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» User Guide «

CPCI
Power Supply
Manual

PRODUCT DOCUMENTATION

PD16
CP3-SVE-M75DC-24

Reference ID: 24139 PD16, Rev. 01
February 28, 2011

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Reference ID:	24139 PD16

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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. This power supply is designed for use with the CP-Pocket or custormer specific applications only.

2. 75W M-Type Power Supply Unit

The main features of the 3U M-type, lower-range input, 75 W output DC/DC power supply unit CP3-SVE-M75DC-24 are described in the following table:

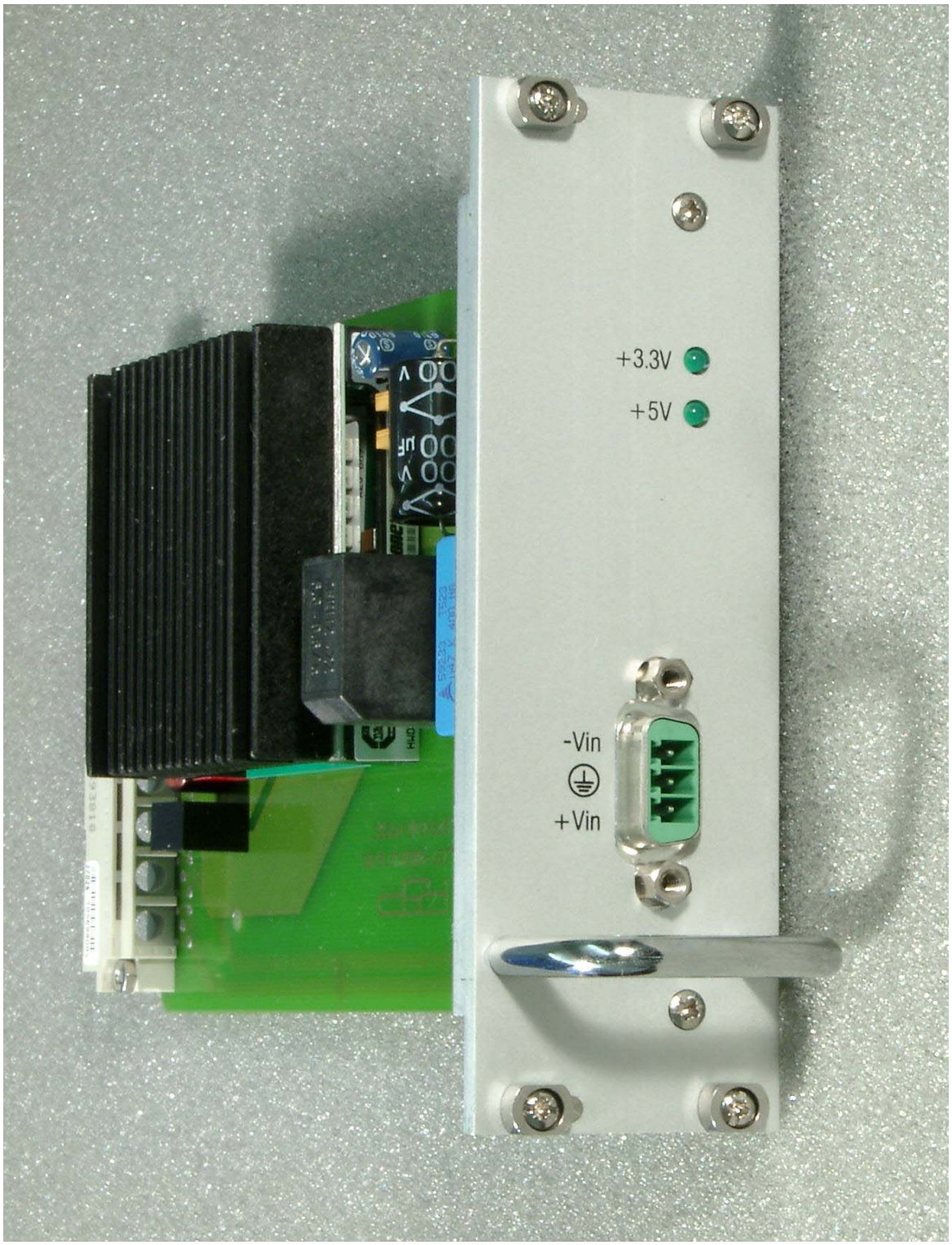
Table 1: Distinctive Features of Power Supply Unit CP3-SVE-M75DC-24

