

**CPCI
Power Supply
Manual**

PRODUCT DOCUMENTATION

**PD07
CP6-SVE-M250AC-R**

Reference ID: 24139 PD07

Revision: 01

Issued: February 01, 2002



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



Revision History

Manual/Product Title:		CPCI Power Supply Manual: Product Documentation: CP6-SVE-M250AC-R
Reference ID:		24139 PD07
Rev. Index	Brief Description of Changes	Date of Issue
01	Initial Issue	Feb. 01, 2002

Imprint

Copyright © 2002 PEP Modular Computers GmbH. All rights reserved. This manual may not be copied, photocopied, reproduced, translated or converted to any electronic or machine-readable form in whole or in part without prior written approval of PEP Modular Computers GmbH.



DISCLAIMER:

PEP Modular Computers GmbH rejects any liability for the correctness and completeness of this manual as well as its suitability for any particular purpose.

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



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. 250W M-Type Power Supply Unit

The main features of the 6U M-type, 120V/230V input, 250W output AC/DC power supply unit CP6-SVE-M250AC-R are described in the following table:

Table 1: Distinctive Features of Power Supply Unit CP6-SVE-M250AC-R

Feature	Specification
Form Factor	6U
Frontpanel Size	60.96* 266.7 mm
Mechanics	19" rack
Plug-In Compatibility	3
Power Supply Connector	DIN M24/8 connector
Input Voltage	V _{US} = 99V..138V AC V _{EU} = 187V..264V AC Frequency: 50Hz..60Hz
Output Power	250W
Output Voltages/Currents	V ₀₁ = +3.3V at 26A V ₀₂ = +5.1V at 18A V ₀₃ = +12V at 4A V ₀₄ = -12V at 2A
Cooling	Free convection
Redundant Supply Capability	3
Status Indication	Separate LEDs for V ₀₁ ..V ₀₄
Special Feature(s)	—



2.1 Power Supply Connectors

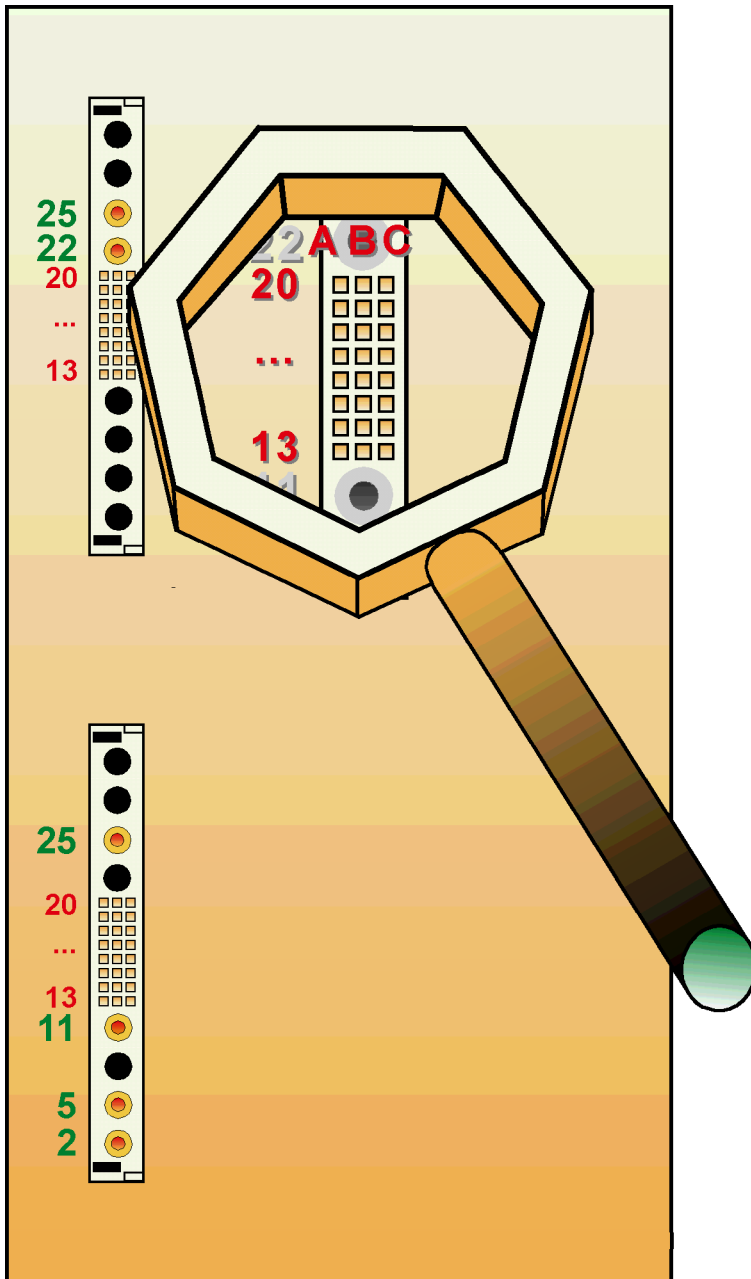


Figure 1: Orientation of the DIN M24/8 Power Supply Connectors

The V_{EU} and V_{US} input voltages to the power supply unit and the $Vo1...Vo4$ output voltages from the power supply unit to the backplane are connected via two 32-pole DIN 24/8 male power supply connector.

