

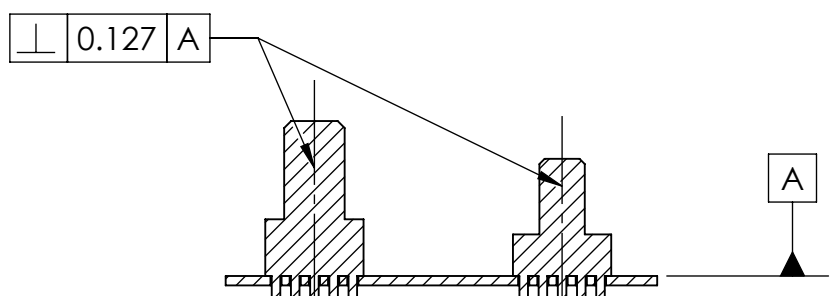
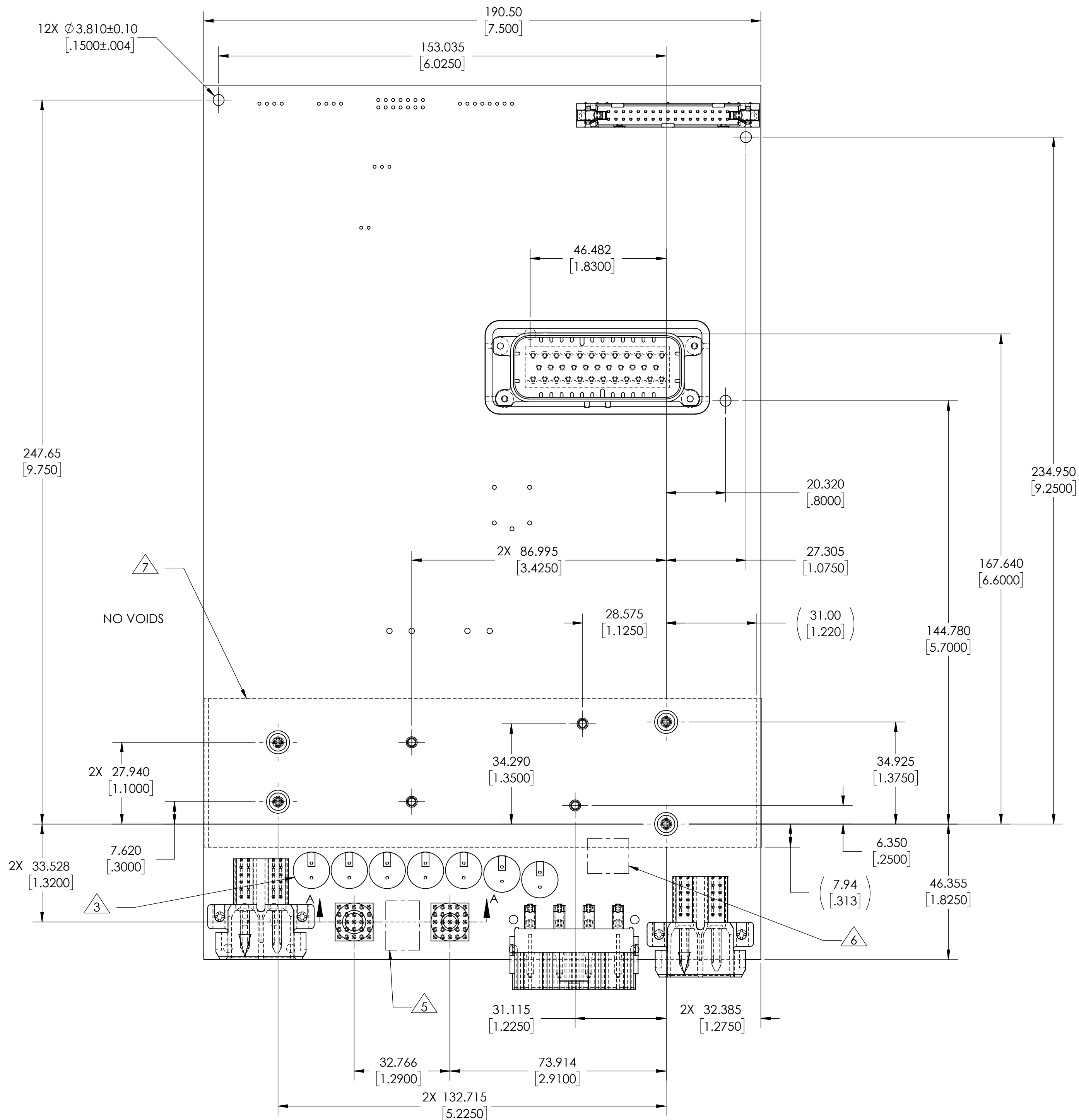
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1019218	WASHER, FLAT, 0.14B 0.31D .03, NYL	4
2	6920	SCREW, PAN, PHL, M3 X 0.50 X 10, 4.8	4
3	1015127	PLATE, SINK, HEAT	1
4	1016816	PAD, THERMAL, HEAT SINK	1

