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Modular Computers®

CPCI
Power Supply
Manual

PRODUCT DOCUMENTATION

PD05
CP3-SVE-P200AC

Reference ID: 24139 PD05
Revision: 01
Issued: February 01, 2002

The product described in this manual is in compliance with all applied CE standards.

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Revision History

Manual/Product Title:	CPCI Power Supply Manual: Product Documentation: CP3-SVE-P200AC
Reference ID:	24139 PD05

Rev. Index	Brief Description of Changes	Date of Issue
01	Initial Issue	Feb. 01, 2002

Imprint

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This manual was realized by: **TPD/Engineering, PEP Modular Computers GmbH**.

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1. Introduction

The specific product description provided with this product documentation is part of the PEP's CPCI Power Supply manual. For further information, in particular regarding general details as well as safety and warranty statements, refer to the CPCI Power Supply Manual, ID 24139.

2. 200W P-Type Power Supply Unit

The main features of the 3U P-type, 120V/230V input, 200W output AC/DC power supply unit CP3-SVE-P200AC are described in the following table:

Table 1: Distinctive Features of Power Supply Unit CP3-SVE-P200AC

Feature	Specification
Form Factor	3U
Frontpanel Size	40.6 * 128.7 mm
Mechanics	19" rack
Plug-In Compatibility	Yes
Power Supply Connector	Positronic 47-pin connector
Input Voltage	V = 85V..264V AC Frequency: 47Hz..63Hz
Voltage Switching	Continuous input range
Output Power	200W with 250 LFM forced-air cooling
Output Voltages / Currents	V1 = +5V at 40A V2 = +3.3V at 40A V3 = +12V at 5.5A V4 = -12V at 1.5A
Cooling	250 LFM forced-air cooling
Redundant Supply Capability	Always
Status Indication	LED's for input good and power fail
Special Feature(s)	Power sharing

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2.1 Mechanical Specifications

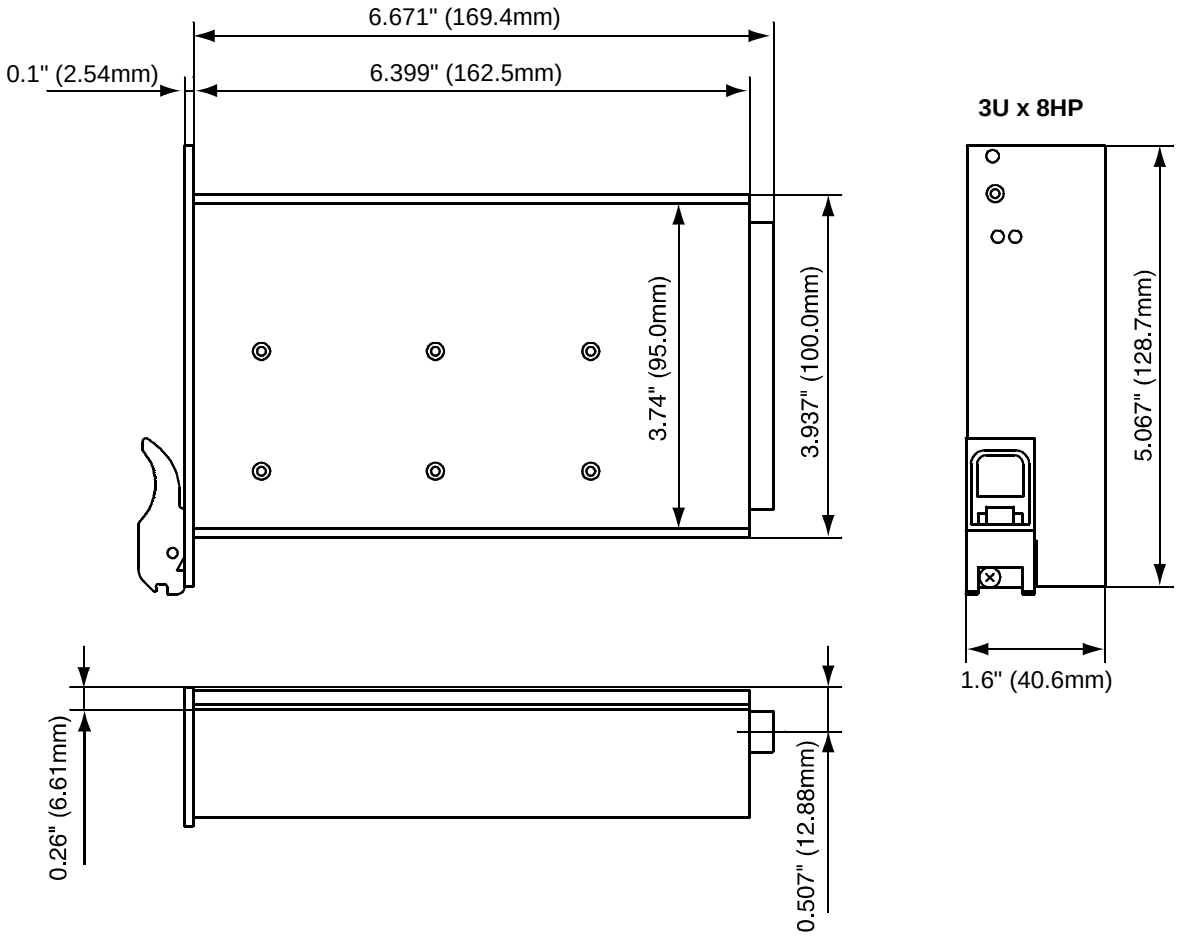
Figure 1: View of Power Supply Unit CP3-SVE-P200AC