For the pinouts of the DIN M24/8 power supply connectors please refer to the following table.



Table 2: DIN M24/8 Connector Pinouts

Pin	Function	Pin	Function
2	L1 (live connection)*	B.17	+3.3VL
5	N (neutral)*	B.18	+3.3VL
11	PE (earth protection)*	B.19	+12VL**
A.13	INT (internally connected)	B.20	-12VL**
A.14	INH*	C.13	EN
A.15	INT (internally connected)	C.14	DEG
A.16	OVF	C.15	INT (internally connected)
A.17	+5VF	C.16	+3.3VL
A.18	+3.3VL	C.17	+3.3VL
A.19	+12VL**	C.18	+3.3VL
A.20	-12VL**	C.19	+12VL**
B.13	+3.3VL	C.20	-12VL**
B.14	+3.3VL	22	+5VL**
B.15	+3.3VL	25	OVL
B.16	+3.3VL		

* Not connected at upper DIN M24/8 power supply connector;

** Not connected at lower DIN M24/8 power supply connector.

2.2 Installation

Thanks to its plug-in compatibility this DIN M-type power supply unit allows for an easy installation, by which the power supply unit's male DIN M24/8 power connector is inserted into the backplane's mating female connector without the need of any intermediate adaptation.



Warning!

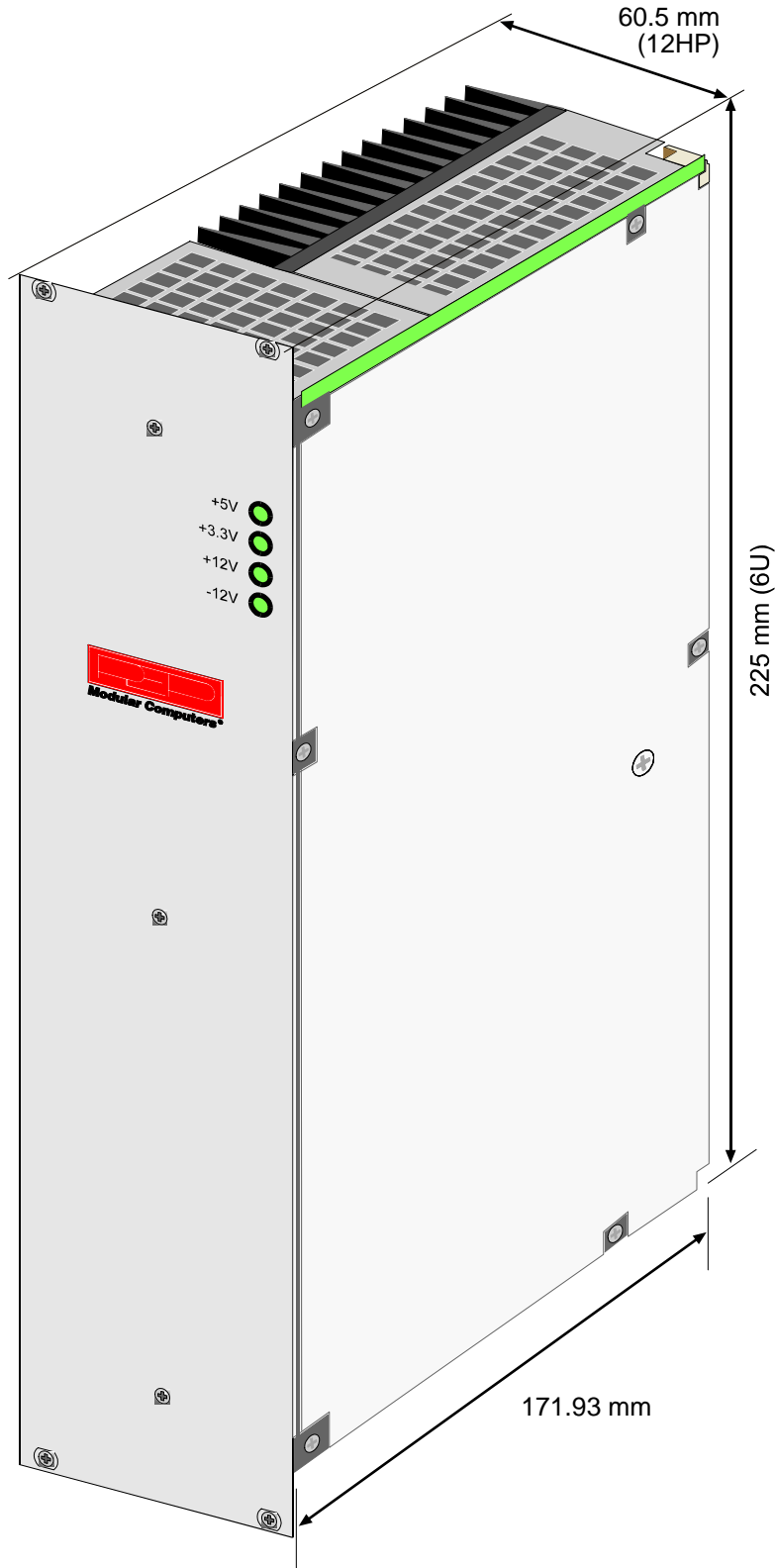
To ensure a safe 5V operation of your equipment it is necessary that on the backplane 5VL is connected to 5VF and 0VL to 0VF. PEP systems provide this configuration by default.