D

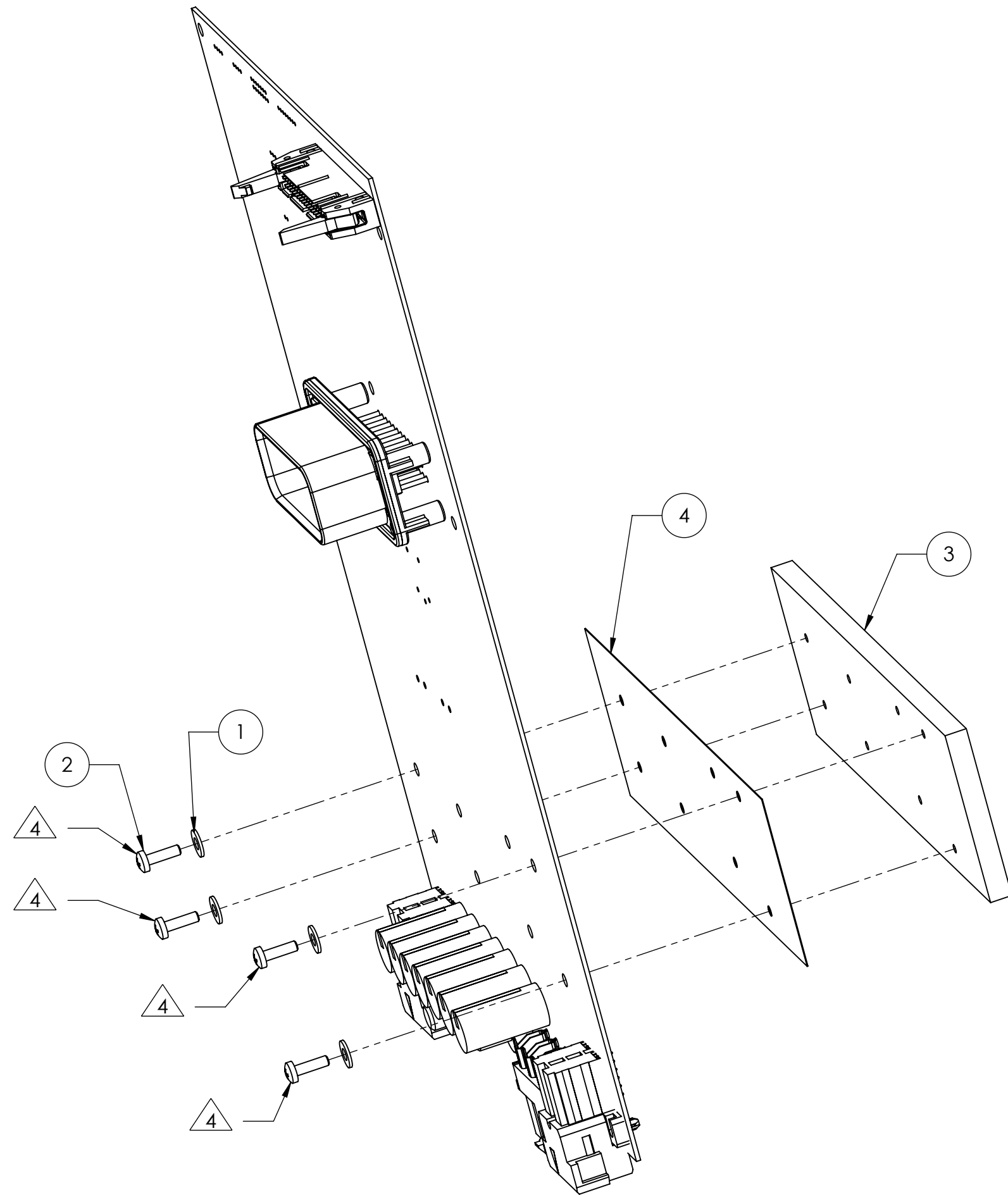
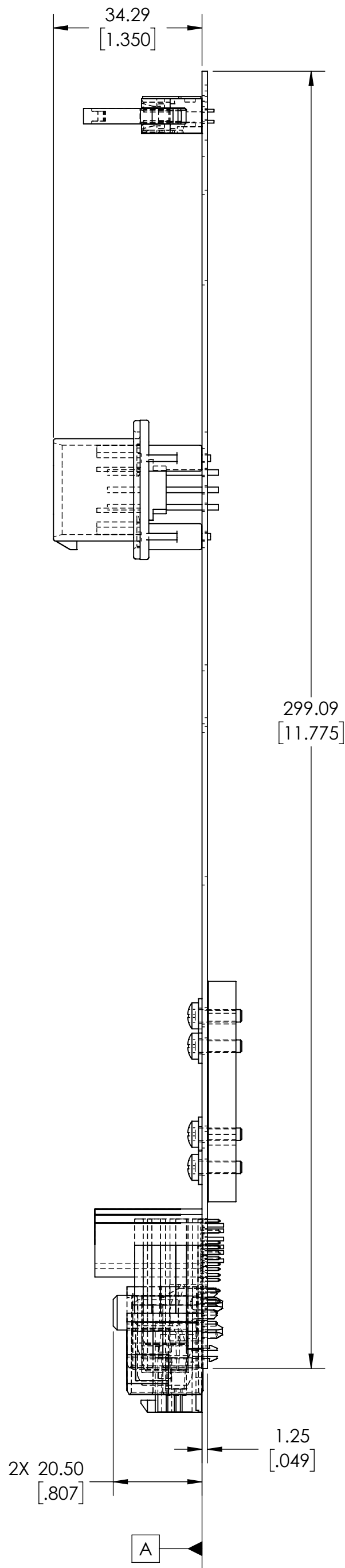
C

B

A



SECTION A-A



NOTES:

