

Model V195
13-Slot, C-Size VXI Mainframe

INSTRUCTION MANUAL

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Warranty

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COOLING

Positive pressure cooling is provided by two EBM backwards curved impellers that provide up to 224 CFM each. Air is drawn in from the rear of the unit and pressurized. The pressurized air then flows through impedance metering plates. This approach provides cooling to modules in a partially filled mainframe.

OUTPUT POWER

Total Output Power	1051W
+5 volt output current	60 Amps
-5.2 volt output current	28 Amps
-2 volt output current	15 Amps
+12 volt output current	8 Amps
-12 volt output current	8 Amps
+24 volt output current	8 Amps
-24 volt output current	8 Amps

MECHANICAL

Dimensions: Height = 14"
 Width = 16.2"
 Depth = 24e"
 Weight = 65 lbs

ENVIRONMENTAL

Ambient operating temperature: 0 to 40°C
Storage temperature: -20 to 65°C
Humidity: 5 to 95% noncondensing

INPUT POWER REQUIREMENTS

The V195 is equipped with an Autoranging Power Supply which can operate from 90 to 264. **Make sure the voltage selector switch is set to the correct position.**

* The Cooling Fans have a voltage selector switch. In the 120V AC position, fans have a voltage range from 103.5 to 126.5. In the 230V AC position, fans have a voltage range from 207 to 253.

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* Autoranging Power Supply current requirements at 70% efficiency:

AC Line Voltage IN	AC Line Current at Full Load
	1052.28W
103.5V AC	14.51 Amps
* 115V AC *	13.06 Amps
126.5V AC	11.87 Amps
207V AC	7.25 Amps
* 230V AC *	6.53 Amps
253V AC	5.93 Amps

Due to the AC voltage limitations of the fans, the effective AC voltage range of the V195 is:

Voltage Selector Switch Setting	AC Voltage Range
115 -----	-103-126.5
230 -----	-207-253

INPUT PROTECTION

The main AC Input is protected by a 2-pole magnetic circuit breaker (Front panel on off switch) rated at 15 amps.

POWER SUPPLY SPECIFICATIONS

AC Input:

Autoranging Input: 90-132 or 180-264 VAC 47-500Hz
 or 260-380 VDC

Conducted EMI: VDE/FCC:

VDE Class A and FCC Class A

Power Supply Specifications Continued

Transient Load Response:

Load step from 25% to 75% with a di/dt of 0.7A per microsecond.

	Peak Amplitude	Recovery Time to within 1% of the Nominal Output Voltage
5V at 30A output	700 mV	150 μ S

Hold Up:

> 20mSec at full load with nominal input line voltage.

Overall Efficiency:

> 70% depending on output voltage, loading and AC input.

Peak In Rush:

30 Amps RMS Max at 115 VAC

60 Amps RMS Max at 230 VAC

Low Line:

Turn on 90 VAC before or at full load.

Turn On Delay From Power Up:

1 Sec. (Max).

Regulation:

Line 0.2% (Max), Load 0.2% (Max).

Thermal .02% / Deg. C (Max).

Ripple and Noise:

50 mV pk to pk at any load (20 MHZ BWL).

except \pm 24V DC which shall not exceed 150 mV measured at unit outputs.

Overshoot:

No overshoot at turn on or turn off.

Over Voltage Protection:

Nominal 115% to 135% latching.

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Over Current Protection:

Nominal 105% to 125% of full load. Fold back on voltages of 5.2V or below; straight line on voltages over 5.2V. Automatic restart. Continuous short circuit without damage.

Power Supply Specifications Continued

Over Temperature Protection:

In the event of over temperature condition, unit automatically shuts down. Latching.

MTBF (Mean Time Between Failures) on DC-DC converters:

>700,000 hours (35 °C, G_B)

MONITOR OPTION

The monitor option has eight (8) dual color LEDs. Seven of the LEDs are for voltage monitoring and one is for monitor airflow.

Normal operating condition is represented by the color green. If there should be a failure, it will be indicated by the color red.

When a failure occurs, the status is latched (except for airflow). For example, if the +5 volt supply were to dip below 90% of nominal, an error would occur. The +5 volt LED would change from green to red and remain red until the front panel reset switch is depressed provided that the +5 volt supply is within 90% of nominal. All voltages are monitored within 90% of nominal. You cannot clear the error condition if the fault still exists.

