

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.
- SIX (6) KEY-HOLE SLOTS ARE PROVIDED ON BACK OF ENCLOSURE AS SHOWN. FOR WALL-MOUNTING WITH 0.25in / 6.25mm HARDWARE.
- SIX (6) 1.31in / 33mm DIA KNOCKOUTS ARE PROVIDED AS SHOWN, WITH TWO (2) ADDITIONAL KNOCKOUTS FEATURED ON BOTTOM PANEL OF ENCLOSURE. USE OF ANY OF THESE FOUR (4) LOWER CONDUIT KNOCKOUTS WILL ALLOW REMOVAL OF CABINET SHROUD WITHOUT REMOVAL OF EXTERNAL WIRING.
- DATA NAMEPLATE (WITH CHARGER RATINGS) MOUNTED ON LOWER LEFT OF DOOR.
- BATTERY CHARGER SHIPPING WEIGHT: SEE PRODUCT LITERATURE.

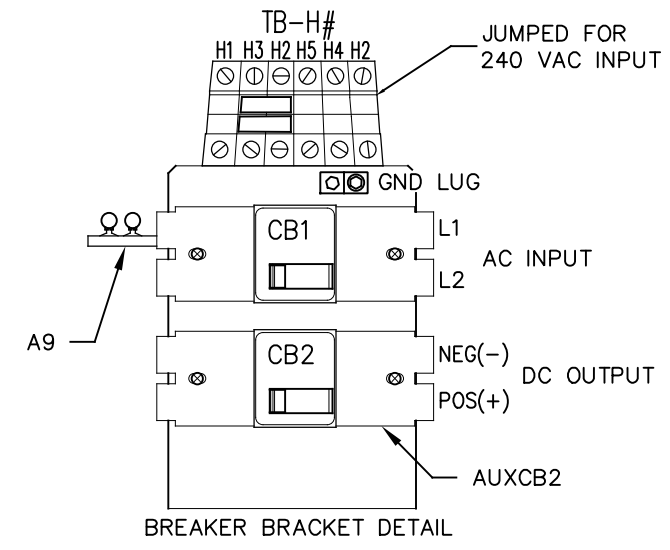
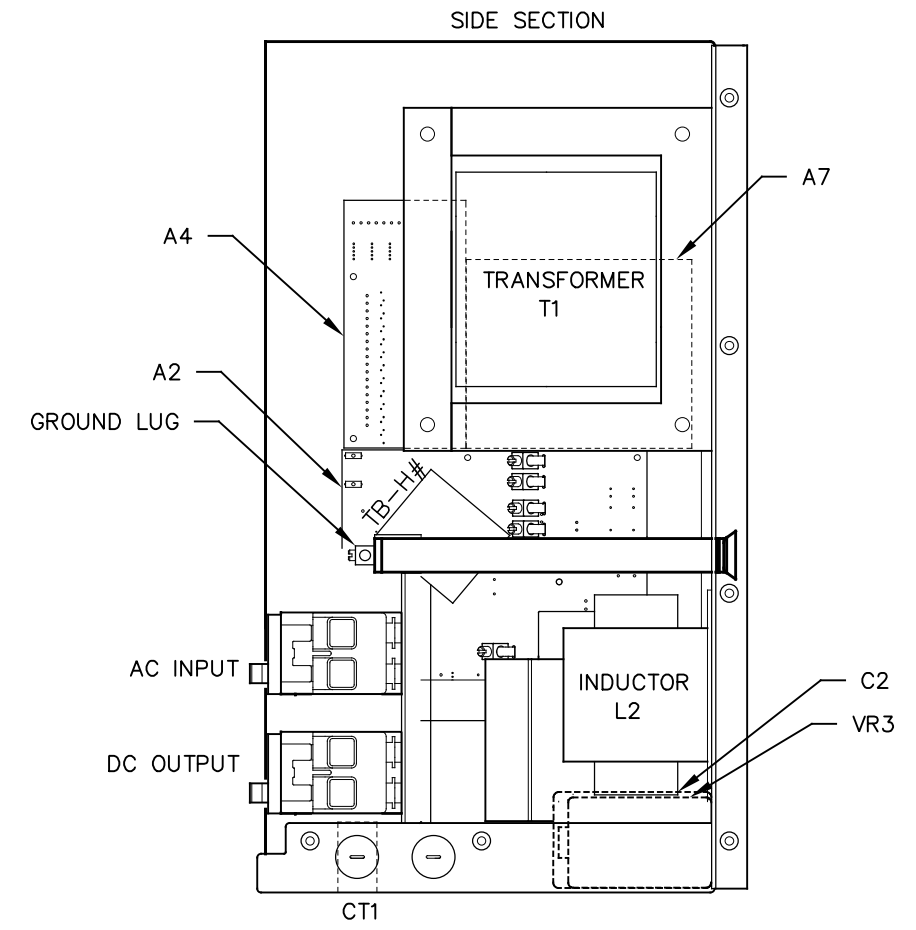
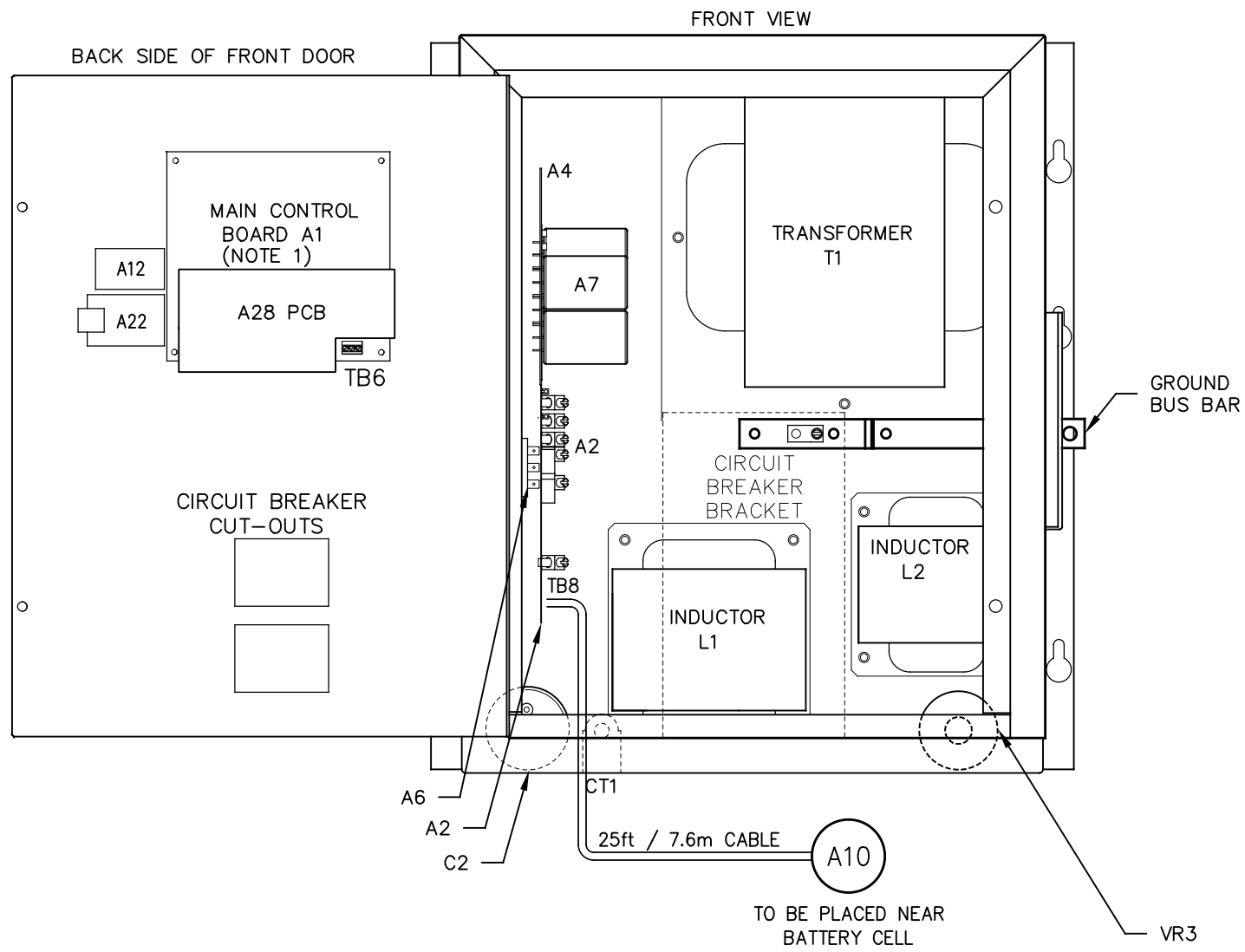
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B	KJB	MCR	11/15/19	KJB	11/15/19
DESCRIPTION				CHK BY	DATE
STANDARD DRAWINGS.				MCR	11/15/19
				APP BY	DATE
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		1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com	
ATEVO BATTERY CHARGER OUTLINE: NEMA-1 STYLE-5054 ENCL			
B	SCALE NTS	DWG No JE5251-00	REV B
		SHEET 1 OF 1	

DUAL DIMENSIONS in [mm]

SYM	STANDARD COMPONENT DESCRIPTION
A1	MAIN CONTROL PC BOARD
A2	POWER BOARD
A6	RECTIFIER H/S ASSEMBLY
A7	FILTER BOARD (C1x/R9x)
A9	MOV BOARD
CB1	AC INPUT CIRCUIT BREAKER (Bx)
CB2	DC OUTPUT CIRCUIT BREAKER (Bx)
AUXCB2	DC CKT BKR (CB2) AUXILIARY CONTACTS
L1	MAIN INDUCTOR
L2	FILTER INDUCTOR
T1	POWER ISOLATION TRANSFORMER