The maximum voltage compensation is 0.25V per line.



2.3 Mechanical Specifications

Figure 2: View of Power Supply Unit CP6-SVE-M250AC-R





2.4 Electrical Specifications

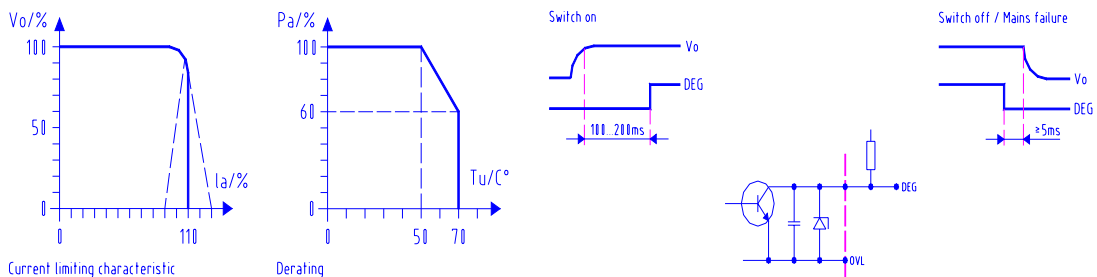
Input

Input voltage ranges	$V_{EU} = 187V..264V$ AC $V_{US} = 99V..138V$ AC
	Frequency: 50Hz..60Hz
Voltage switching	Autoranging
Efficiency	Typ. 79%* * <75% with redundancy
Input current limitation	Typ. $\leq 15A_{peak}$ (cold state) Typ. $\leq 20A_{peak}$ (hot state)
Fuse	8 AT

Output

Adjustment range V_{o1}, V_{o2}	$\pm 5\%$
Status indication	Green LED's for $V_{o1}, V_{o2}, V_{o3}, V_{o4}$
Ripple	$V_{o1}, V_{o2} < 50mV_{pp}$, $V_{o3}, V_{o4} < 30mV_{pp}$
Noise voltage	Typ. $50mV_{pp}$ (band width 20MHz)
Temperature coefficient	0.025% / K
Switch on / switch off performance	No overshooting of V_o (soft-start)
Rise-delay time	$< 0.5s$
Run-up time	$\leq 50ms$

Figure 3: Output Power Diagrams





Regulation

Line regulation	< 0.2% for V_{o1} , V_{o2} < 0.5% for V_{o3} , V_{o4}
Load regulation	< 2.0% for V_{o1}^* < 2.0% for V_{o2}^* < 5.0% for V_{o3} , V_{o4} * <5% with redundancy
Response time	< 0.5ms at I_o 20..80%

Protection and Control

Overvoltage protection	125% \pm 5% for V_{o1} , V_{o2} 125% \pm 10% for V_{o3} , V_{o4} Automatic repetition
Current limitation	Typ. 110% of I_{Rated} for V_{o1} , V_{o2} Typ. 140% of I_{Rated} for V_{o3} , V_{o4} Effective for all outputs, outputs short-circuit proof
Overtemperature protection	Switches off when inside temperature becomes too high, switches on again with hysteresis
Mains buffering	> 20ms at 100% load
Signal DEG (Derate)	Open-collector, $I_{max} = 48mA$ Low during start-up of V_o , high 100-200ms after start-up of V_o , low \geq 5ms before break-down of V_o (mains failure/switch-off with EN/INH)
Input EN (enable) Input INH (inhibit)	Power is ON only with EN low (TTL) Power always OFF with INH low (TTL)



EMC

Interference suppression/immunity	EN 50082-2: 1992 EN 61000-4-2:Intensity 4 EN 61000-4-3:Noise level 10V/m EN 61000-4-4:Intensity 4 EN 61000-4-5:Intensity 4 EN 61000-4-11 VDE (with switch-off and re-start)
Interference emission	EN 50081-1: 1992 EN 55011/EN 55022: ClassB, interference transmission depends on assembly

Safety

EN 60950/VDE 0805
Safety Class I, VDE 0100
UL 1950 / CSA 22.2-950

Operating Data

Temperature range	0°C..+70°C with free convection
Temperature derating	2% / K at +50°C (see diagram)



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.



This page was intentionally left blank.