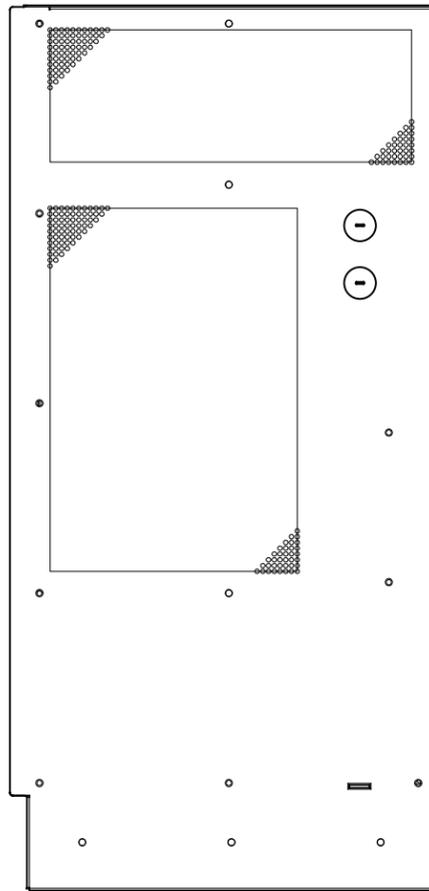
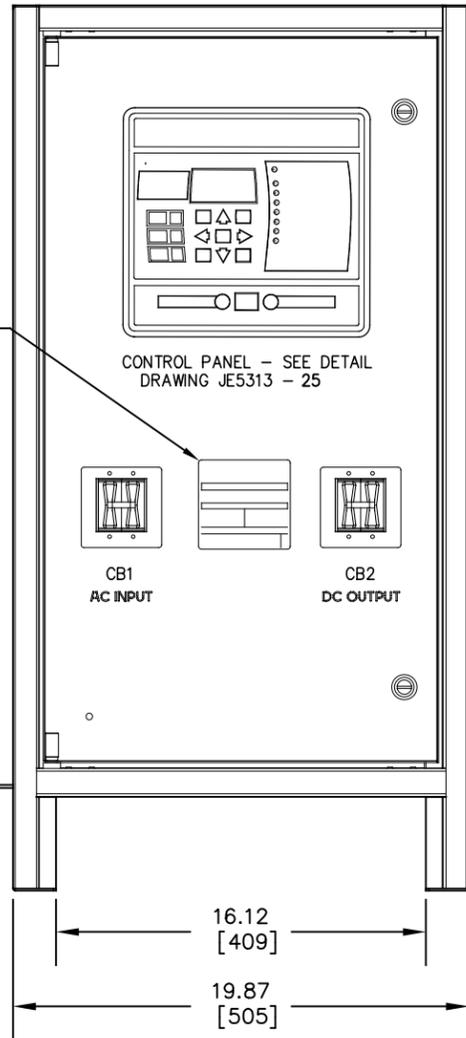


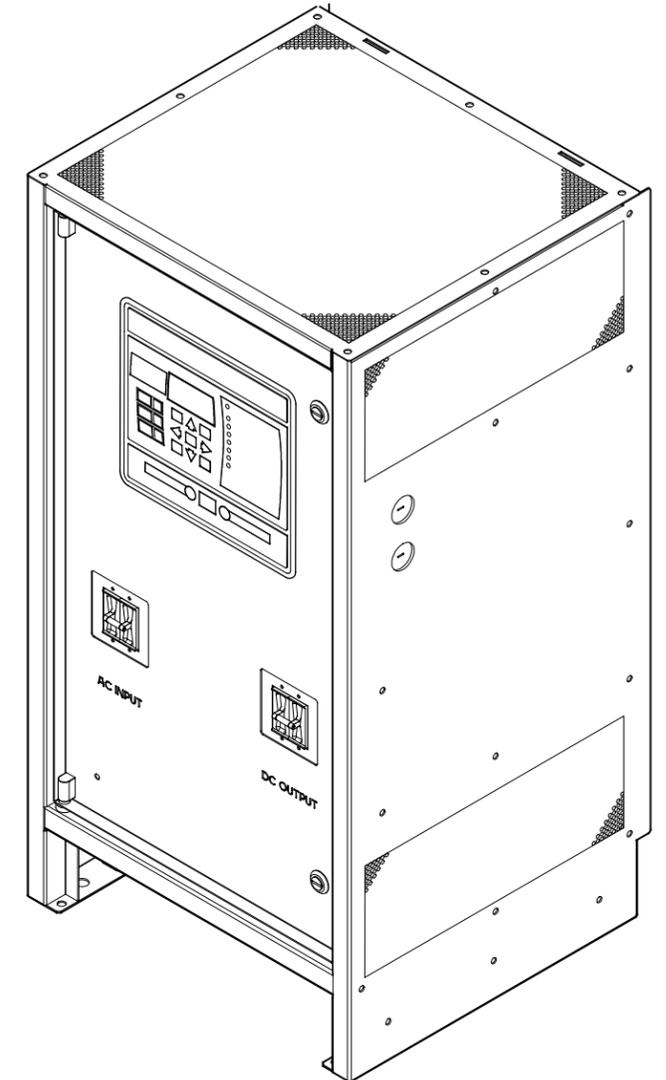
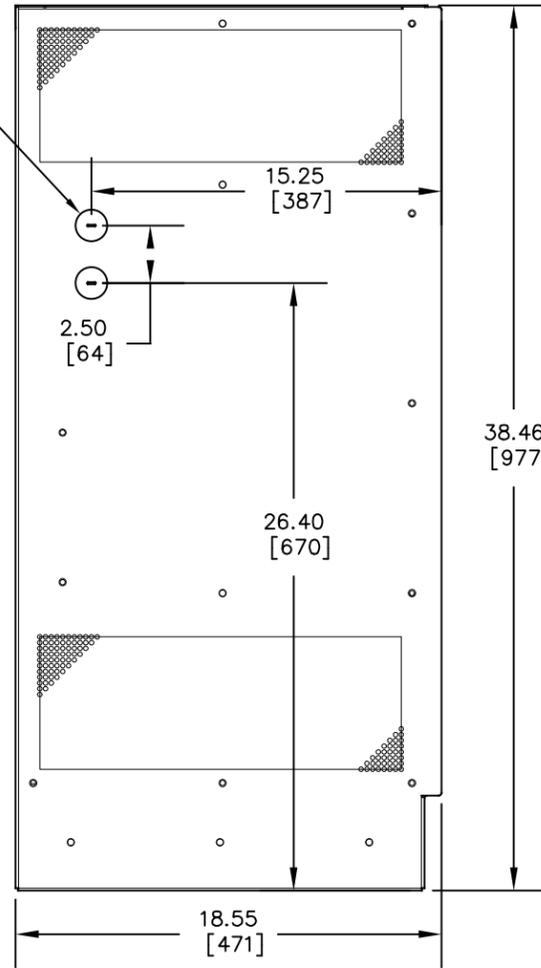
LEFT SIDE VIEW



