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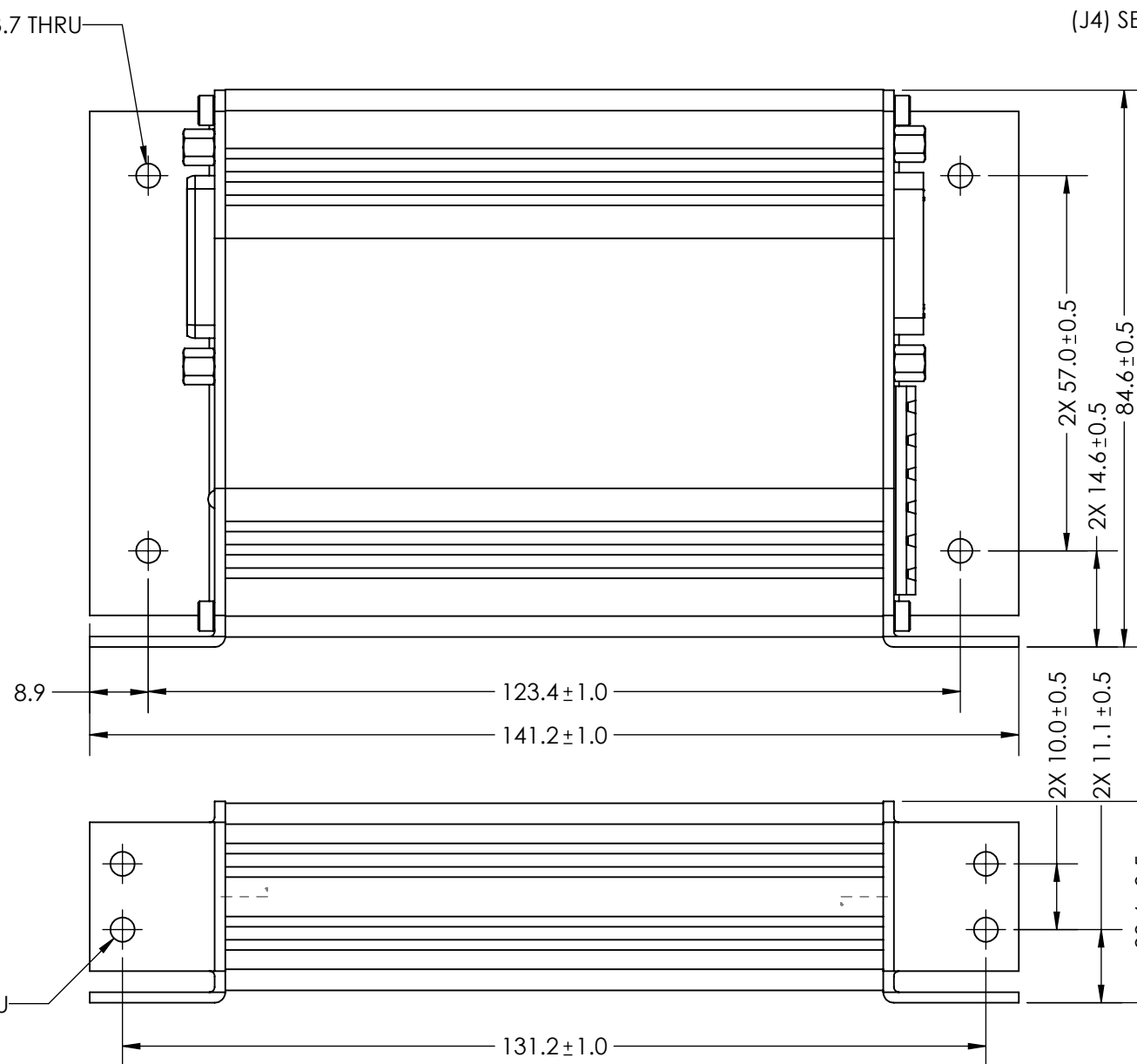
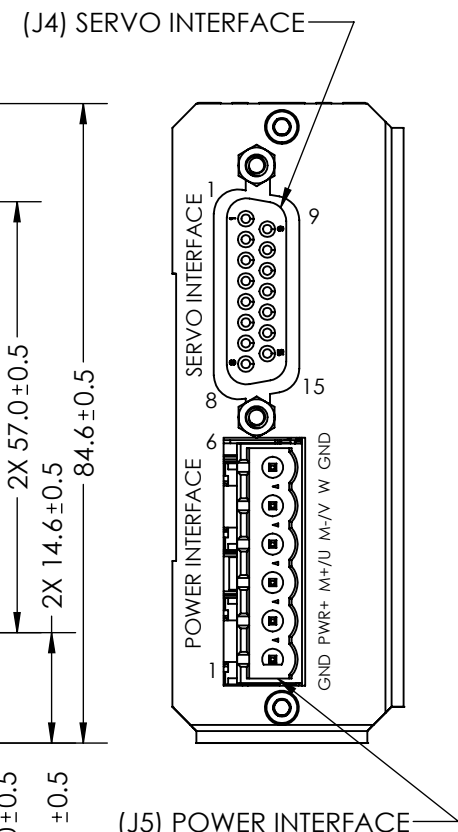