- WORKMANSHIP STANDARD PER: IPC-J-STD-001D, IPC-A-610. SOLDERING AND ELECTRICAL CONNECTIONS: IPC-S-815B
- MASKED AREA WILL HAVE NO CONFORMAL COATING ON THESE AREAS.
 - COMPONENTS: J2, J5, J6, J8, J9, J10, J11, J15, J16, CR2, F2, J7.
 - (12) MOUNTING HOLES AND UNDER SCREW HEADS AND WASHERS.
 - AREA UNDER HEAT SINK SIL PAD ON BOTTOM OF PCB.
- APPLY RTV SILICONE FOR MECHANICAL STRENGTH ON BOTH SIDES OF CAPACITORS, EXCEPT BETWEEN POWER LUGS J7 AND J11.
- TORQUE SCREWS FOR HEAT SINK TO MIN 0.4519-.5084 Nm [63.99-71.99 OZ. INCH, 4.0-4.5 IN-LBS].
- LABEL MUST CONTAIN THE FOLLOWING INFORMATION AND BE LOCATED BETWEEN J7 AND J11
 - TENNANT'S ASSEMBLY PART NUMBER WITH CURRENT DRAWING REVISION P/N: 1278139 REV 00
 - TENNANT'S QPL BOM PART NUMBER WITH CURRENT ALPHA REVISION. (BOM1278139revA.xlsx)
 - MANUFACTURER PART NUMBER
 - MANUFACTURER SERIAL NUMBER
 - TO BE IN A POSITION WHERE RTV DOES NOT MASK THE PRINT ON THIS LABEL
 - MANUFACTURERS PART NUMBER MUST FACILITATE TRACEABILITY OF PARTS USED TO CREATE THE POPULATED BOARD
- LABEL MUST HAVE MACHINE MODEL LISTED. SEE "PART NAME" CELL BETWEEN [] FOR MACHINE MODEL
- NO VOIDS IN BOTTOM SIDE SOLDERMASK IN THIS AREA (HEAT SINK AREA)
- BUILD USING QPL BILL OF MATERIALS: BOM1278139revA.xlsx
- PROGRAM USING FIRMWARE FILE: RSR081514.OUT

CHANGELOG:

REV 00: REPLACES 1073764, NEW VAC FAN CONNECTOR

DEVELOPMENT PART

MATERIAL SPECIFICATIONS: NOTED	OTHER TREATMENTS AND FINISHES NOTED	PAIN T - COLOR	CHANGED BY:	DATE: 08/06/2025	REV -B	ECO	WELDING NOTATION IN ACCORDANCE WITH AWS A2.4-95	GENERAL NOTES PRIMARY DIMENSIONS ARE METRIC. REFERENCE DIMENSIONS WITH BRACKETS ARE INCH. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE AFTER TREATMENTS AND FINISHES.	PROPRIETARY INFORMATION MAY NOT BE REPRODUCED OR DISCLOSED TO OTHERS WITHOUT WRITTEN PERMISSION OF TENNANT COMPANY.	DWG D SIZE	PART NUMBER 1278139
PART NAME: CIRCUITBOARD, LOGIC(R14/STR RIDER)	GLOSS	PERFORMANCE	ACCEPTANCE	DES: STACEY CLEMENS	10/28/2008	1278139	UNLESS OTHERWISE SPECIFIED DIMENSION TOLERANCING IN ACCORDANCE WITH ASME Y14.5-2009 ALL UNTOLERANCED DIMENSIONS ARE CONTROLLED BY: X.X ±1.5 ±[.06] X.XX ±0.75 ±[.030] X.XXX ±0.250 ±[.0098] ANGLES ±20°	SHEET 1 OF 3			



FUNCTIONAL TEST INSTRUCTIONS

Test Setup:

- SW 8 = CLOSED
- SW 9 = OPEN
- SW 10 = CLOSED
- SW 11 = OPEN
- SW 12 = OPEN
- SW 13 = CLOSED
- SW 14 = OPEN
- SW 15 = OPEN
- SW 16 = OPEN
- Plug in connectors; J5, J6, J8, J9, J10.
- Connect power supply ground to J7 (Stud).
- Connect power supply 24 Volts to J11 (Stud).
- Connector J6 pin 34 = 1.0 volts.
- Connector J6 pin 33 = 1.0 volts.
- Perform four modes of operation, to complete test.