FRONT VIEW



RIGHT SIDE VIEW

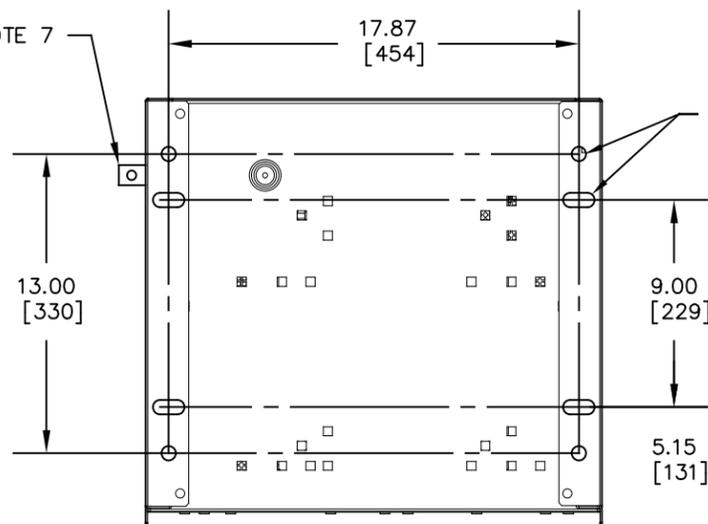


NOTE 3

NOTE 5

NOTE 7

NOTE 4



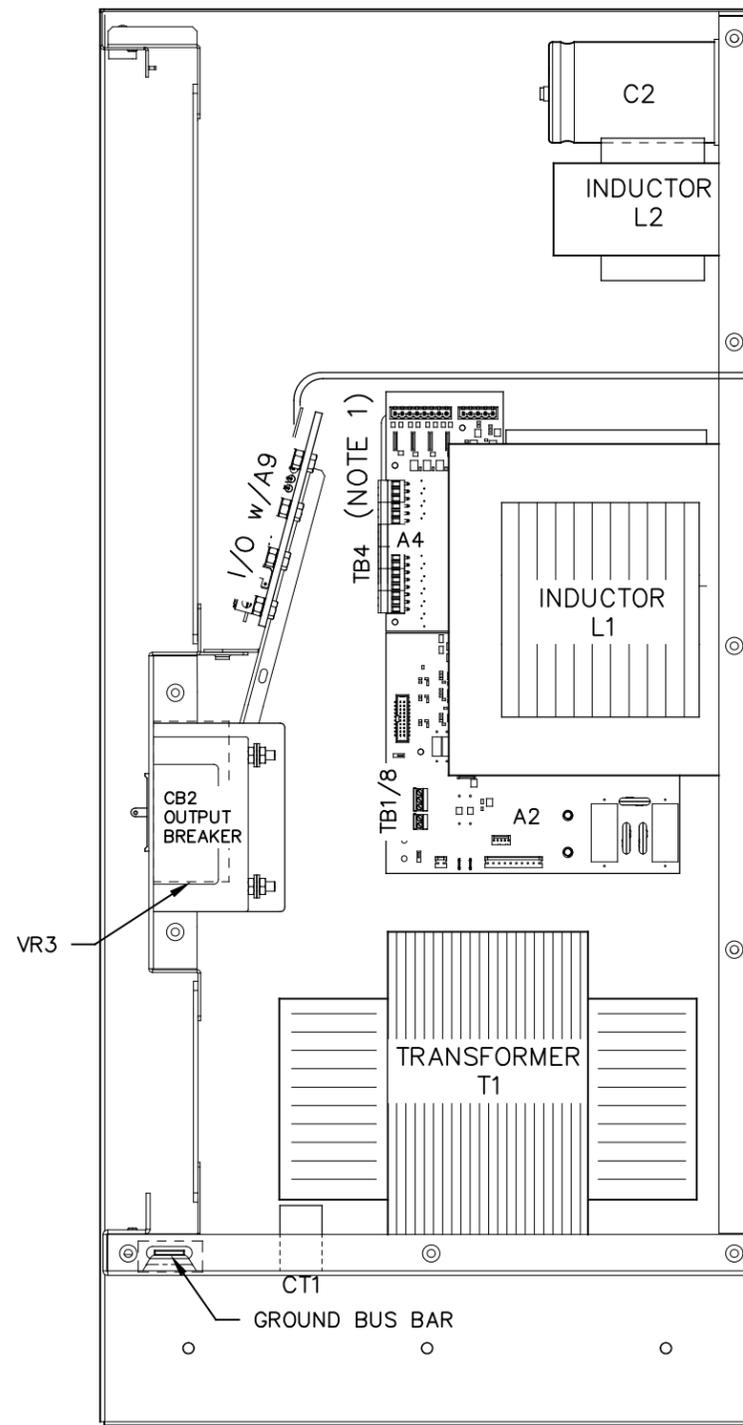
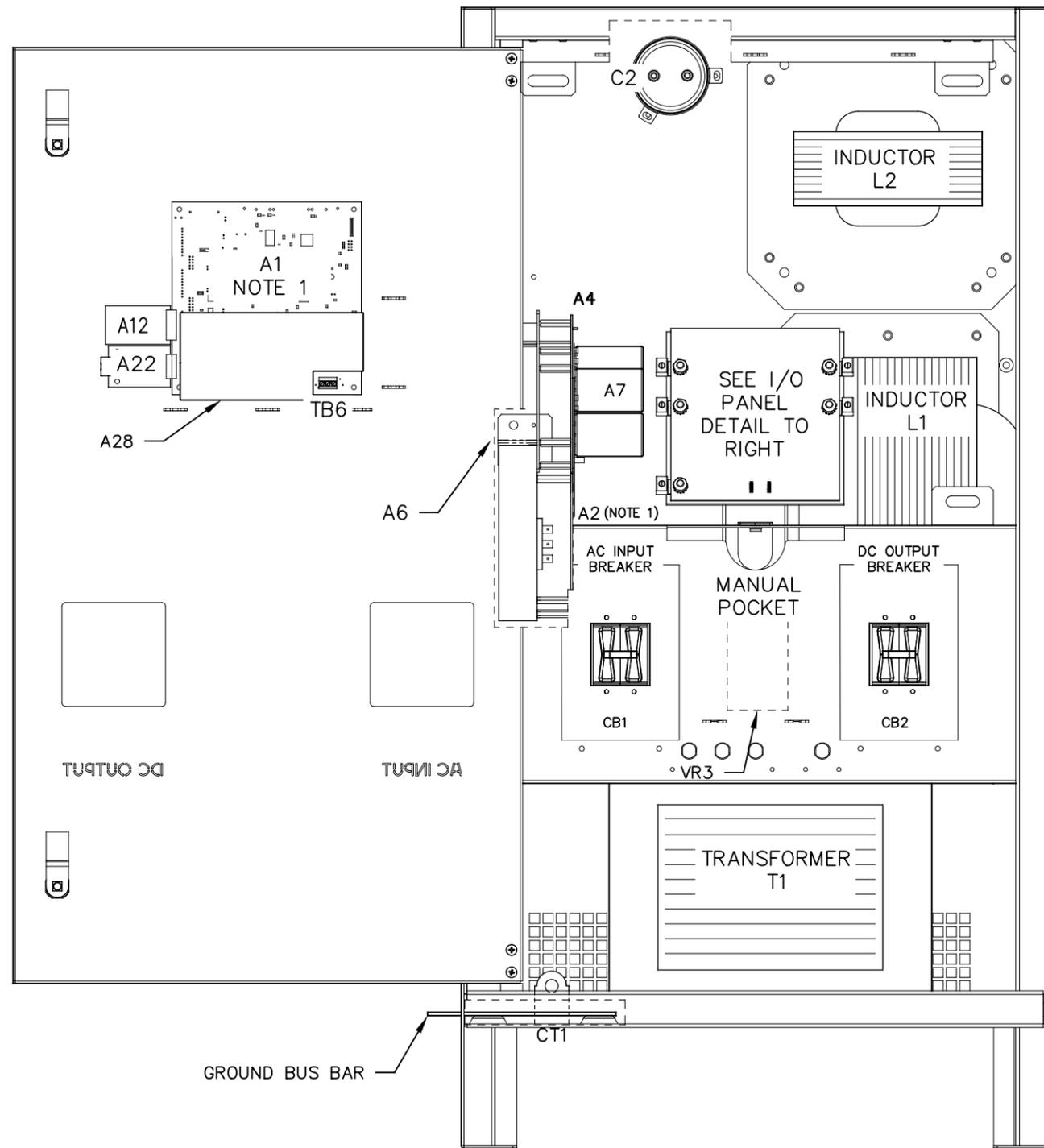
BOTTOM MOUNTING VIEW

NOTES:

- ENCLOSURE IS A NEMA TYPE 1 / IP20 TOP-VENTED STEEL CABINET WITHOUT GASKETS. FINISH IS ANSI-61 GRAY EPOXY POWDERCOAT. MOUNTING BASE IS 12 GA. SIDE PANELS ARE 14 GA. TOP PANEL AND DOOR ARE 16 GA.
- ALLOW 6in / 152mm OF FREE AIR ON ALL VENTED SURFACES (TOP, SIDES & REAR) FOR COOLING.
- DATA NAMEPLATE DECAL (WITH CHARGER RATINGS) APPLIED TO 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
- 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 10/29/2021 | DRN BY KJB | DATE: 10/29/2021 | TITLE ATEVO BATTERY CHARGER OUTLINE: NEMA-1 STYLE-5070 ENCL 1Ø WITH COMMON OPTIONS 16-25A | REV 0 | SHEET 1 OF 1 |
| DESCRIPTION STANDARD DRAWINGS. | | | | | CHK BY MCR | DATE: 10/29/2021 | | | |
| ECN NO. N/A | | | | | APP BY MCR | DATE: 10/29/2021 | | | |
| | | | | | | | SCALE B NTS | DWG No JE5309-25 | |



