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CPCI
Power Supply
Manual

PRODUCT DOCUMENTATION

Reference ID: 24139 PD13 Rev. 01
July 18, 2007

PD13
CP3-SVE-M76AC

kontron

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1. Introduction

The specific product description provided with this product documentation is part of the Kontron 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 standard CPCI systems as well integration in electronic or electrical enclosures (e.g. Kontron's CP-Pocket, 19" racks, etc.).

2. 75W M-Type Power Supply Unit

The main features of the 3U M-type, 75 W output AC power supply unit CP3-SVE-M76AC are described in the following table:

Table 1: Distinctive Features of Power Supply Unit CP3-SVE-M76AC

FEATURE	SPECIFICATION
FORM FACTOR	3U
FRONT PANEL SIZE	40.3 mm x 128.4 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 connector
INPUT VOLTAGE	115/230 VAC, automatic switching
INPUT FREQUENCY	47 ... 63 Hz
OUTPUT VOLTAGES / CURRENTS	V_1 = +5.1 V, max. 8.0 A V_2 = +3.3 V, max. 8.0 A V_3 = +12 V, max. 0.15 A
OUTPUT POWER	75 W
TOTAL MINIMUM OUTPUT LOAD	0 W
COOLING	Forced air cooling: ≥ 0.5 m/s recommended
REDUNDANT SUPPLY CAPABILITY	—
STATUS INDICATION	Separate LEDs for V_1 and V_2
SPECIAL FEATURE(S)	None

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2.1 Mechanical Specifications

Figure 1: View of Power Supply Unit CP3-SVE-M76AC



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2.2 Power Supply Connectors

2.2.1 DIN M24/8 Power Supply Connector

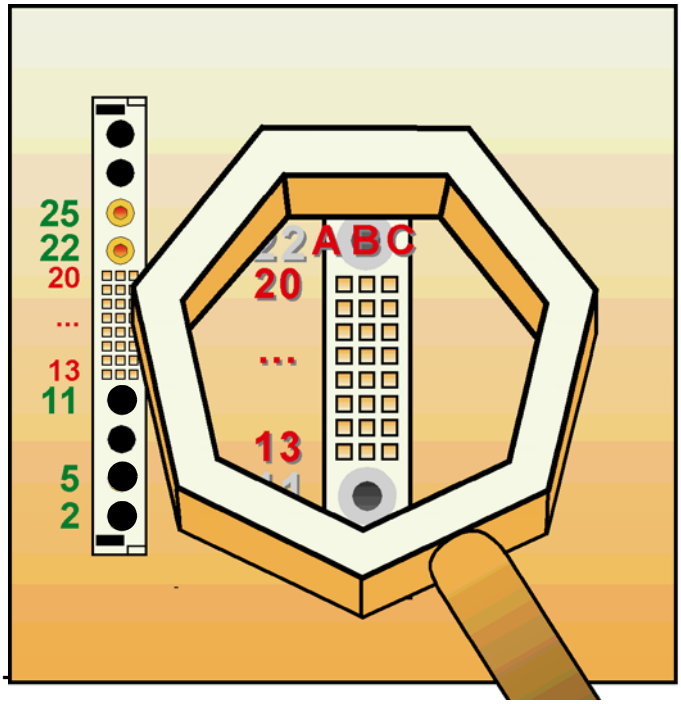


Figure 2: Orientation of the DIN M24/8 Power Supply Connector

The AC power input is via the front panel connector. The V_1 ... V_3 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.

PIN	FUNCTION	PIN	FUNCTION
2	NC	B.17	+3.3VL
5	NC	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	0VF	C.15	NC
A.17	+5VF	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 AC Input Power Connector

This connector is available for applications requiring input power from the front of the chassis. This is a Phoenix, 3-contact connector (GMSTB 2,5/ 3-GF-7,62). This connector is not designed for “hot-plugging”. The following figure and table provide pinout information.

Figure 3: Front Panel AC Input Power Connector

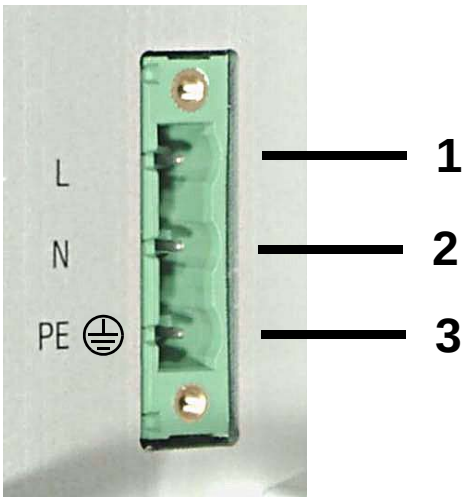


Table 4-3: Pinout of Front Panel Connector

PIN	SIGNAL
1	L
2	N
3	PE

2.2.3 Line Input Connector

This connector is the complementary connector for the application side for connecting to this power supply and is delivered with the power supply. This is a Phoenix, 3-contact plug type connector (GMSTB 2,5/ 3-STF-7,62). The following figure and table provide pinout information.