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

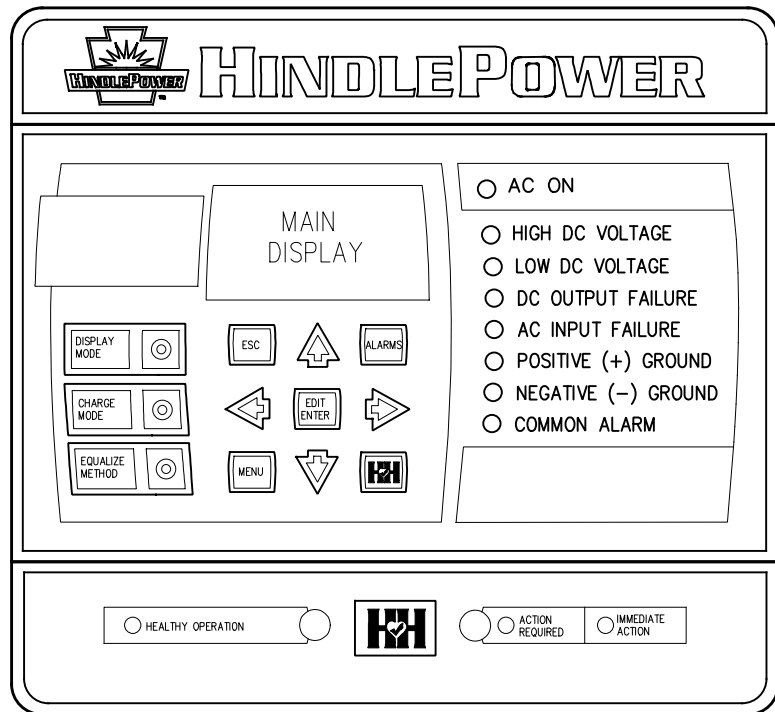


CONFIGURATION	TERMINAL CONNECTIONS
120 CONFIGURATION	H1 H3 H2 H5 H4 H2
208 CONFIGURATION	H1 H3 H2 H5 H4 H2
240 CONFIGURATION	H1 H3 H2 H5 H4 H2

NOTES:
1. FOR DETAIL VIEWS OF ALL PC BOARDS (A1, A2, A4 etc.) SEE DRAWING JE5253-#SLES#.

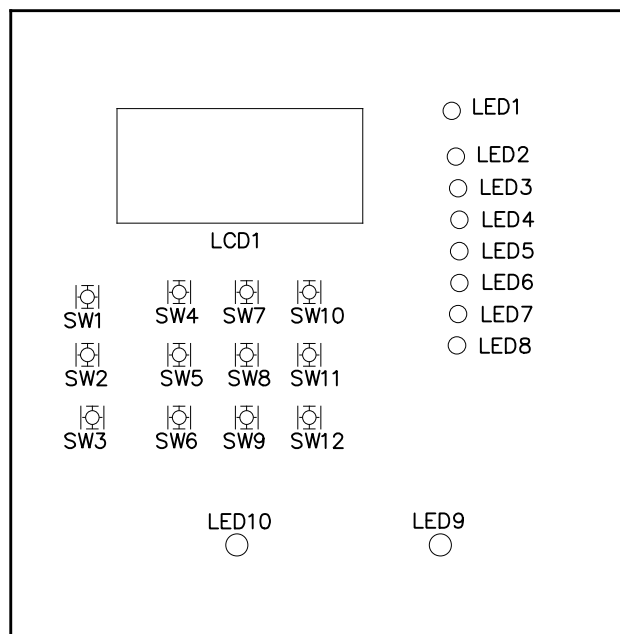
I/O TERMINAL	DESCRIPTION - TYPE	CONNECTION
CB2 (+/-)	POS/NEG DC OUTPUT TERMINALS - CKT BREAKER COMPRESSION LUG	#14-2/0 AWG
GND LUG	USER GROUND TERMINAL - CU-ALUMINUM COMPRESSION LUG	#14-6 AWG
CB1 (L1/L2)	AC INPUT TERMINALS - CKT BREAKER COMPRESSION LUG	#14-2/0 AWG
(A2) TB1	POS/NEG REMOTE SENSE TERMS (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) - SOLDERLESS COMP SCREW	#22-14 AWG
GND BUS	COPPER GROUND BUS - 0.375 in / 9.525 mm DIA HOLE	0.38in/9.7mm RING LUG