TO BE PLACED NEAR BATTERY CELL

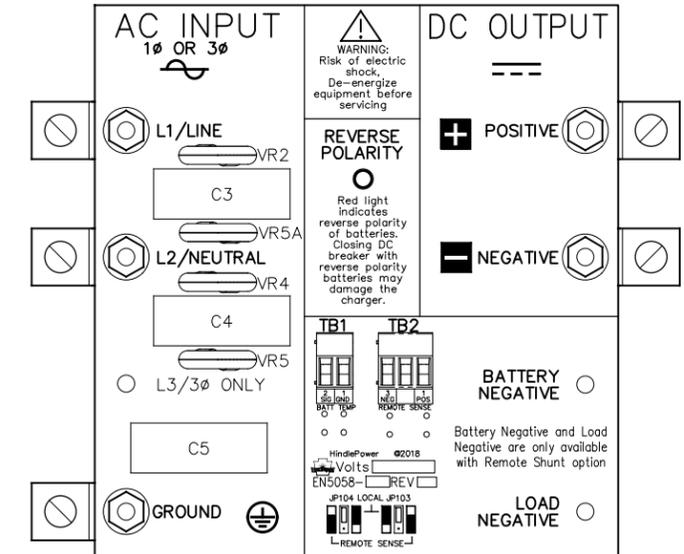
A10

25ft / 7.6m CABLE

| SYM STANDARD COMPONENT DESCRIPTION | |
|------------------------------------|-------------------------------------|
| A1 | MAIN CONTROL PC BOARD |
| A2 | POWER BOARD |
| A6 | RECTIFIER ASSEMBLY |
| A9 | MOV PC BOARD |
| A7 | FILTER BOARD (C1x/R9x) |
| CB1 | AC INPUT CIRCUIT BREAKER (CD2) |
| CB2 | DC OUTPUT CIRCUIT BREAKER (CD2) |
| AUXCB2 | DC CKT BKR (CB2) AUXILIARY CONTACTS |
| L1 | MAIN INDUCTOR |
| L2 | FILTER INDUCTOR |
| 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



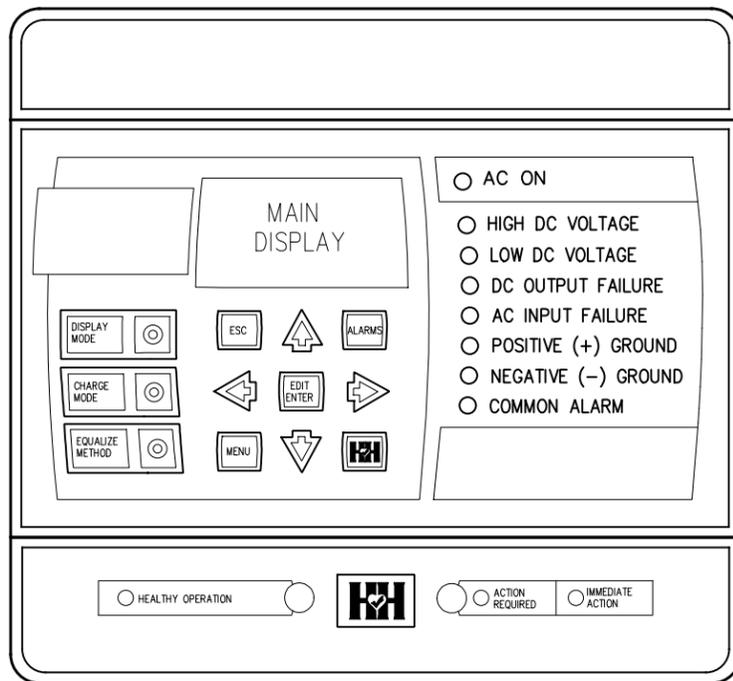
MOV PC BOARD
(A9)

| 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) TERMINAL BLOCK - SOLDERLESS COMPRESSION SCREW | #22-14 AWG |
| (A4) TB4 | AUX I/O RELAY CONTACTS (A4) - SOLDERLESS COMPRESSION SCREW | #22-14 AWG |
| (A1) TB6 | SUMMARY ALARM TERMINAL BLOCK (A1) - SOLDERLESS COMPRESSION SCREW | #22-14 AWG |

NOTES:
1. FOR DETAIL VIEWS OF ALL PC BOARDS (A1, A2, etc.) SEE DRAWING JE5313 - 25.

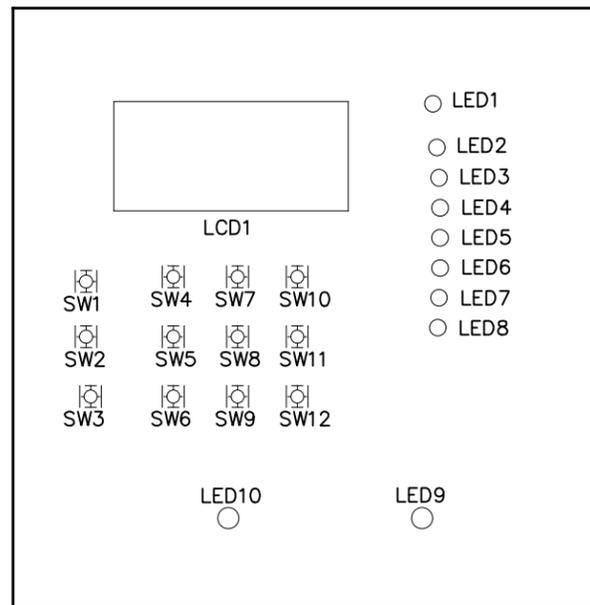
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|--------------------|--------|--------|------|------------|------------|------------|
| REV. DRN BY | CHK BY | APP BY | DATE | DRN BY | DATE: | |
| 0 | KJB | MCR | MCR | 10/29/2021 | KJB | 10/29/2021 |
| DESCRIPTION | | | | CHK BY | DATE: | |
| STANDARD DRAWINGS. | | | | MCR | 10/29/2021 | |
| ECN NO. N/A | | | | APP BY | DATE: | |
| | | | | MCR | 10/29/2021 | |

| | | | |
|---|-------|-----------|--------|
| TITLE | | | |
| ATEVO BATTERY CHARGER INTERNAL COMPONENT LAYOUT: STYLE-5070 1Ø WITH COMMON OPTIONS 16-25A | | | |
| B | SCALE | DWG No | REV |
| NTS | | JE5310-25 | 0A |
| SHEET | | | 1 OF 1 |