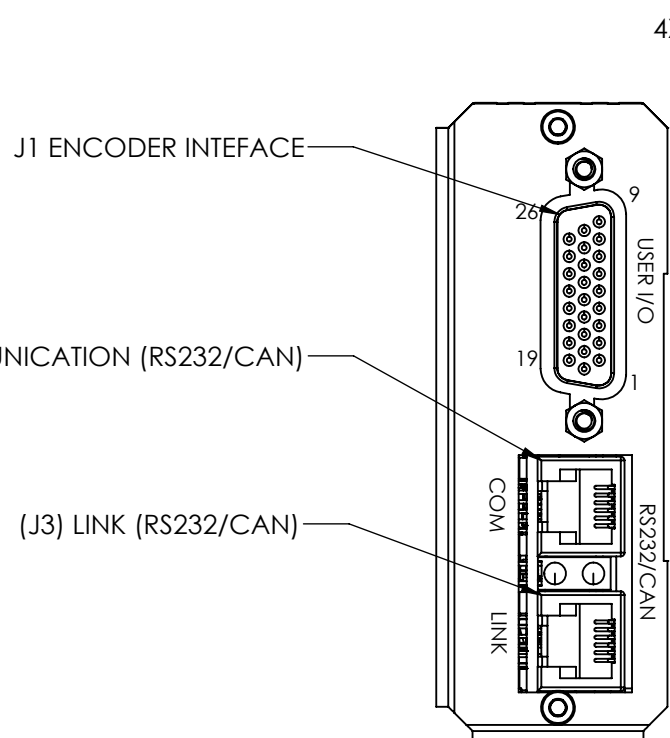
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NOTES (UNLESS OTHERWISE SPECIFIED)