REV. DRN BY B KJB	CHK BY MCR	APP BY MCR	DATE 7/21/2021	DRN BY KJB	DATE 11/15/19		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 11/15/19		
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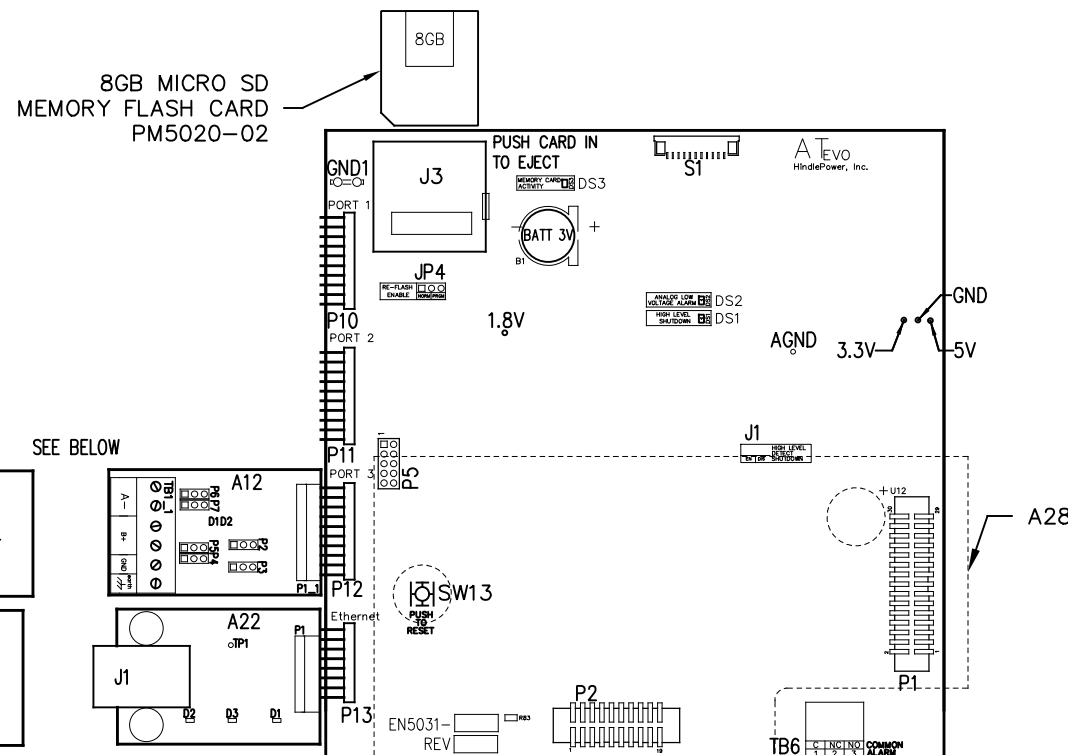


CONTROL PANEL
(PART No. FK5047-00)

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.

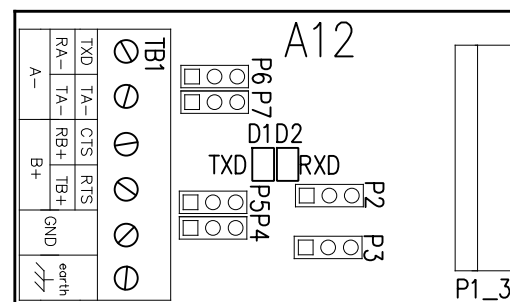


MAIN CONTROL PC BOARD (A1)
FRONT VIEW – FACING CHARGER DOOR WHEN INSTALLED



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

SERIAL COMMUNICATION ADAPTER (A12)



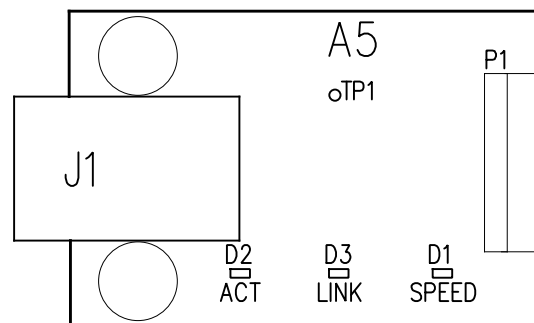
CONNECTORS (A12):
P1 – MAIN CONTROL BOARD

JUMPERS & CONFIGURATION SWITCHES (A12):
P2 – RECEIVER ENABLE CONTROL SELECTION
P3 – MEDIA CONTROL SELECTION (RS-232 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)