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Figure 2: Power Supply Dimensions



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2.2 Power Supply Connector

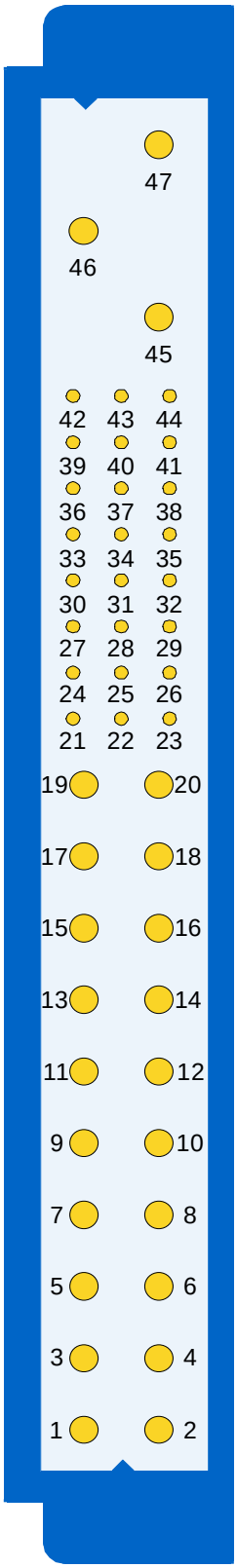


Figure 3: Orientation of the Positronic P-47 Power Supply Connector

The V input voltage to the power supply unit and the V1 ... V4 output voltages from the power supply unit to the back-plane are connected via a 47-pin Positronic male power supply connector.

For the pinouts of the Positronic P-47 power supply connector please refer to the following table.

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Table 2: Positronic 47-Pin Connector Pinout

PIN	SIGNAL NAME	DESCRIPTION	PIN	SIGNAL NAME	DESCRIPTION
1 - 4	V1	V1 OUTPUT (+5V)	32	NC	NOT CONNECTED
5 - 12	RTN	V1 and V2 RETURN	33	V2 SENSE	V2 REMOTE SENSE
13 - 18	V2	V2 OUTPUT (+3.3V)	34	S RTN	SENSE RETURN
19	RTN	V3 RETURN	35	V1 SHARE	V1 CURRENT SHARE
20	V3	V3 OUTPUT (+12V)	36	V3 SENSE	V3 REMOTE SENSE
21	V4	V4 OUTPUT (-12V)	37	NC	NOT CONNECTED
22	RTN	SIGNAL RETURN	38	DEG#	DEGRADE SIGNAL
23	RESERVED	RESERVED	39	INH#	INHIBIT
24	RTN	V4 RETURN	40	NC	NOT CONNECTED
25	NC	NOT CONNECTED	41	V2 SHARE	V2 CURRENT SHARE
26	RESERVED	RESERVED	42	FAL#	FAIL SIGNAL
27	EN#	ENABLE	43	NC	NOT CONNECTED
28	NC	NOT CONNECTED	44	V3 SHARE	V3 CURRENT SHARE
29	NC	NOT CONNECTED	45	CGND	CHASSIS GROUND
30	V1SENSE	V1 REMOTE SENSE	46	ACN	AC INPUT NEUTRAL
31	NC	NOT CONNECTED	47	ACL	AC INPUT LINE

2.3 Installation

Thanks to its plug-in compatibility this P-type power supply unit allows for an easy installation, by which the power supply unit's male Positronic 47-pin power connector is inserted into the backplane's mating female connector without the need of any intermediate adaptation.



Warning!

If this type of power supply is removed for any reason from an operating system, do not reinstall immediately. Wait 1 to 2 minutes before reinstalling. Failure to comply with this may result in an Output Failure indication on the power supply. This is due to an internal protection feature of the power supply which requires time to cool down before the power supply is put back into operation.