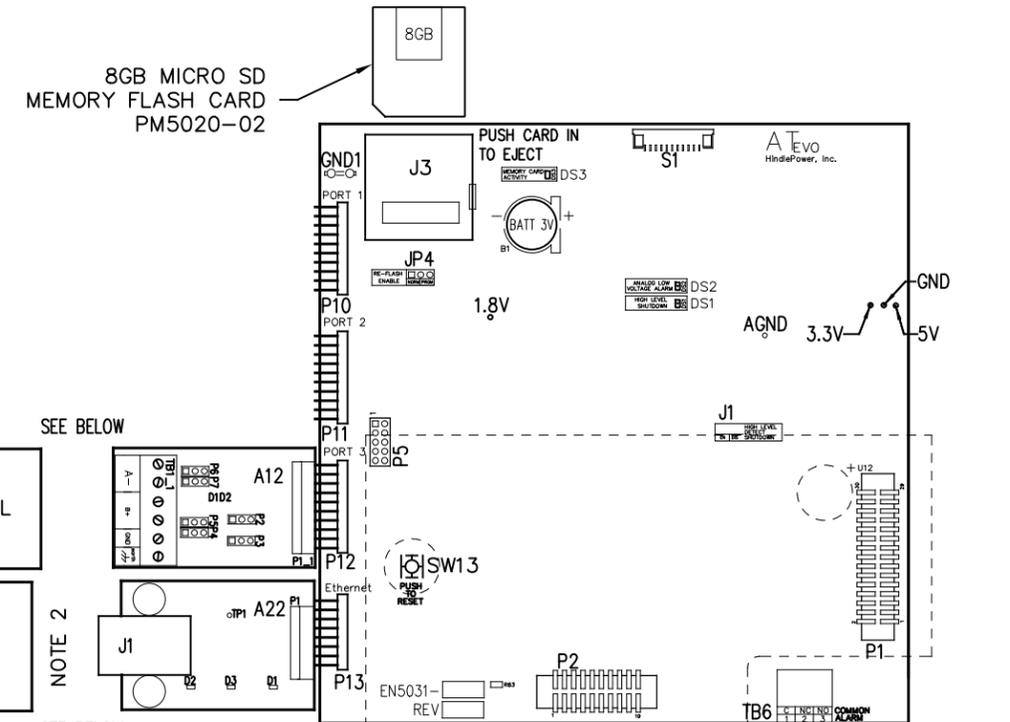


CONTROL PANEL
(PART No. FK5047-00)

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.

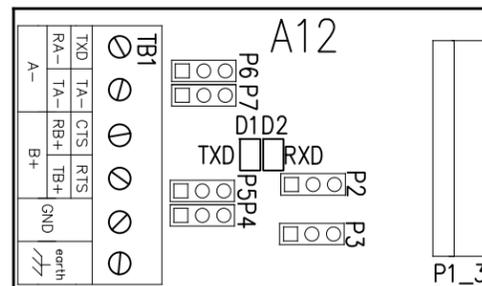


MAIN CONTROL PC BOARD (A1)
FRONT VIEW – FACING CHARGER DOOR WHEN INSTALLED



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

SERIAL COMMUNICATION ADAPTER (A12)



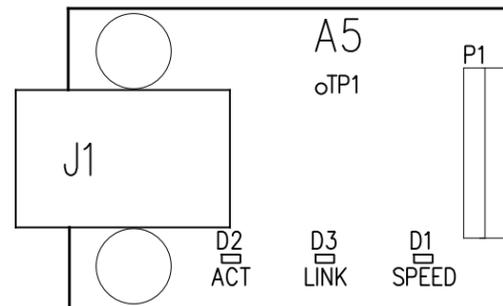
CONNECTORS (A12):
P1 – MAIN CONTROL BOARD

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)



2. SERIAL ADAPTER (A12) SUPPORTS MULTIPLE PROTOCOLS (DNP3 AND MODBUS) SIMULTANEOUSLY. SEE JA0102-54.

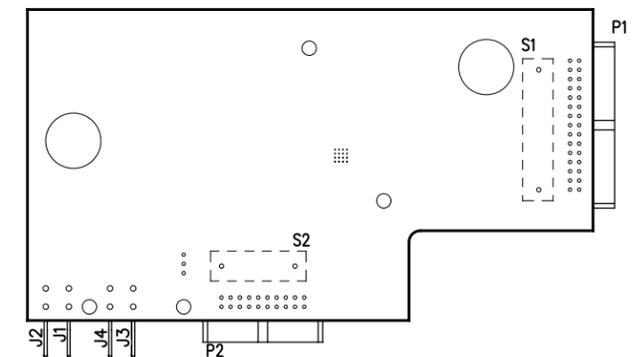
3. ETHERNET ADAPTER (A22) SUPPORTS MULTIPLE PROTOCOLS (DNP3 AND MODBUS) SIMULTANEOUSLY. SEE JA0102-54.

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

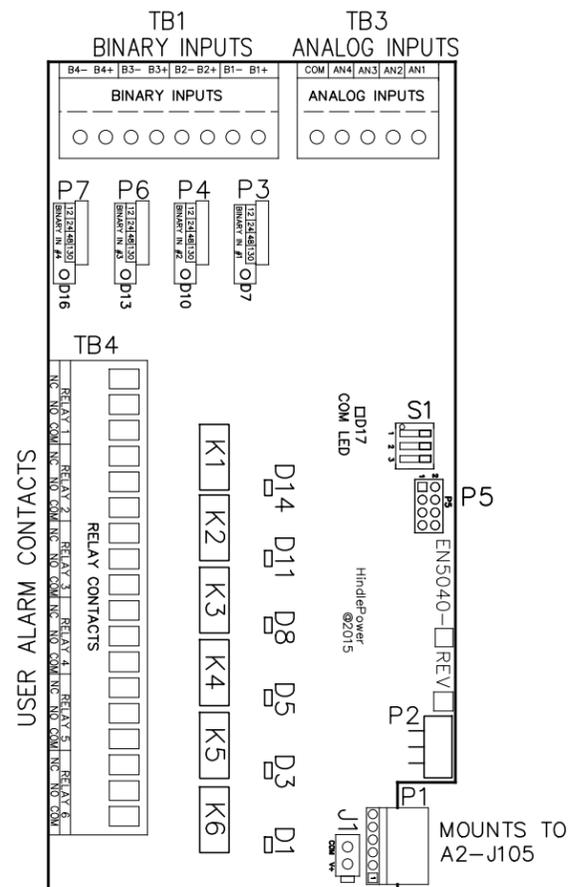


| I/O TERMINAL | DESCRIPTION – TYPE | CONNECTION |
|--------------|---|------------|
| (A1) TB6 | SUMMARY ALARM TERMINAL BLOCK (A1) – SOLDERLESS COMP SCREW | #22-14 AWG |
| (A12) TB1 | RS-232 / RS-485 USER CONNECTIONS – SOLDERLESS COMP SCREW | #22-14 AWG |
| (A22) J1 | SERIAL ETHERNET CONNECTION – RJ45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