- 1. CONTROLLER TYPE: SINGLE AXIS
- 2. 3-PHASE BRUSHLESS, DC BRUSHED, DC LINEAR ACTUATOR
- 3. (SEE ATTACHED SHEET)

REVISIONS				
REV	ECR	DESCRIPTION	DATE	APPROVED
A	7127	INITIAL RELEASE	3/4/2020	V.H.

B



J1 DB-26S PIN OUT	
PIN No	FUNCTION
1	GPL_COM
2	GP0_COM
3	GPI2
4	GPI0
5	GND
6	STO_FB
7	AN_OUT
8	GPO2
9	GPO0
10	STO2
11	STO1
12	GPI3
13	GPI1
14	GND
15	NC
16	NC
17	GPO3
18	GPO1
19	+5V
20	+5V
21	+5V
22	+5V
23	GND
24	AN_IN+
25	AN_IN-
26	STO_COMMON

J4 DB-15S PIN OUT	
PIN No	FUNCTION
1	PH. A+
2	PH. Z+
3	PH. B+
4	+5 Vdc
5	+5 Vdc
6	+5 Vdc
7	NC
8	NC
9	PH. A -
10	PH. Z -
11	PH. B -
12	GND
13	GND
14	NC
15	NC

J2 INPUT 2 (LEFT)	
PIN No	FUNCTION
1	CANH
2	CANL
4	RS-232 RX
4	RS-232 TX
5	GND
6	NC

J5 POWER CONNECTOR	
PIN No	FUNCTION
1	GND
2	+24/48V
3	MOTOR+/U
4	MOTOR-/V
5	W
6	GND

J3 INPUT 1 (RIGHT)	
PIN No	FUNCTION
1	CANH
2	CANL
3	NC
4	RS-232 TX
5	GND
6	NC

REF. NUMBER	VLCI-X1
CONTRACT	STD

UNLESS OTHERWISE SPECIFIED  
 ALL DIMENSIONS ARE IN MM  
 BREAK EDGES AND REMOVE BURRS  
 TOLERANCES  
 X.: ±0.5 X.X: ±0.1  
 X.XX: ±0.03 ANGLE: ±0.1°  
 CONCENTRICITY: ±0.025  
 ROUNDNESS: ±0.025  
 EDGE BREAKS: 0.2 MAX  
 ALL DIMENSIONS AND TOLERANCES ARE FINAL

MATERIAL: <b>SEE BOM</b>	NAME	DATE
FINISH: <b>SEE BOM</b>	DWN BY	VH 03/05/2020
MACHINE FINISH: 1.6	CHK BY	TW 03/05/2020
INTERPRET PER: ASME Y14.5-2009	ENG APP	TMV 03/05/2020
	MFG APP	
	QA APP	
	PROPRIETARY AND CONFIDENTIAL	
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**SMAC** 5807 VAN ALLEN WAY  
 MOVING COIL ACTUATORS CARLSBAD CA, 92008  
 (760) 929-7588

TITLE:  
**CONTROLLER**

SIZE: **B** PART NO: **VLCI-X1** REV: **A**

SCALE: 1:1 **DO NOT SCALE** SHEET: 1 / 2

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A

A

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**NOTES (UNLESS OTHERWISE SPECIFIED)**

1. CONTROLLER TYPE: SINGLE AXIS
2. 3-PHASE BRUSHLESS, DC BRUSHED, DC LINEAR ACTUATOR
3. (SEE ATTACHED SHEET)

Description	Stand-Alone Single Axis Servo Motor Controller / Driver
Operation	Position, Velocity, Torque (Voltage and Current-Based)
Filter Algorithm	PID
Max. Servo Loop Rate	100 $\mu$ S
Trajectory Generator	Trapezoidal
Servo Position Feedback	Incremental Encoder with Index
Output (Standard)	PWM (Space-Vector-Modulated), 3.5 Amps Cont. and 6.5 Amps Peak at 48 VDC Max.
Motor Type	3-Phase Brushless, DC Brushed, DC Linear Actuator
PWM Frequency	20.0 KHz
Current Resolution	5.66 mA (Optional: 2.93 mA, 1.95 mA, 0.98 mA. Note that Any of These Will Also Change The Current Rating of The VLC)
Encoder and Index Input	Differential
Encoder Supply Voltage	5 VDC
Encoder Input Voltage	5.5 VDC Max., -0.1 VDC Min.
Encoder Count Rate	40 Million Encoder Counts per Second
Position Range	31 Bits
Velocity Range	31 Bits
Acceleration Range	31 Bits
General Purpose Digital I/O	4x SSR (Solid State Relay) Isolated Inputs, 5V to 24V Max
	4x Opto-Isolated Digital Outputs, 5-24V Max
STO (Safe Torque Off)	2x STO Opto-Isolated Digital Inputs, 5V to 24V Max
	1x STO Opto-Isolated Feedback Output, 5-24V Max
Analog Inputs	1x 12-Bit Differential Analog Input, 0 to +/- 10V Range
Analog Outputs	1x 12-Bit Analog Output, 0 to 10V Range
LEDs	1x Power on LED
	1x Fault LED
Communication	RS-232 Non-Isolated, 9600 Baud Default, Selectable Between 2400 - 460800
	CAN Bus: 125 Kbps to 1 Mbps (Default Value)
Supply Voltage	+8 to +48 VDC
Protections	> Reversed Power Supply Polarity
	> Driver Overtemperature at 150 Degree
	> I2T (Only for Firmware Versions 1.50 And Above)
	> Overcurrent
	> Overload
Program Space	> Macro Storage: 7 kB
	> Maximum Number of Macros: 256
	> Maximum Number of Program Registers: 2048

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<b>SMAC</b> MOVING COIL ACTUATORS	5807 VAN ALLEN WAY CARLSBAD CA, 92008 (760) 929-7588	
	TITLE: <b>CONTROLLER</b>	
SIZE: <b>B</b>	PART NO: <b>VLCI-X1</b>	REV: <b>A</b>
SCALE: 1:1 <b>DO NOT SCALE</b>		SHEET: 2 / 2

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