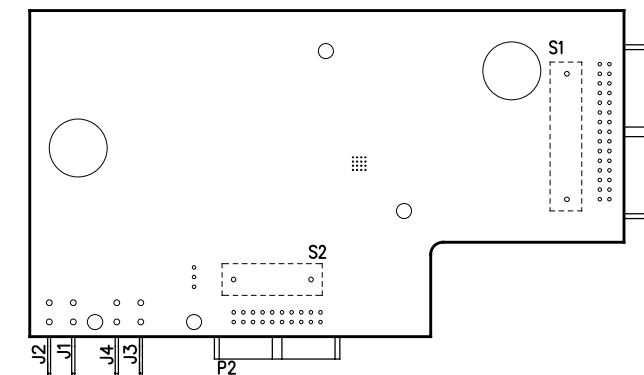


CONNECTORS (A5):
P1 – MAIN CONTROL BOARD
J1 – RJ-45 ETHERNET USER CONNECTION

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

AC 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>INDICATOR LIGHTS (LEDs): 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>JUMPERS: J1 – ANALOG HIGH VOLTAGE SHUTDOWN JUMPER J3 – SD CARD PORT JP4 – RE-FLASH (FIELD PROGRAMMING) JUMPER</p> <p>TERMINAL BLOCKS: TB6 – COMMON ALARM RELAY CONTACTS</p> <p>TEST POINTS: 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>SWITCHES: 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>CONNECTORS: P1 – POWER BOARD RIBBON P2 – 3 PHASE RECTIFIER RIBBON P3 – USB EXPANSION PORT P4 – SPI & I2C EXPANSION PORT #1 P5 – SPI & 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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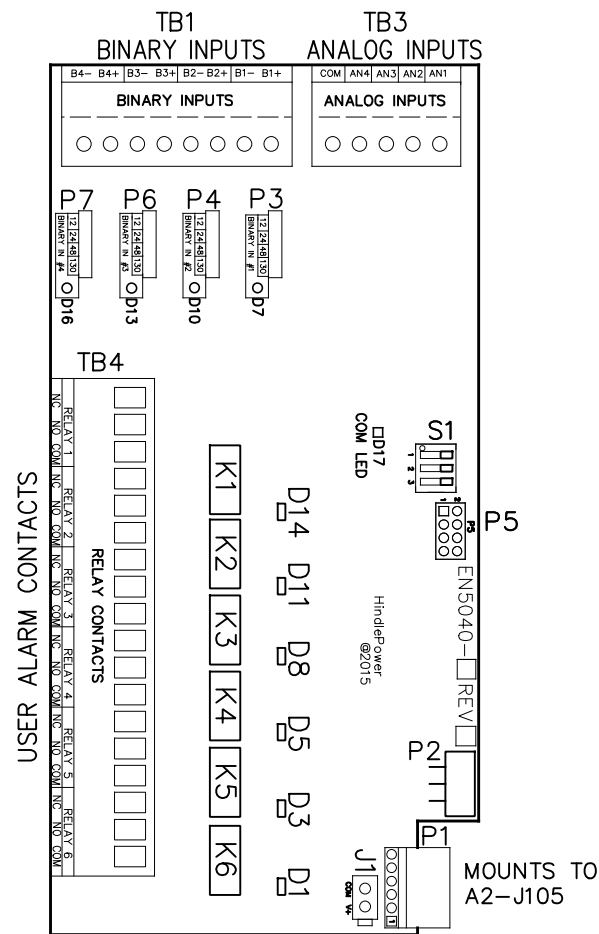
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PH 610-330-9000 FAX 610-330-8510
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HINDLEPOWER

TITLE
ATEVO BATTERY CHARGER
CONTROL PANEL / PC BOARD DETAIL WITH COMMON OPTIONS
FOR CHARGERS AT 6-25ADC

SCALE DWG No
B NTS JE5253-19

REV SHEET
B 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)