MAIN CONTROL PC BOARD (A1)

| | | | |
|--|---|---|--|
| 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 | JUMPERS: J1 – ANALOG HIGH VOLTAGE SHUTDOWN JUMPER J3 – SD CARD PORT JP4 – RE-FLASH (FIELD PROGRAMMING) JUMPER TERMINAL BLOCKS: TB6 – COMMON ALARM RELAY CONTACTS 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 | 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) | 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 |
|--|---|---|--|

| | | | | | | | | |
|---------------------------------|------------|------------|------------|-----------------|------------|------------------|--|--|
| REV. 0 | DRN BY KJB | CHK BY MCR | APP BY MCR | DATE 10/29/2021 | DRN BY KJB | DATE: 10/29/2021 | TITLE ATEVO BATTERY CHARGER CONTROL PANEL / PC BOARD DETAIL 1Ø WITH COMMON OPTIONS 16-25A | B SCALE NTS DWG No JE5313-25 REV 0 SHEET 1 OF 2 |
| DESCRIPTION: STANDARD DRAWINGS. | | | | | CHK BY MCR | DATE: 10/29/2021 | | |
| ECN NO. N/A | | | | | APP BY MCR | DATE: 10/29/2021 | | |



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)

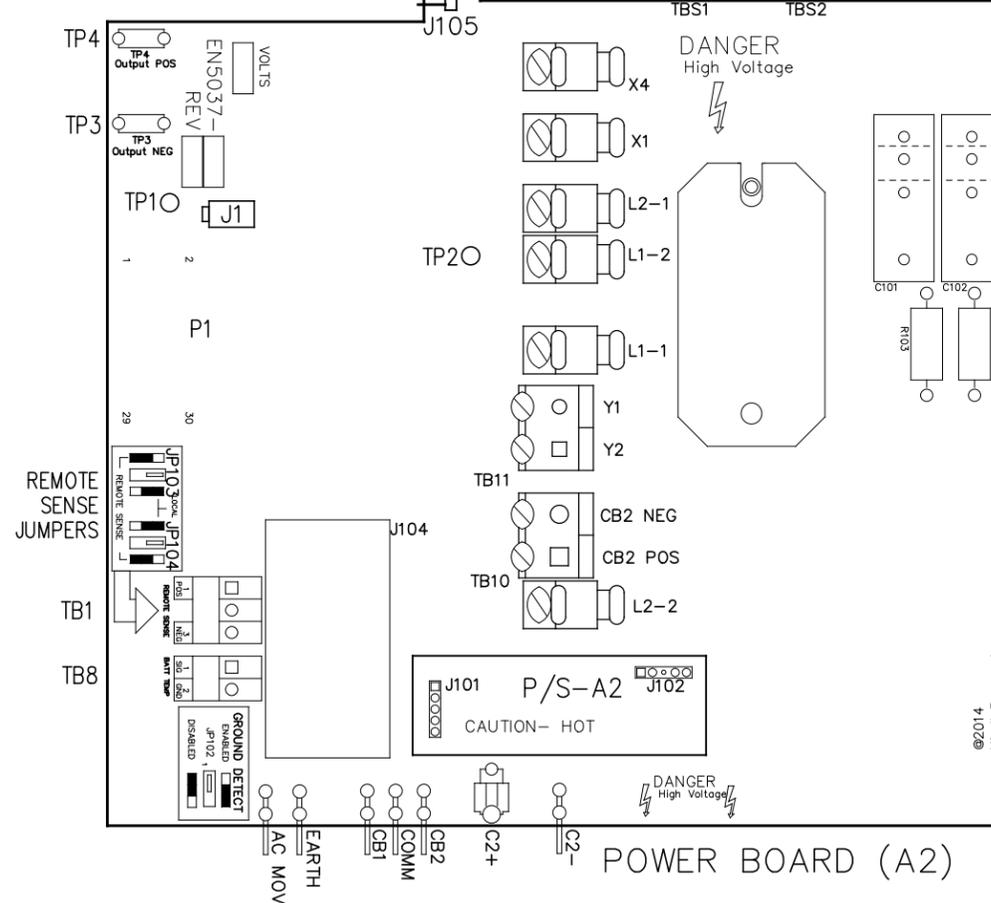
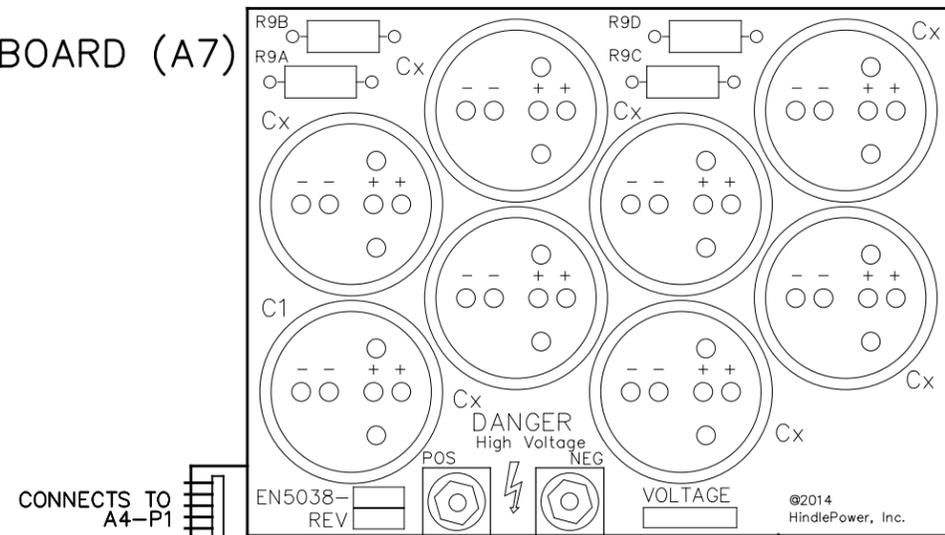
USER TERMINALS ON RELAY BOARD (A4):