1st Input Display Mode

- CLOSE switch SW 7.
- CLOSE switch SW 9.
- Two seconds after Main conatacot turns on, OPEN switch SW 7.
- Confirm LED D20 turns ON.
- CLOSE switch SW 17.
- Confirm LED D20 turns OFF.
- OPEN switch SW 17.
- Confirm LED D22 turns ON.
- CLOSE switch SW 18.
- Confirm LED D22 turns OFF.
- Open switch SW 18.
- ConfirmIndicators are ON; D2, D12, D17, and LED D13 is blinking.
- CLOSE SW 11 = LED D12 is OFF.
- OPEN SW 11 = LED D12 is ON.
- CLOSE SW 12 = LED D11 is ON.
- OPEN SW 12 = LED 11 is OFF.
- OPEN SW 13 = LED D10 is ON.
- CLOSE SW 13 = LED D10 is OFF.
- CLOSE SW 14 = Beeper sounds Continually.
- OPEN SW 14 = Beeper slient
- CLOSE SW 16 = LED D1 is ON.
- OPEN SE 16 = LED D1 is OFF.
- OPEN SW 16 = Repeats an 8 beep sequence.
- CLOSE SW 10 = Continues 8 beep sequence.
- OPEN SW 8 = LED D2 turns OFF and continues 8 beep sequence.
- CLOSE SW 8 = LED D2 Remains OFF and continues 8 beep sequence.
- Open SW 9 = Power OFF.

4th Manual Mode:

- CLOSE switch SW 5.
- CLOSE switch SW 9.
- Two seconds after LED 14 starts to blink, open switch SW 5.
- Momentarily CLOSE SW 6.
- Confirm the following Indicator lights tuen ON: Left Brush, Right Brush, and Hour Meter.
- Momentarily CLOSE SW 6.
- Confirm the following Indicator lights tuen OFF: Left Brush, Right Brush, and Hour Meter.

2nd Self Test Mode:

- CLOSE switchs, SW 2 and SW 3.
- CLOSE switch SW 9 (Turn on Power)
- Two seconds after Main contactor turns on, OPEN switches SW 2 and SW 3.
- Confirm Indicators turn ON and OFF, (Left and Right Brush).
- Confirm Indicator turns ON and OFF, (LVacuum Fan).
- Confirm LED D22 turns ON.
- Close switch SW 18 for two seconds.
- OPEN switch SW 18.
- Confirm LED D23 turns ON and Off.
- Allow approx. 40 seconds for automated Self-Test to complete.
- After Self- Test has finished ,one of two things will happen.
 - System OK = Flashing LEDs D12, D13, D14, D15, D16.
 - System NOT OK = Error Codes will be displayed using other panel LEDs.
- If System NOT OK. See "Self Test Error Codes"
- If System OK. Open SW 9. (Turn off Power)

Self Test Error Codes

Flash LED =OPEN fault

Solid LED = SHORT fault

Fault Indicator (LED) System at Fault

- ReadySpace.....ReadySpace Valve
- Wand.....Vacuum- Fan
- Down Pressure (+).....Front Brush
- Down Pressure (-).....Rear Brush
- Speed (+).....Brush Head Actuator
- Speed (-).....Extraction Shoe Actuator
- Solution.....Solution Pump
- Extract.....Extract Valve
- Solution Tank Empty.....Brake
- Recovery Tank Full.....Beeper/Horn
- Hose Fault LED.....ReadySpace Flush Valve

3rd Propel Test Mode:

