

CP3-SVE-P200AC



Positronic47 AC Power Supply for CompactPCI

- ▶ Wide range input
- ▶ 200 W - 4 outputs - flexible load distribution
- ▶ Operating at -40 °C/+70 °C, 50 °C without derating
- ▶ Redundant operation and current sharing
- ▶ UL/CSA 60950-1 and IEC/EN 62368-1

POSSIBILITIES START HERE

CP3-SVE-P200AC

Positronic47 AC Power Supply for 3U CompactPCI

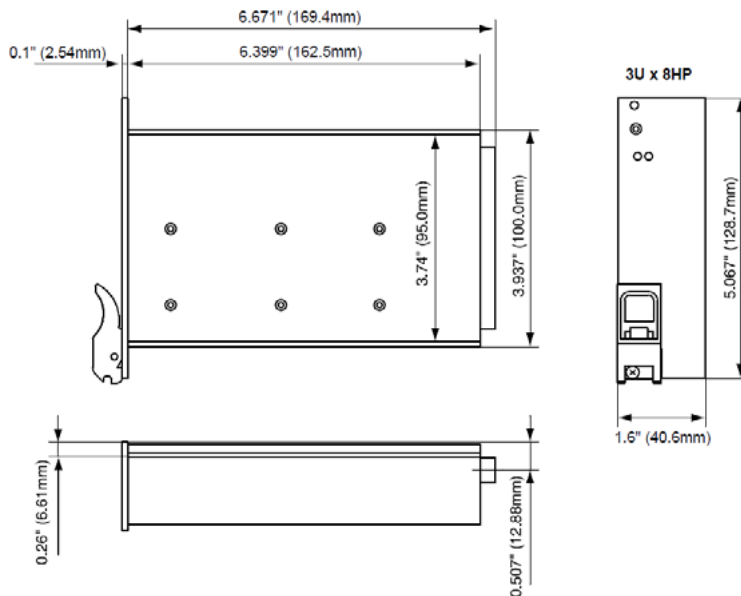
The product description provided with this data sheet is regarded as part of the general Kontron CPCI Power Supply manual ID 24139. For further information, in particular general details as well as disclaimer, safety and warranty statements, refer to the CPCI Power Supply Manual.

This power supply is designed for use with standard CPCI systems as well for integration in electronic or electrical enclosures, e.g. Kontron's 19" racks.

▶ TECHNICAL INFORMATION

FORM FACTOR	3U
FRONT PANEL SIZE	40.6 mm x 128.7 mm
MECHANICS	19" rack
PLUG-IN COMPATIBILITY	yes
POWER SUPPLY CONNECTOR	Positronic 47-pin connector
INPUT VOLTAGE	90 V .. 264 V AC, 230 V nominal
INPUT FREQUENCY	47 ... 63 Hz
VOLTAGE SWITCHING	Continuous input range
OUTPUT VOLTAGES / CURRENTS	V1 = +5 V at 40 A V2 = +3.3 V at 40 A V3 = +12 V at 5.5 A V4 = -12 V at 2 A
OUTPUT POWER	200 W with 250 LFM forced-air cooling 250 W with 400 LFM forced-air cooling
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

▶ DIMENSIONS

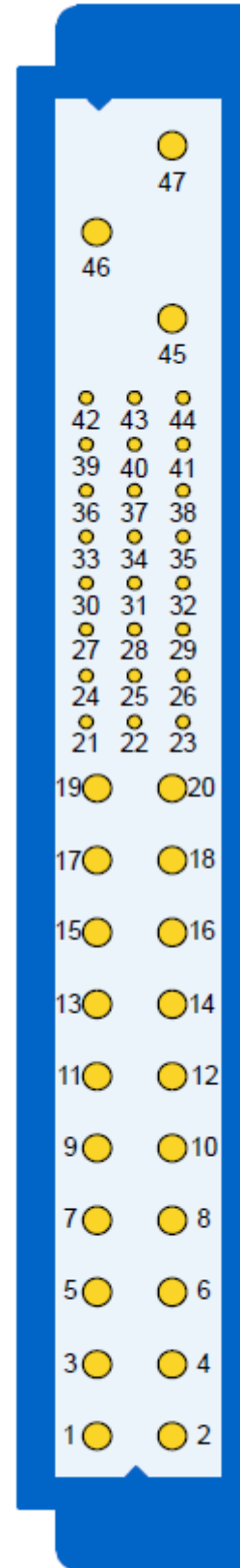


▶ POWER SUPPLY CONNECTOR

The V input voltage to the power supply unit and the V1 ... V4 output voltages from the power supply unit to the backplane 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.