FEATURE	SPECIFICATION
Form Factor	3U
Front Panel Size	40.64 mm x 133.35 mm
Height of Power Supply Unit	3 U (128 mm)
Width of Power Supply Unit	8 HP (40 mm)
Depth of Power Supply Unit	171.9 mm (without connector and handle)
Mechanics	19" rack
Plug-In Compatibility	Yes
Power Supply Connector	DIN M24/8 rear connector
Input Voltage	18 V DC ... 36 V DC
Output Voltages / Currents	V_1 = + 5.1 V at 7.5 A symetrical, max. 15 A V_2 = + 3.3 V at 7.5 A symetrical, max. 15 A $V_3 = V_{FAN}$ = + 12 V at 0.16 A
Output Power	75 W
Total Minimum Output Load	0 W (for 3.3V and 5.0V)
Cooling	Forced air cooling, 1 m/s recommended minimum
Redundant Supply Capability	—
Status Indication	Separate LEDs for V_1 and V_2
Special Feature(s)	Input power either via DIN M24/8 rear connector or Phoenix 3-contact D-Sub front connector (depends of variant ordered)

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2.1 Mechanical Specifications

Figure 1: View of Power Supply Unit CP3-SVE-M75DC-24



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2.2 Power Supply Connectors

2.2.1 DIN M24/8 Power Supply Connector

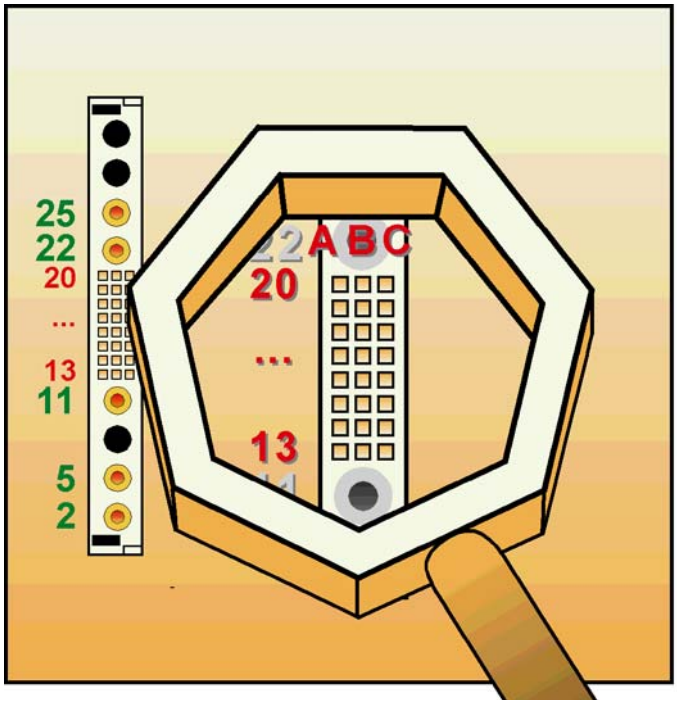


Figure 2: Orientation of the DIN M24/8 Power Supply Connector

Depending on the power supply version, DC power input may either be via the M24/8 connector or the front panel connector. The V1 ... V3 output voltages from the power supply unit to the backplane are connected via a 32-pole DIN 24/8 male power supply connector.

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

Table 2: DIN M24/8 Connector Pinouts

PIN	FUNCTION	PIN	FUNCTION
2	+Vin or NC (depends on version)	B.17	+3.3VL
5	-Vin or NC (depends on version)	B.18	+3.3VL
11	PE	B.19	+12VL
A.13	NC	B.20	NC
A.14	NC	C.13	NC
A.15	NC	C.14	NC
A.16	NC	C.15	NC
A.17	NC	C.16	+3.3VL
A.18	+3.3VL	C.17	+3.3VL
A.19	+12VL	C.18	+3.3VL
A.20	NC	C.19	+12VL
B.13	+3.3VL	C.20	NC
B.14	+3.3VL	22	+5VL
B.15	+3.3VL	25	OVL
B.16	+3.3VL		

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2.2.2 Front Panel DC Input Power Connector

This connector is available for applications requiring input power from the front of the chassis. If required, this connector must be specified when ordering. This is a Phoenix, 3-contact, D-Sub receptacle type connector (VS-PSC-1.5/3-M). The following figure and table provide pinout information.