- 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

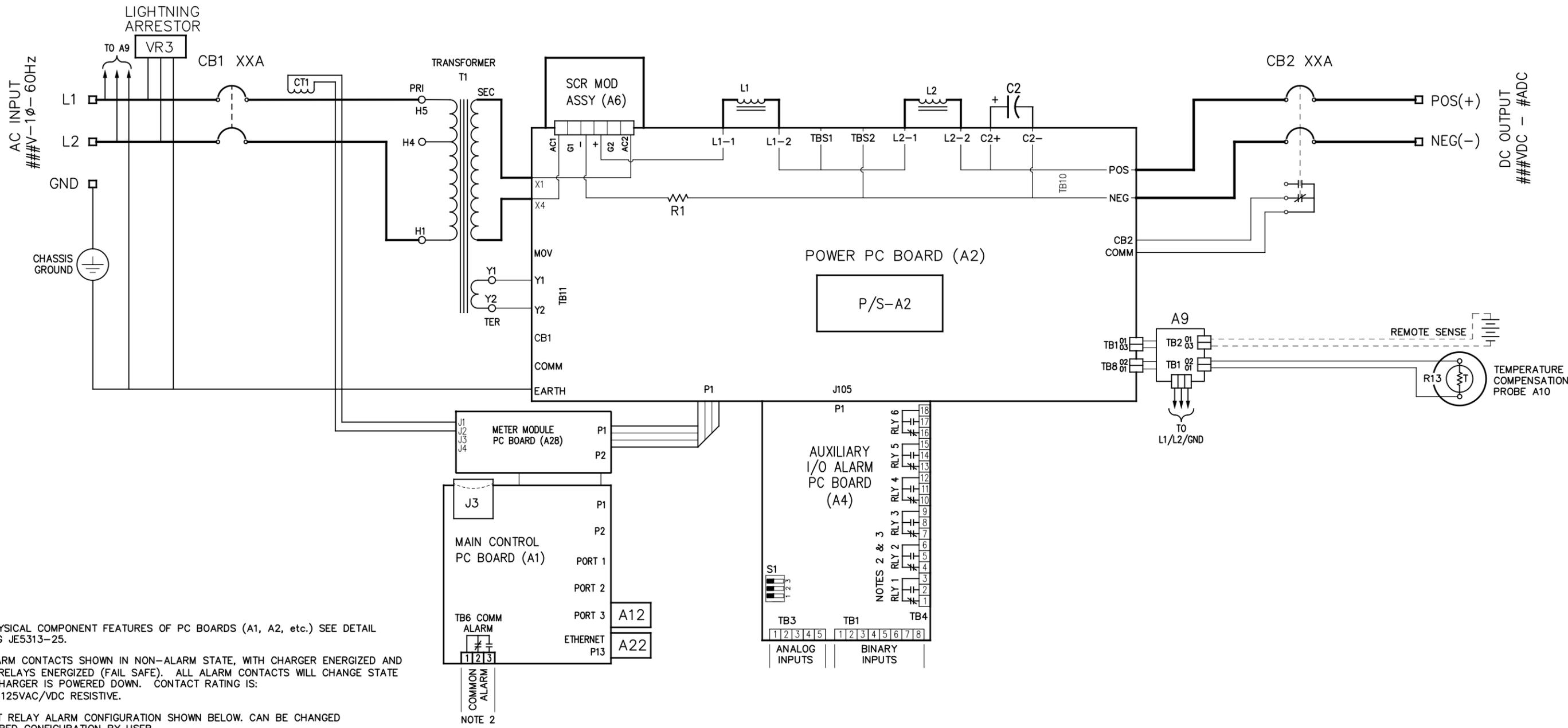
FILTER BOARD (A7)



POWER BOARD (A2)

| I/O TERMINAL | DESCRIPTION - TYPE | CONNECTION |
|--------------|---|------------|
| (A2) TB1 | POS/NEG REMOTE SENSE TERMS (A2) - SOLDERLESS COMP SCREW | #22-14 AWG |
| (A2) TB8 | TEPCO 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 |

| | | | | | | |
|--|------------|------------|------------|-----------------|------------|------------------|
| REV. 0 | DRN BY 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. N/A | | | | | APP BY MCR | DATE: 10/29/2021 |
| <p style="text-align: center;">TITLE</p> <p style="text-align: center;">ATEVO BATTERY CHARGER CONTROL PANEL / PC BOARD DETAIL 1Ø WITH COMMON OPTIONS 16-25A</p> | | | | | | REV 0A |
| | | | | | | SHEET 2 OF 2 |
| <p>B SCALE NTS DWG No JE5313-25</p> | | | | | | |