Figure 4: Line Input Connector

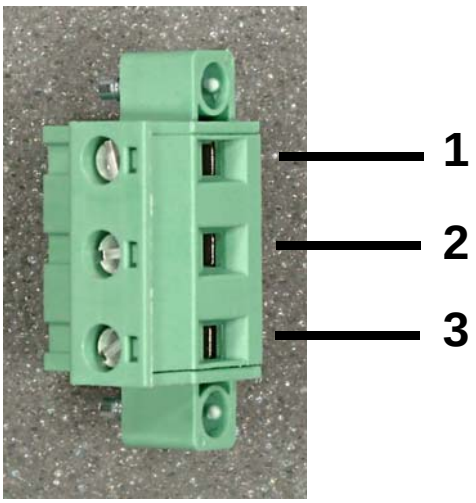


Table 4-4: Pinout of Line Input Connector

PIN	SIGNAL
1	L
2	N
3	PE

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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.

2.4 Electrical Specifications

Input

Input voltage ranges	115/230 VAC, 50/60 Hz, automatic switching ranges: 90 … 138 VAC or 184 ... 264 VAC
Efficiency	> 80 % (typical)
Inrush current limitation	≤ 25 A_{peak} cold ≤ 35 A_{peak} warm
Fuse	3.15 AT (internal, not user serviceable)
Hold-up time	115 V: > 30 ms at 100 % load 230 V: > 35 ms at 100 % load

Output

Output power V_1 (5.1 V)	voltage: 5.1 V, +5/-3% (including ripple and noise) current: min 0.0 A; nominal 8.0 A; peak 12 A for 100 ms
Output power V_2 (3.3 V)	voltage: 3.3 V, +5/-3% (including ripple and noise) current: min 0.0 A; nominal 8.0 A; peak 12 A for 100 ms
Output power V_3 (12 V)	voltage: 12 V, +8/-7% (including ripple and noise) current: min 0.0 A; nominal 0.15 A; peak 0.2 A
Ripple	V_1, V_2: < 50 mV_{pp} V_3: < 200 mV_{pp}
Total output loads	min 0 W; max 75 W for all outputs
Status indication	green LEDs for V_1, V_2
Rise-delay time	< 1 s at 115/230 VAC
Start-up time	≤ 15 ms

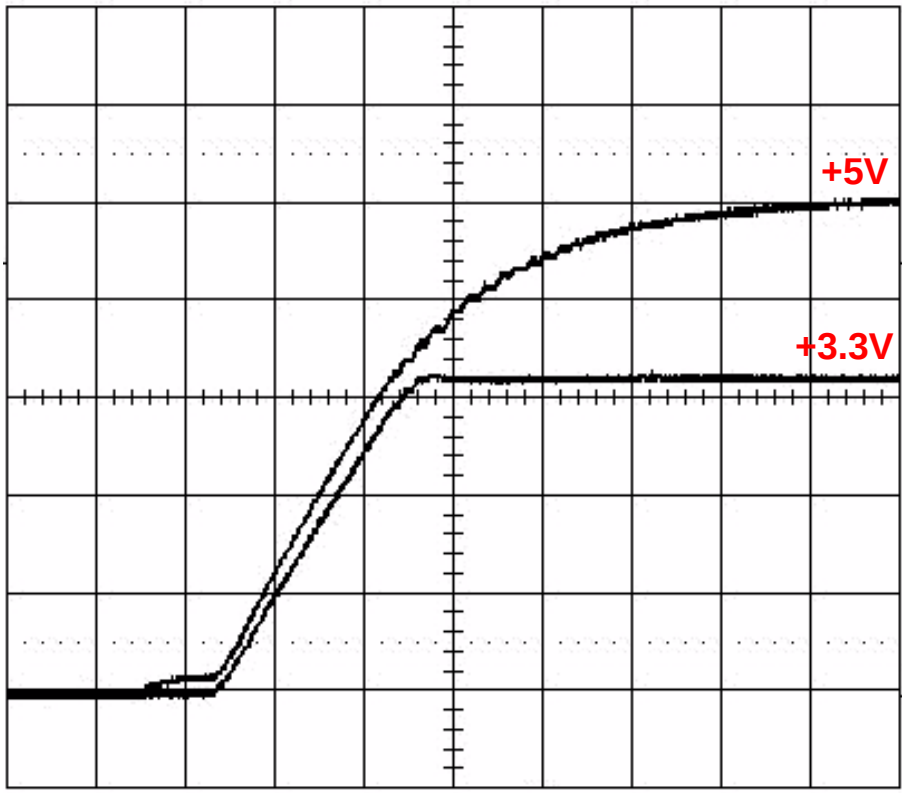
Regulation

Line regulation	< 0.2 % for V_1, V_2 at a load of 8.0 A each
Load regulation	< 0.5 % for V_1, V_2

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Output Power Diagrams

Figure 5: Signal when Switched On



voltage: 1V / div.

time: 0.5 ms / div.

Protection and Control

Overvoltage protection	125 % ± 5 % for V1, V2
Overload protection	Current limitation: >150 % I_{Rated} for V_1, V_2 Thermal shutdown with auto-restart for V_3 Output permanent short-circuit proof
Over temperature protection	Switches off if inside temperature becomes too high, restart with hysteresis

Environment

Operating ambient temperature	0 °C to + 55 °C (without derating) 0 °C to + 70 °C (with derating)
Derating	2.0 % / °K between 55 °C and 70 °C
Climatic humidity	93 % RH at 40 °C, non-condensing (acc. to IEC 60068-2-78)
Recommended airflow	≥ 0.5 m/s

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EMC

Interference suppression/immunity	EN 61000-6-2
Interference emission	EN 55022 Class A: interference transmission depends on assembly

Safety

IEC 60950-1
UL60950-1



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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