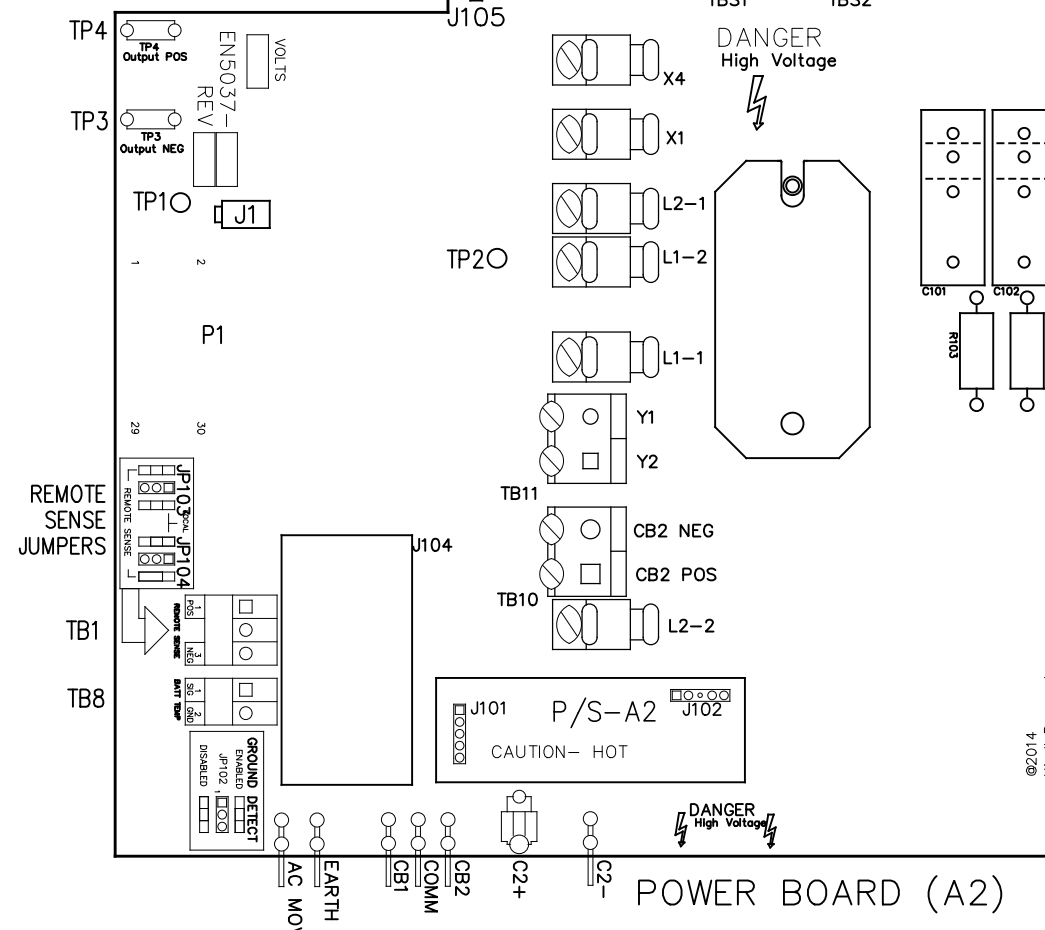
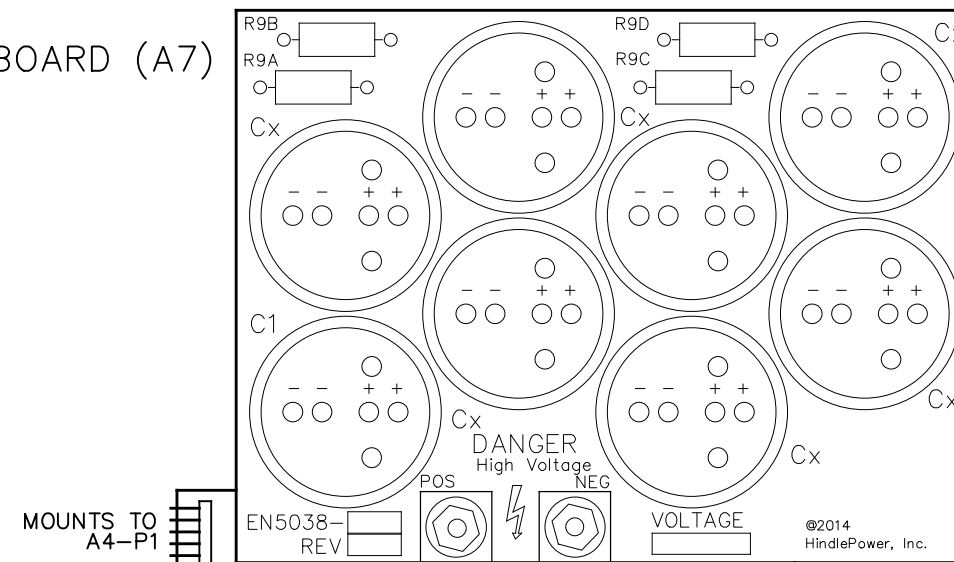
USER TERMINALS ON RELAY BOARD (A4):

- 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

FILTER BOARD (A7)



- 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
 - 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
 - COMM - BREAKER AUX SWITCH COMMON
 - C2+ - ELIMINATOR FILTER CAPACITOR (+)
 - C2- - ELIMINATOR FILTER CAPACITOR (-)
 - X1 - TRANSFORMER SECONDARY WINDING
 - X4 - TRANSFORMER SECONDARY WINDING
 - L1-1 - FILTER INDUCTOR #1 (TERMINAL #1)
 - L1-2 - FILTER INDUCTOR #1 (TERMINAL #2)
 - L2-1 - FILTER INDUCTOR #2 (TERMINAL #1)
 - L2-2 - FILTER INDUCTOR #2 (TERMINAL #2)
 - TB10 - CB2 DC BREAKER
 - TB11 - 'Y' CONTROL WINDINGS
 - TBS1 - FILTER CAPACITOR BOARD (+)
 - TBS2 - FILTER CAPACITOR BOARD (-)
- TEST POINTS ON POWER BOARD (A2):
- TP1 - PRE-FILTERED DC BUS (-)
 - TP2 - PRE-FILTERED DC BUS (+)
 - TP3 - DC BUS (-)
 - TP4 - DC BUS (+)