- CLOSE switches, SW 2 and SW 4.
- CLOSE switch SW 9 (Turn on Power)
- After LED D2 remains ON, and all others tuen off, OPEN switches SW 2 and SW 4.
- CLOSE SW 15 = LED D2 turns OFF, LED D3 turns ON, and Beeper ON (1 per seecond).
- Open SW 15 = LED D2 turns ON, LED D3 turns OFF, and Beeper OFF.
- CLOSE SW 11 = Nothing Changes
- Slowly increase voltage on Connector J6 pin 33, from 1.0 volts, up to 2.6 volts.
- Confirm LED turn on sequence, as voltage increases.
 - 1st D6
 - 2nd D5
 - 3rd D4
- Slowly decrease voltage on Connector J6 pin 33, from 2.6 volts, down to 1.0 volts.
- Confirm LED turn off sequence, as voltage decreases.
 - 1st D4
 - 2nd D5
 - 3rd D6
- Slowly increase voltage on Connector J6 pin 34, from 1.0 volts, up to 2.6 volts.
- Confirm turn on sequence of indicator light LEDs, as voltage increases.
 - 1st D9, D16, and Brake Indicator lamp
 - 2nd D8
 - 3rd D7
- Confirm LED 16 turns ON.
- Slowly decrease voltage on Connector J6 pin 34, from 2.6 volts, down to 1.0 volts.
- Confirm LED turn off sequence, as voltage decreases.
 - 1st D7
 - 2nd D8
 - 3rd D9, D16, and Brake Indicator lamp
- Confirm LED 16 turns OFF.
- OPEN SW 11 = Nothing Changes
- Open SW 9 = Power OFF