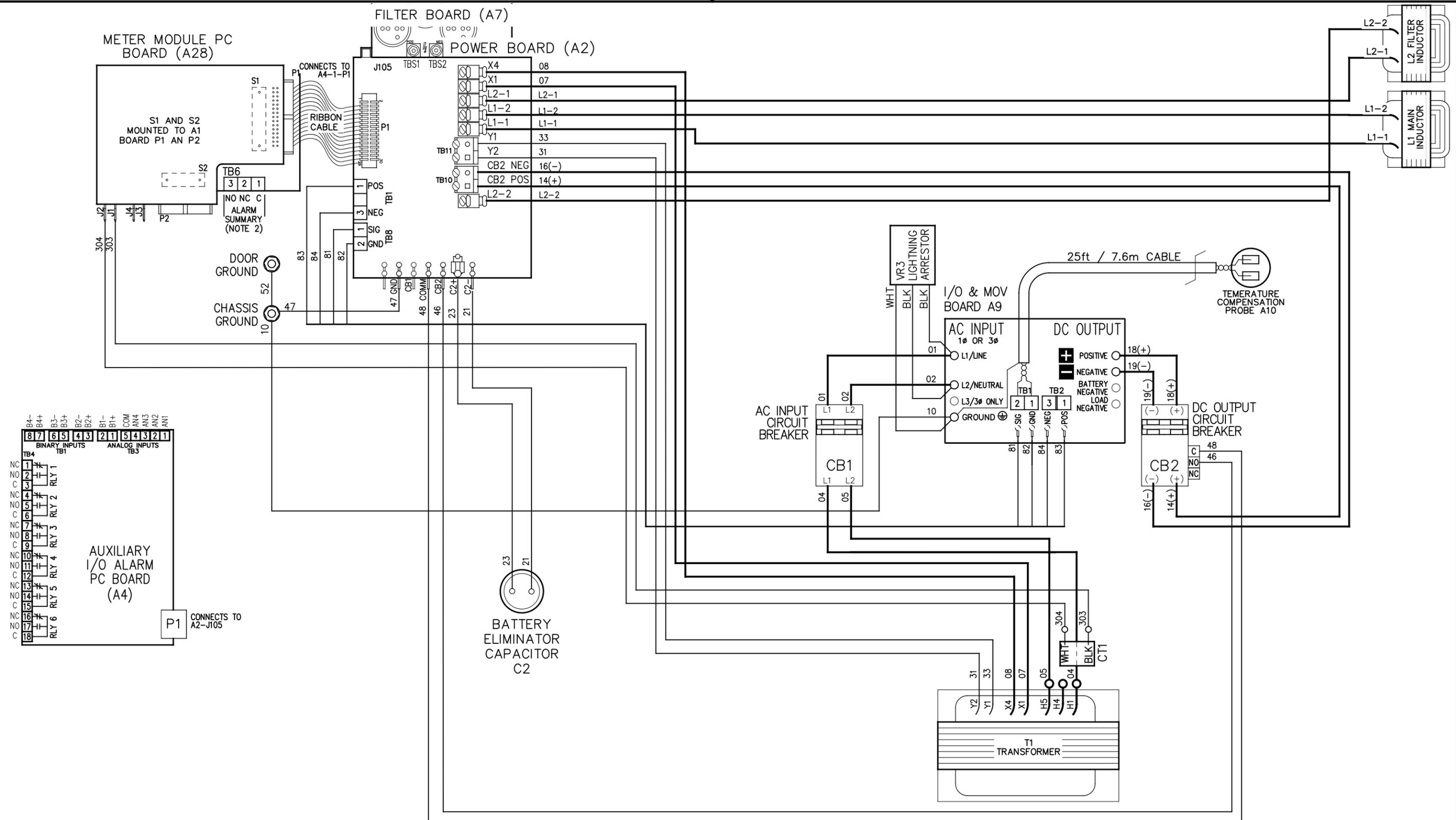


- NOTES:
- FOR PHYSICAL COMPONENT FEATURES OF PC BOARDS (A1, A2, etc.) SEE DETAIL DRAWING JE5313-25.
 - ALL ALARM CONTACTS SHOWN IN NON-ALARM STATE, WITH CHARGER ENERGIZED AND ALARM RELAYS ENERGIZED (FAIL SAFE). ALL ALARM CONTACTS WILL CHANGE STATE WHEN CHARGER IS POWERED DOWN. CONTACT RATING IS: 0.5A @ 125VAC/VDC RESISTIVE.
 - DEFAULT RELAY ALARM CONFIGURATION SHOWN BELOW. CAN BE CHANGED TO DESIRED CONFIGURATION BY USER.

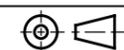
| A4 | DESCRIPTION | LATCHING | DELAY |
|----------|-----------------------|----------|------------|
| RELAY #1 | HIGH VOLTAGE DC | DISABLED | 30 SECONDS |
| RELAY #2 | LOW VOLTAGE DC | DISABLED | 30 SECONDS |
| RELAY #3 | DC OUTPUT FAILURE | DISABLED | 30 SECONDS |
| RELAY #4 | LOW AC SUPPLY | DISABLED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

| | | | | | | |
|-------------|------------|------------|------------|---|------------------|------------------|
| REV. 0 | DRN BY 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. N/A | | | | APP BY MCR | DATE: 10/29/2021 | TITLE |
| | | | | ATEVO BATTERY CHARGER SCHEMATIC: STYLE 5070 1φ WITH COMMON OPTIONS 16-25A | | |
| | | | | SCALE | DWG No | REV SHEET |
| | | | | B | NTS | 0 1 OF 1 |

| | | | |
|-------|--------|---|--------|
| TITLE | | ATEVO BATTERY CHARGER SCHEMATIC: STYLE 5070 1φ WITH COMMON OPTIONS 16-25A | |
| SCALE | DWG No | REV | SHEET |
| B | NTS | 0 | 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.
 2. STANDARD USER ALARM CONTACTS (TB6 [A1], TB1[A2], TB8[A2], etc.) ARE SOLDERLESS COMPRESSION SCREW TERMINALS, ACCEPTING #22-14 AWG WIRE.

| | | | | | | | |
|---|------------|------------|------------|-----------------|------------|------------------|--|
| REV. 0 | DRN BY KJB | CHK BY MCR | APP BY MCR | DATE 10/29/2021 | DRN BY KJB | DATE: 10/29/2021 | TITLE ATEVO BATTERY CHARGER CONNECTION DIAGRAM: STYLE 5070 1Ø WITH COMMON OPTIONS 16-25A |
| DESCRIPTION STANDARD DRAWINGS. | | | | | CHK BY MCR | DATE: 10/29/2021 | |
| ECN NO. N/A | | | | | APP BY MCR | DATE: 10/29/2021 | |
|  | | | | | | | B SCALE NTS DWG No JE5312-25 |
| | | | | | | | REV 0 SHEET 1 OF 1 |