This latching feature will catch intermittents if any are in the power supply. Latching can be disabled by moving the strap labeled *AEError*® from the *AEN*® position to the *ADISEN*® position. The *AEError*® strap is located on the back side of the front panel. To get at it you must remove the top of the chassis.

Airflow is monitored by two airflow sensors located in the air plenum. If airflow drops below 200 feet per minute an error will occur.

Voltage tests points are provided on the front panel should you want to measure the voltage with a DVM.

Remote monitoring of the VXI chassis can be done with the status out BNC connector located at the rear of the chassis.

The status out is a relay contact which is in the closed position when there is a failure or if the chassis is turned off. The contact is capable of sinking 500 mA at 5 volts.

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When the chassis is operating properly, the contact assumes the open position. The closed position connects the center pin of the BNC to chassis ground. This output looks like an open collector with no pullup resistor. You must externally pull the status high.

Many chassis may be connected together using BNC cables. If one chassis fails then the status of all chassis will be pulled to ground indicating a failure.

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Fan Unit Removal and Installation:

Removal of Fan Unit

Step 1. Disconnect V195 from AC Power Source

Step 2. Turn two thumbscrews counter clockwise until unit can be pulled out. (See Figure 1.

Step 3. Clean the air filters before reinstalling the fan unit.

Installation of Fan Unit

Step 1. Make sure air filters are clean and secured.

Step 2. Slide fan unit into the chassis and tighten down the thumbscrews.
See Figure 1.

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Power Supply Removal and Installation:

Step 1. Disconnect V195 from AC Power Source by unplugging unit and remove power cord from rear of unit. See Figure 1.

Step 2. Turn two thumbscrews counter clockwise until power supply can be dropped down. See Figure 2.

Step 3. Undo the two thumbscrews at the wiring harness shown in Figure 2 and push away the wiring harness to the backplane. Once the wiring harness has been disconnected you can pick up on the power supply door and remove the door and power supply as a unit. See Figure 2.

Installation of V195 Power Supply:

Step 1. Install power supply unit so that it is in the open position. See Figure 2. Note the location of the Allen Head Stop on V195 chassis and the dowel pin hinge on power supply door.

Step 2. Connect wiring harness to top of power supply. Make sure the two thumbscrews for securing backplane wiring harness are tight.

Step 3. Lift up on the power supply door to close and tighten two access thumbscrews. Note not to pinch any of the wires when closing power supply door.

Power supply has been installed. You may apply power to the V195.

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APPENDIX A

Inserting a VME Module in the V195 VXI Chassis

CAUTION: If you want to use a VME module in the V195 VXI Chassis, you must determine whether your VME module uses the P2 connector, Rows A and C. If it does, you must isolate these pins from your VME module. If these pins cannot be isolated from your VME module, then you cannot use that VME module in the V195 VXI Chassis.

Please note the differences in the P2 connector. Table 1 shows the pinout for a VME P2 connector. Tables 2 and 3 show the pinout for a VXI P2 connector.

On the P2 connector of a VXI Backplane, Rows A and C are used.

The VXI backplane supplies power to some locations in Rows A and C of the P2 connector.

KineticSystems Corporation assumes no liability for the damage of any VME modules inserted into the V195 VXI Chassis.

To install a VME module in the V195 VXI Chassis, follow these instructions:

Step 1. Reach into the chassis and pull the rear upper rack toward the front of the chassis until it locks into position. See Figure 1.

Step 2. Install the VME module.

Step 3. Push up on the rear of the upper rack to release it from its locked position. See Figure 1.

Step 4. Align the VME card so the upper rack seats on the VME card.

Figure 1 - V195 VME Card Guide Assembly

Look inside mainframe and pull VME Card Guide forward to insert VME module. As Card Guide is pulled forward, it will lift up.

Note locking position.

After installation of VME module, push up on VME Card Guide (shown by arrow) to release it from the locked position. Let it drop into position. The top of the VME card may have to be moved to seat the Card Guide.