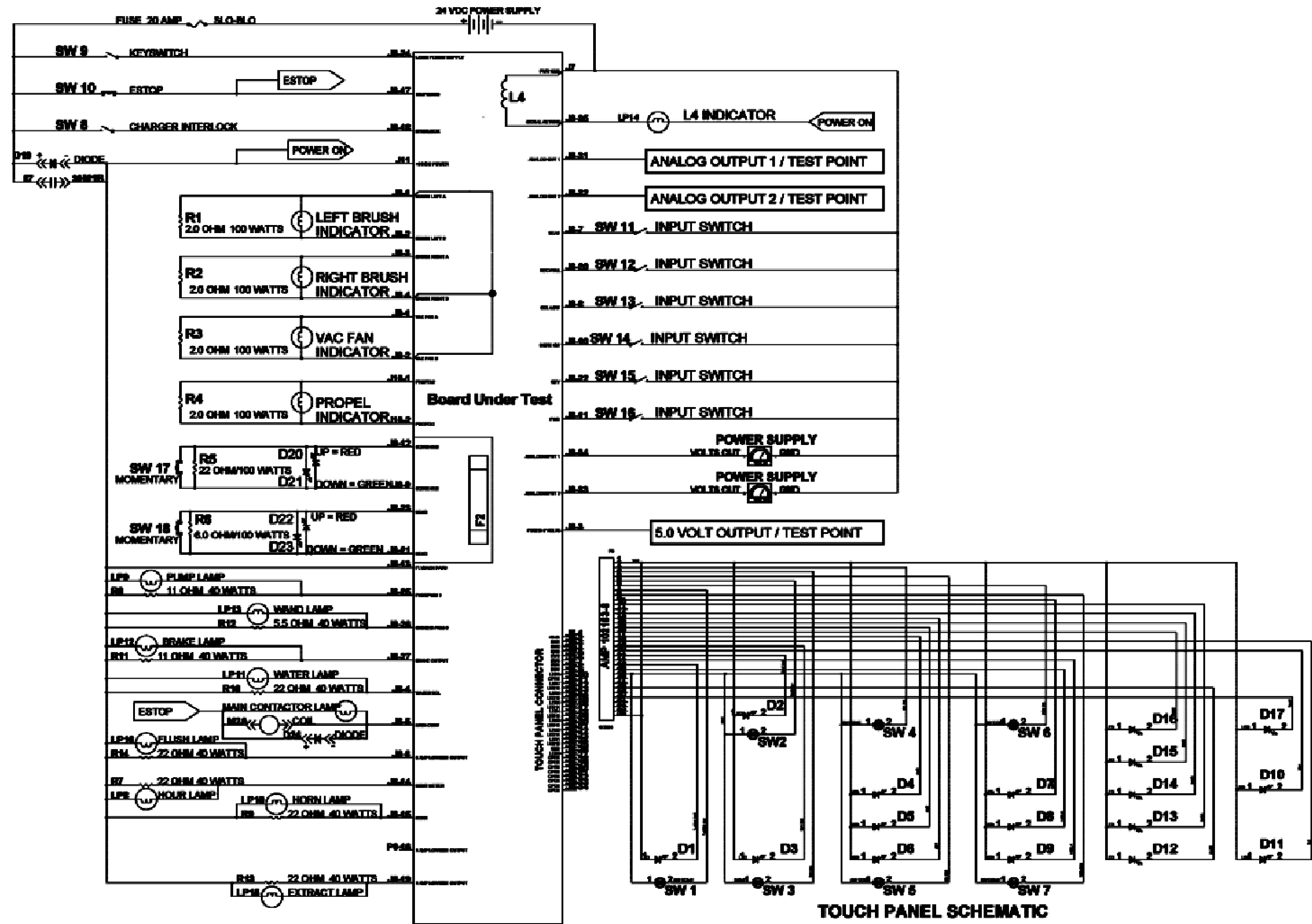
DEVELOPMENT PART

MATERIAL SPECIFICATIONS: NOTED		OTHER TREATMENTS AND FINISHES NOTED		PAINT - COLOR		CHANGED BY:		DATE: 08/06/2025		MOR:	
PART NAME: CIRCUITBOARD, LOGIC[R14/STR RIDER]		GLOSS		PERFORMANCE		ACCEPTANCE		DES: STACEY CLEMENS		10/28/2008	

REV	ECO	WELDING NOTATION IN ACCORDANCE WITH AWS A2.4-85		GENERAL NOTES	
-B		UNLESS OTHERWISE SPECIFIED DIMENSION TOLERANCING IN ACCORDANCE WITH ASME Y14.5-2009 ALL UNTOLERANCED DIMENSIONS ARE CONTROLLED BY:		PRIMARY DIMENSIONS ARE METRIC. REFERENCE DIMENSIONS WITH BRACKETS ARE INCH. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE AFTER TREATMENTS AND FINISHES.	
		X.X ±1.5 ±[.06]		PROPRIETARY INFORMATION	
		X.XX ±0.75 ±[.030]		MAY NOT BE REPRODUCED OR DISCLOSED TO OTHERS WITHOUT WRITTEN PERMISSION OF TENNANT COMPANY.	
		X.XXX ±0.250 ±[.0098]		SHEET 2 OF 3	
		ANGLES ±20°			



