMOTE SENSE TERMS (A2) - SOLDERLESS COMP SCREW	#22-14 AWG
(A2) TB8	TEMPCO PROBE (A10) TERM BLK - SOLDERLESS COMP SCREW	#22-14 AWG
(A4) TB1	AUX I/O BINARY INPUTS (A4) - SOLDERLESS COMP SCREW	#22-14 AWG
(A4) TB2	AUX I/O RELAY CONTACTS (A4) - SOLDERLESS COMP SCREW	#22-14 AWG
(A4) TB3	AUX I/O ANALOG INPUTS (A4) - SOLDERLESS COMP SCREW	#22-14 AWG
(A4) TB4	AUX I/O RELAY CONTACTS (A4) - SOLDERLESS COMP SCREW	#22-14 AWG

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TITLE: **ATEVO BATTERY CHARGER CONTROL PANEL / PC BOARD DETAIL 75-100ADC 1Ø WITH COMMON OPTIONS**

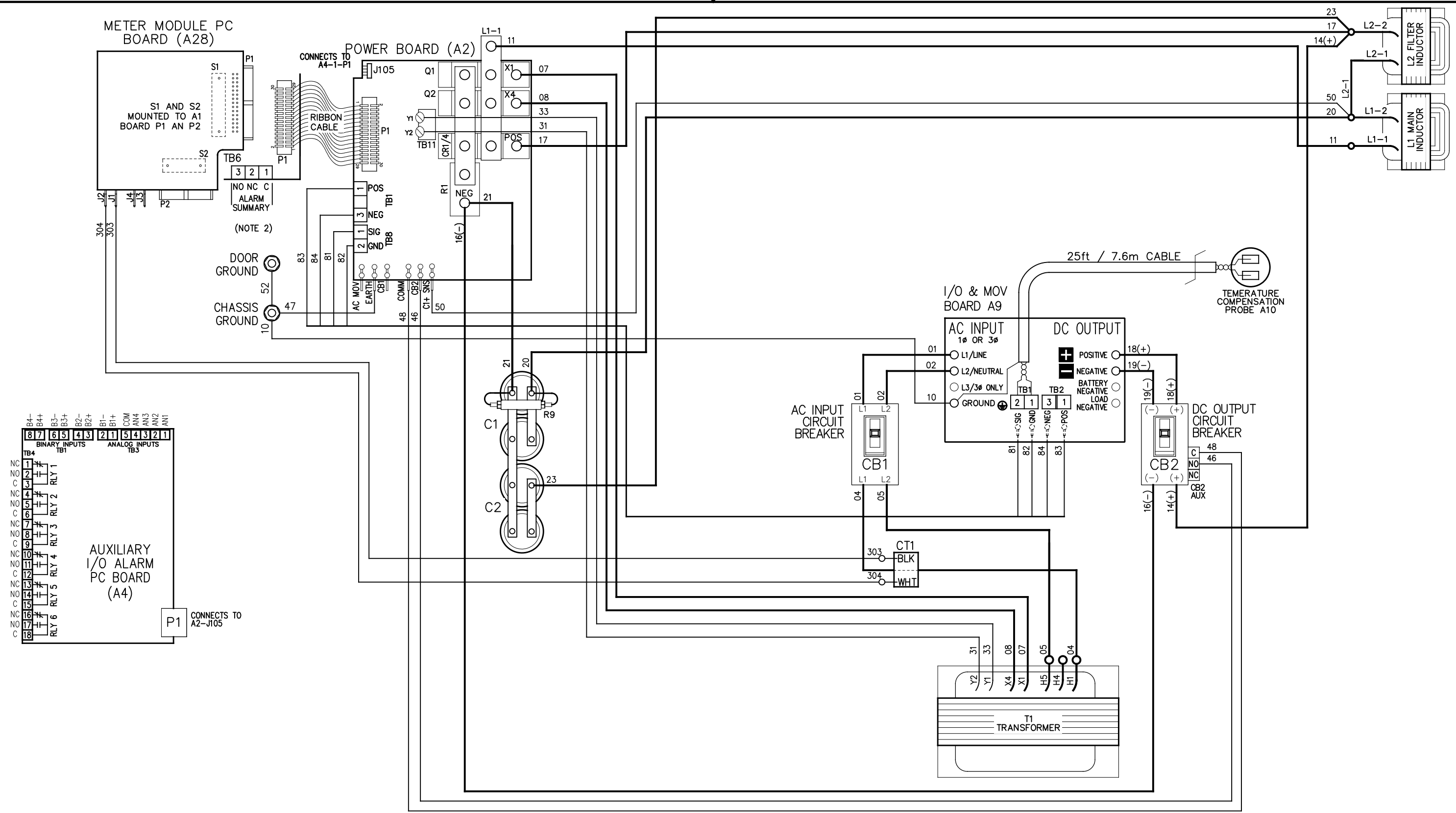
**B** SCALE: NTS DWG No: **JE5313-29** REV: B SHEET: 2 OF 2



- NOTES:
- FOR PHYSICAL COMPONENT FEATURES OF PC BOARDS (A1, A2, etc.) SEE DETAIL DRAWING JE5313-SALES#.
  - 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.
  - DEFAULT RELAY ALARM CONFIGURATION SHOWN BELOW. CAN BE CHANGED TO DESIRED CONFIGURATION BY USER.

A4	DESCRIPTION	LACHING	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	CHK BY	APP BY	DATE	DRN BY	DATE:		1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com		
B	KJB	MCR	MCR	9/21/2020	KJB			12/10/19	
DESCRIPTION				CHK BY	DATE:			TITLE	
STANDARD DRAWINGS.				MCR	12/10/19			ATEVO BATTERY CHARGER 1φ STYLE 5070 SCHEMATIC; 75-100ADC 1φ WITH COMMON OPTIONS	
				APP BY	DATE:				
				MCR	12/10/19				
						<b>B</b> SCALE DWG No NTS JE5311-29			
				REV	SHEET	B 1 OF 1			



NOTES:  
 1. WHEN NATURAL LEADS OF MAGNETICS ARE NOT USED, CHARGER COMPONENTS ARE CONNECTED WITH BLACK FLAME-RETARDANT SWITCHBOARD INSULATION SYSTEM (SIS) TYPE WIRING, IDENTIFIED ON EACH END WITH NUMBER-CODED MARKERS. GROUND WIRES ARE GREEN WITH YELLOW STRIPE.

REV. C	DRN BY KJB	CHK BY MCR	APP BY MCR	DATE 4/8/2021	DRN BY KJB	DATE: 1/21/2020	 <b>HINDLEPOWER</b> 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: 1/21/2020	
					APP BY MCR	DATE: 1/21/2020	
TITLE ATEVO BATTERY CHARGER CONN DIAGRAM: 1Ø STYLE 5070 75-100ADC 1Ø WITH COMMON OPTIONS							SCALE DWG No <b>B</b> NTS JE5312-29
							REV C SHEET 1 OF 1