Figure 3: Front Panel DC Input Power Connector

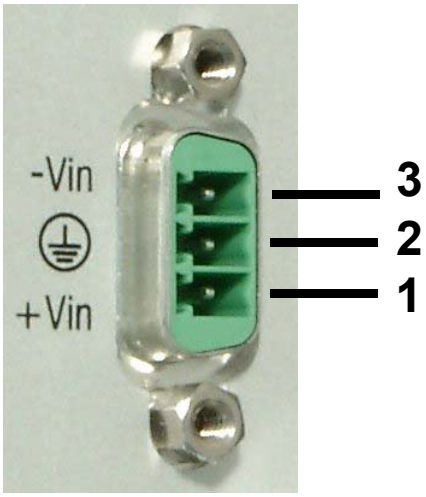


Table 4-3: Pinout of CONn

PIN	SIGNAL
1	+Vin
2	PE
3	-Vin

2.2.3 Line Input Connector

This connector is the complementary connector for the application side for connecting to this power supply. If the front panel DC input power connector is specified, this connector is delivered with the power supply. This is a Phoenix, 3-contact, D-Sub plug type connector (PSC1,5/3-F). The following figure and table provide pinout information.

Figure 4: Front Panel DC Input Power Connector

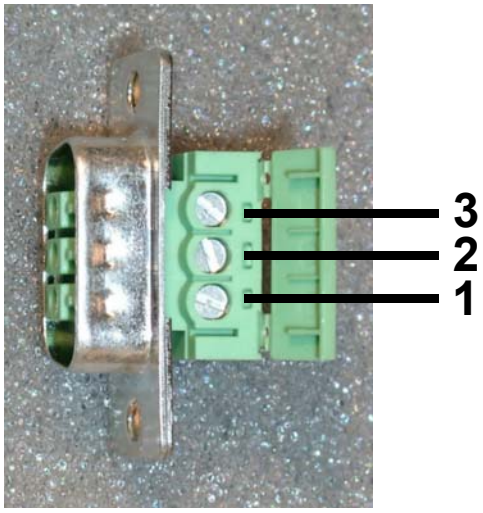


Table 4-4: Pinout of CONn

PIN	SIGNAL
1	+Vin
2	PE
3	-Vin

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2.3 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.



Note ...

The minimum input voltage for turn-on is 18 V. Use DC input power cable with a minimum cross-section of 0.75 mm².

2.4 Electrical Specifications

Input

Input voltage ranges	18V ... 36 V DC
Efficiency	Typ. 83 %
Input fuse F1 (may not be replaced by the customer)	6.3 AT, type "Wickmann", no. 374/TR5

Output

Output power V_1 (5.1 V), V_2 (3.3 V)	0 A typical 7.5 A max. 15 A
Output power V_3 (12 V)	min. 0.05 A - max. 0.16 A (15 - 17 V without load)
Output fuse F2 (V_3) (may not be replaced by the customer)	0.16 AT, type "Wickmann", no. 374/TR5
Total output loads	min. 0 W max. 75 W
Status indication	Green LED's for V_1, V_2
Ripple	V_1, V_2 < 100 mV_{pp}, V_3 < 200 mV_{pp}
Noise voltage	Typ. 75 mV @ 7.5 A
Temperature regulation coefficient	0.03 % / K for V_1, V_2, and V_3
Switch on / switch off performance	No overshooting of V_{out} (soft-start)
Rise-delay time	< 0.5 s
Start-up time	≤ 5 ms

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Regulation

Line regulation	< 0.2 % for V_1, V_2 at a load of 7.5 A each
Load regulation	< 0.5 % for V_1, V_2

Protection and Control

Overvoltage protection (trip range % $V_{0\ nom}$)	115 - 140%
Output current limitation	100% - 140% nominal output Effective for all outputs, outputs short-circuit proof, “hiccup-mode” is used. Resettable fuse on V_1 and V_2 Non-resettable fuse on V_3
Overtemperature protection	Switches off when inside temperature becomes too high, switches on again with hysteresis. Switch off at typ. 100°C base plate. Output short circuit duration: continuous

Environment

Operating ambient temperature	0 - 50 °C
Derating temperature	< 50°C / 0 % power derating
Humidity	93 % RH at 40°C, non-condensing (according to IEC60068-2-78)

EMC

Interference suppression/immunity	EN 61000-6-2 EN 55024
Interference emission	EN 61000-6-4 EN 55022

Safety

CB Schema	EN 60950-1



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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