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

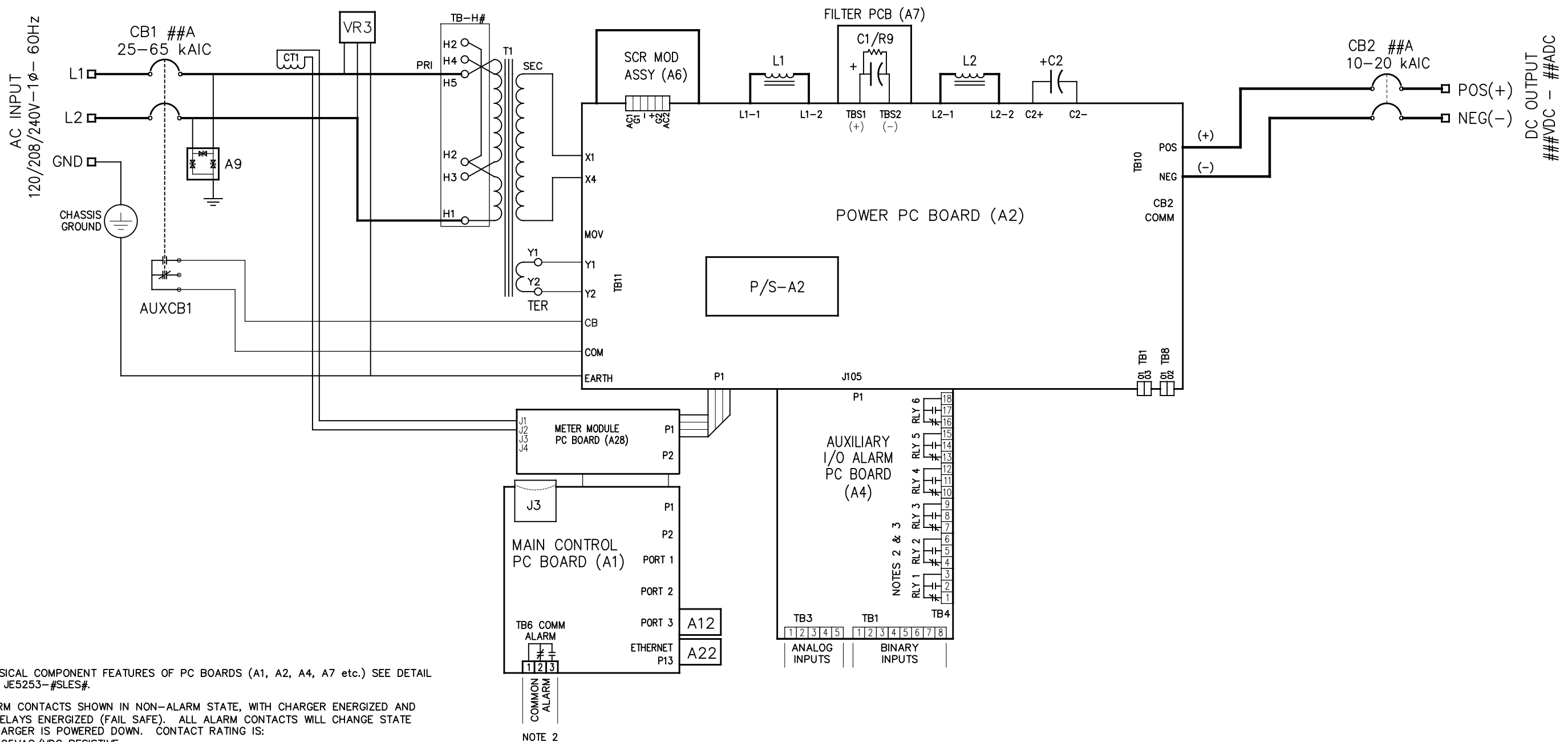


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TITLE: ATEVO BATTERY CHARGER
CONTROL PANEL / PC BOARD DETAIL WITH COMMON OPTIONS
FOR CHARGERS AT 6-25ADC

B	SCALE NTS	DWG No JE5253-19	REV B	SHEET 2 OF 2
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T1 CONNECTION TABLE	
INPUT	JUMPER
120	H1-H3, H2-H5
208	H4-H2 (2)
240	H3-H2 (2)




NOTES:

- FOR PHYSICAL COMPONENT FEATURES OF PC BOARDS (A1, A2, A4, A7 etc.) SEE DETAIL DRAWING JE5253-#SLES#.
- 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	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

- INPUT POWER ISOLATION TRANSFORMER (T1) IS FIELD RE-TAPPABLE FOR 120, 208 OR 240 VAC. SEE TABLE ABOVE.