DWG D SIZE	PART NUMBER
	1278139



DEVELOPMENT PART

MATERIAL SPECIFICATIONS: NOTED		OTHER TREATMENTS AND FINISHES: NOTED		PAINT - COLOR		CHANGED BY:		DATE:	
PART NAME: CIRCUITBOARD, LOGIC(R14/STR RIDER)				GLOSS PERFORMANCE ACCEPTANCE		MOR:		10/28/2008	
						DES: STACEY CLEMENS			

REV	ECO	WELDING NOTATION IN ACCORDANCE WITH AWS A2.4-95	GENERAL NOTES
-B			PRIMARY DIMENSIONS ARE METRIC. REFERENCE DIMENSIONS WITH BRACKETS ARE INCH. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE AFTER TREATMENTS AND FINISHES.
		UNLESS OTHERWISE SPECIFIED DIMENSION TOLERANCING IN ACCORDANCE WITH ASME Y14.5-2009 ALL UNTOLERANCED DIMENSIONS ARE CONTROLLED BY:	PROPRIETARY INFORMATION
		X.X ±1.5 ±[.06]	MAY NOT BE REPRODUCED OR DISCLOSED TO OTHERS WITHOUT WRITTEN PERMISSION OF TENNANT COMPANY.
		X.XX ±0.75 ±[.030]	
		X.XXX ±0.250 ±[.0098]	
		ANGLES ±20°	
			SHEET 3 OF 3

DWG D SIZE 1278139