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2.4 Electrical Specifications

INPUT

PARAMETER	CONDITIONS / DESCRIPTION	MIN	NOM	MAX	UNITS
Input Voltage - AC	Continuous input range.	85		264	VAC
Input Frequency		47		63	Hz
Hold-up Time		20			ms
Input Protection	Non-user serviceable, internally-located input line fuse.				
Inrush Surge Current	Internally limited by thermistor and electronic switch.			30	A
Operating Frequency	Switching frequency of main output transformer.	125		145	kHz

OUTPUT

PARAMETER	CONDITIONS/DESCRIPTION	MIN	NOM	MAX	UNITS
Efficiency	Full rated load, 115 VAC.	80			%
Minimum Load; V1, V2, V3	Minimum load required to maintain regulation with no load on V4.	None			A
Minimum Load, V3	Minimum load on V3 required to maintain regulation on V4.	50% of V4 Load			A
Ripple and Noise	Full load, 20 MHz bandwidth.	See Regulation table			
Output Power	250 LFM forced-air cooling.			200	W
Overshoot / Undershoot	Output voltage overshoot / undershoot at turn-on.			0	%
Regulation	Varies by output. Total regulation includes: line changes over the specified input range, changes in load starting at 50% load and changing to 100% load.	See Regulation table			
Turn-on Delay	Time required for initial output voltage stabilization.		150	ms	
Initial Setting Accuracy			±1		%

REGULATION

OUTPUT VOLTAGE		ADJUSTMENT RANGE	OUTPUT CURRENT	LINE REGULATION	LOAD REGULATION	RIPPLE & NOISE %pk-pk (NOTE 1)
V1	+5V	N/A	40A	0.5%	1%	2%
V2	+3.3V	N/A	40A	0.5%	1%	2%
V3	+12V	N/A	5.5A	0.5%	1%	1.3%
V4	-12V	N/A	1.5A	0.5%	1%	1.3%

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PROTECTION AND CONTROL

PARAMETER	CONDITIONS/DESCRIPTION	MIN	NOM	MAX	UNITS
Overvoltage Protection	Latch style overvoltage protection.	120		130	%Vnom
Overload Protection	Fully protected against output overload and short circuit. Automatic recovery upon removal of overload condition.	Available			
Overtemperature Protection	System shutdown due to excessive internal temperature, automatic reset.	Available			
Power Fail (FAL#)	TTL compatible signal, open collector active low signal. Indicates any output below 90% and/or a low input <85VAC.	Available			
Current Share	Accuracy of shared current with up to 6 parallel units of the same type of power supply. Single wire current share on V1, V2, and V3.			10	%
Remote Sense	Available on V1, V2, and V3. Total voltage compensation for cable losses with respect to the main output.			150	mV
Inhibit (INH#)	TTL-compatible signal inhibited with GND or TTL "0".	Available			
Enable (EN#)	Contact closure to external ground to start unit. On shortest pin (last make, first break).	Available			
Overtemperature Warning (DEG#)	Provides warning when power supply temperature exceeds rating. TTL-compatible open.	Available			
Front Panel LED Status Indicators	Input OK (Green), Output Failure (Red). In redundant setups, Output Failure may also indicate that there is no main power input to the power supply.	Available			

SAFTEY, REGULATORY, AND EMI

PARAMETER	CONDITIONS/DESCRIPTION	MIN	NOM	MAX	UNITS
Agency Approvals	UL1950, cUL1950, EN60950 (TÜV).	Approved			
Dielectric Withstand Voltage	Input to Output per EN60950.	4243			VDC
Electromagnetic Interference	EN55022 / CISPR 22 Conducted: Radiated:	A A			Class
ESD Susceptibility	Per EN61000-4-2, level 4, contact discharge.	8			kV
Radiated Susceptibility	Per EN61000-4-3, level 3.	10			V/m
EFT/Burst	Per EN61000-4-4, level 3.	± 2			kV
Input Surge	Per EN61000-4-5, level 3. Line to Line Line to Ground	1 2			kV

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SAFTEY, REGULATORY, AND EMI

PARAMETER	CONDITIONS/DESCRIPTION	MIN	NOM	MAX	UNITS
Conducted Disturbance	Per EN61000-4-6, level 2.			3	V
Insulation Resistance	Input to Output.		10		MΩ

ENVIRONMENTAL

PARAMETER	CONDITIONS/DESCRIPTION	MIN	NOM	MAX	UNITS
Altitude	Operating. Non-Operating.			10k 40k	ASL Ft.
Operating Temperature	With 250 LFM forced-air cooling At 100% load: Derate linearly above 50°C by 2.5% per °C. At 50% load:	0		50 70	°C
Storage Temperature		- 40		+ 85	°C
Relative Humidity	Non-Condensing.	5		95	%RH
Shock	Peak acceleration.			20	GPK
Vibration	Random vibration, 10 Hz to 2 kHz, 3 axis.			6	GRMS



Warning!

Adequate thermal cooling of the power supply must be ensured. Therefore do not obstruct or hinder cooling air circulation or heat conduction within the power supply or surrounding equipment.

Failure to comply with this warning may result in damage to your equipment.

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