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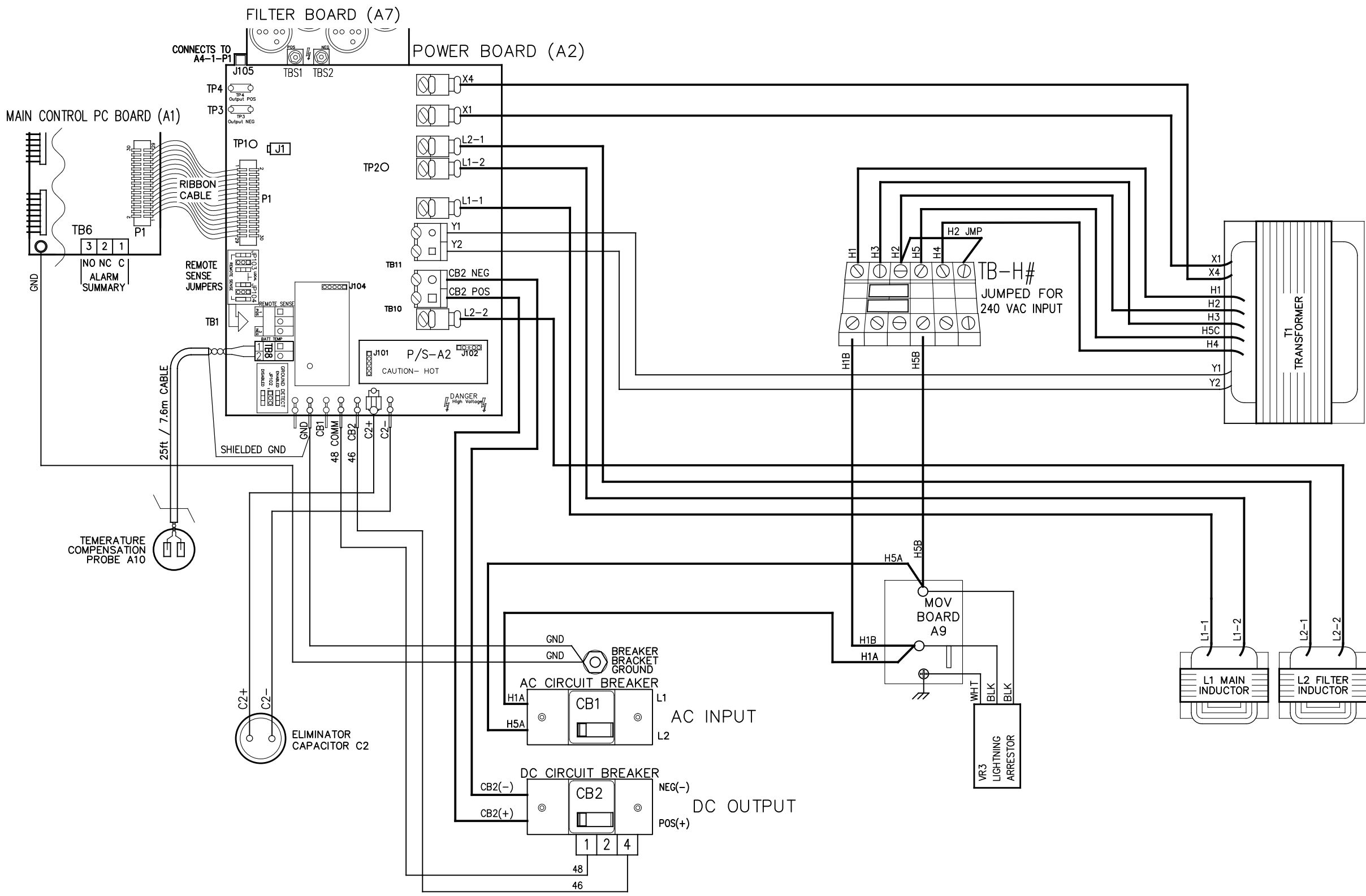
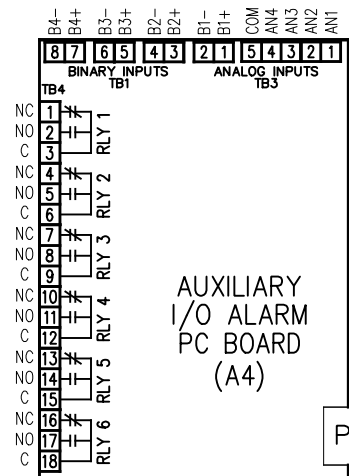
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TITLE

ATEVO BATTERY CHARGER
STYLE 5054 SCHEMATIC: WITH COMMON OPTIONS
FOR CHARGERS AT 6-25ADC

B	SCALE	DWG No	REV	SHEET
	NTS	JE5254-19	B	1 OF 1



NOTES:
 1. WHEN NATURAL LEADS OF MAGETICS ARE NOT USED, CHARGER COMPONENTS ARE CONNECTED WITH BLACK FLAME-RETARDANT SWITCHBOARD INSULATION SYSTEM (SIS) TYPE WIRING, IDENTIFIED ON EACH END WITH NUMBER-CODED HEATSHRINK MARKERS (p/n EJ1076-04). GROUND WIRES ARE GREEN WITH YELLOW STRIPE.

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TITLE
**ATEVO BATTERY CHARGER
 CONN DIAGRAM: 1Ø STYLE 5054 WITH COMMON OPTIONS
 FOR CHARGERS AT 6-25ADC**

B SCALE DWG No
 NTS JE5255-19

REV C SHEET 1 OF 1