VME Connector P2/J2			
Pin Number	Row A	Row B	Row C
1	User Defined	+5 VDC	User Defined
2	User Defined	GND	User Defined
3	User Defined	RESERVED	User Defined
4	User Defined	A24	User Defined
5	User Defined	A25	User Defined
6	User Defined	A26	User Defined
7	User Defined	A27	User Defined
8	User Defined	A28	User Defined
9	User Defined	A29	User Defined
10	User Defined	A30	User Defined
11	User Defined	A31	User Defined
12	User Defined	GND	User Defined
13	User Defined	+5 VDC	User Defined
14	User Defined	D16	User Defined
15	User Defined	D17	User Defined
16	User Defined	D18	User Defined
17	User Defined	D19	User Defined
18	User Defined	D20	User Defined
19	User Defined	D21	User Defined
20	User Defined	D22	User Defined
21	User Defined	D23	User Defined
22	User Defined	GND	User Defined
23	User Defined	D24	User Defined
24	User Defined	D25	User Defined
25	User Defined	D26	User Defined
26	User Defined	D27	User Defined
27	User Defined	D28	User Defined
28	User Defined	D29	User Defined
29	User Defined	D30	User Defined
30	User Defined	D31	User Defined
31	User Defined	GND	User Defined

VME Connector P2/J2			
Pin Number	Row A	Row B	Row C
32	User Defined	+5 VDC	User Defined

Table 1
VXI Connector P2 Slot 0

Pin Number	ROW A Signal Mnemonic	ROW B Signal Mnemonic	ROW C Signal Mnemonic	Pin Number
1	ECLTRG0	+5V	CLK10+	1
2	-2V	GND	CLK10-	2
3	ECLTRG1	RSV1	GND	3
4	GND	A24	-5.2V	4
5	MODID12	A25	LBUSC00	5
6	MODID11	A26	LBUSC01	6
7	-5.2V	A27	GND	7
8	MODID10	A28	LBUSC02	8
9	MODID09	A29	LBUSC03	9
10	GND	A30	GND	10
11	MODID08	A31	LBUSC04	11
12	MODID07	GND	LBUSC05	12
13	-5.2V	+5V	-2V	13
14	MODID06	D16	LBUSC06	14
15	MODID05	D17	LBUSC07	15
16	GND	D18	GND	16
17	MODID04	D19	LBUSC08	17
18	MODID03	D20	LBUSC09	18
19	-5.2V	D21	-5.2V	19
20	MODID02	D22	LBUSC10	20
21	MODID01	D23	LBUSC11	21
22	GND	GND	GND	22
23	TTLTRG0*	D24	TTLTRG1*	23
24	TTLTRG2*	D25	TTLTRG3*	24
25	+5V	D26	GND	25
26	TTLTRG4*	D27	TTLTRG5*	26
27	TTLTRG6*	D28	TTLTRG7*	27
28	GND	D29	GND	28
29	RSV2	D30	RSV3	29

Pin Number	ROW A Signal Mnemonic	ROW B Signal Mnemonic	ROW C Signal Mnemonic	Pin Number
30	MODID00	D31	GND	30
31	GND	GND	+24V	31
32	SUMBUS	+5V	-24V	32

Table 2

VXI Connector P2 Slot 1-12

Pin Number	ROW A Signal Mnemonic	ROW B Signal Mnemonic	ROW C Signal Mnemonic	Pin Number
1	ECLTRG0	+5V	CLK10+	1
2	-2V	GND	CLK10-	2
3	ECLTRG1	RSV1	GND	3
4	GND	A24	-5.2V	4
5	LBUSA00	A25	LBUSC00	5
6	LBUSA01	A26	LBUSC01	6
7	-5.2V	A27	GND	7
8	LBUSA02	A28	LBUSC02	8
9	LBUSA03	A29	LBUSC03	9
10	GND	A30	GND	10
11	LBUSA04	A31	LBUSC04	11
12	LBUSA05	GND	LBUSC05	12
13	-5.2V	+5V	-2V	13
14	LBUSA06	D16	LBUSC06	14
15	LBUSA07	D17	LBUSC07	15
16	GND	D18	GND	16
17	LBUSA08	D19	LBUSC08	17
18	LBUSA09	D20	LBUSC09	18
19	-5.2V	D21	-5.2V	19
20	LBUSA10	D22	LBUSC10	20
21	LBUSA11	D23	LBUSC11	21
22	GND	GND	GND	22
23	TTLTRG0*	D24	TTLTRG1*	23
24	TTLTRG2*	D25	TTLTRG3*	24
25	+5V	D26	GND	25
26	TTLTRG4*	D27	TTLTRG5*	26
27	TTLTRG6*	D28	TTLTRG7*	27
28	GND	D29	GND	28
29	RSV2	D30	RSV3	29
30	MODID	D31	GND	30
31	GND	GND	+24V	31
32	SUMBUS	+5V	-24V	32

Table 3

Appendix B

Appendix C

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13-Slot, C-Size VXIbus Mainframe

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**PLEASE REFER TO SECTION ON
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