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



// Orientation of the Positronic P-47 Power Supply Connector

▶ 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.

▶ ELECTRICAL SPECIFICATION

INPUT

INPUT VOLTAGE - AC	90 .. 264 VAC continuous input range
INPUT FREQUENCY	47 .. 63 Hz
HOLD-UP TIME	20 ms
INPUT PROTECTION	Non-user serviceable, internally-located input line fuse
PEAK INRUSH CURRENT	15 A Inrush surge current internally limited by thermistor and electronic switch
OPERATING FREQUENCY	125 .. 145 kHz Switching frequency of main output transformer

OUTPUT

EFFICIENCY	80 % at full rated load, 115 VAC
MINIMUM LOAD; V1, V2, V3	required to maintain regulation with no load on V4: NONE
MINIMUM LOAD, V3	required to maintain regulation on V4: 75 % of V4 Load
RIPPLE AND NOISE	At full load, 20 MHz bandwidth: See Regulation
OUTPUT POWER	200 W at 250 LFM forced-air cooling 250 W at 400 LFM forced-air cooling
OVERSHOOT	No overshooting of output voltage at turn-on/off
REGULATION	See Regulation table. Total regulation includes: line changes over the specified input range, changes in load starting at 50 % load and changing to 100 % load.
TURN-ON DELAY	120 ms required for initial output voltage stabilization

REGULATION

ADJUSTMENT RANGE	N/A
OUTPUT CURRENT	V1: 40 A, V2: 40 A, V3: 5.5 A, V4: 2 A
LINE REGULATION	+/-10 mV for V1, V2, V3, V4
LOAD REGULATION	V1, V2: +/-10 mV V3: +/-30 mV V4: -380 mV (droop characteristic for passive current sharing)
OUTPUT VOLTAGE NOISE	V1: typ. 45 mV _{pp} , max 60 mV _{pp} V2: typ. 40 mV _{pp} , max. 60 mV _{pp} V3 and V4: max. 120 mV _{pp}

► ELECTRICAL SPECIFICATION

PROTECTION AND CONTROL

OVERVOLTAGE PROTECTION	120 .. 130 % _{Vnom} latch style overvoltage protection
OVERLOAD PROTECTION	Fully protected against output overload and short circuit. Automatic recovery upon removal of overload condition.
OVER TEMPERATURE PROTECTION	System shutdown due to excessive internal temperature, automatic reset.
POWER FAIL (FAL#)	TTL compatible signal, open collector active low signal. Indicates any output below 90 % and/or a low input <85 VAC.
CURRENT SHARE	10 % 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.
SENSE LINES	Available for V1, V2, V3. Compensation of voltage drops across the connector contacts and if necessary, across the load lines
INHIBIT (INH#)	TTL-compatible signal inhibited with GND or TTL "0"
ENABLE (EN#)	Contact closure to external ground to start unit. On shortest pin (last make, first break)
OVERTEMPERATURE WARNING (DEG#)	Provides warning when power supply temperature exceeds rating. TTL-compatible open
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

RELIABILITY

MTBF	According to MIL-HDBK-217F, notice 2: 279.000 hrs at Ground benign 40 °C 57.000 hrs at Ground fixed 40 °C 31.000 hrs at Ground fixed 70 °C 33.000 hrs at Ground mobile 50 °C
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EMC / EMI

ELECTRIC STRENGTH TEST	EN 62911 and IEC/EN 62368-1; pretested with >= 4.3 kVDC Input to Output
ELECTROMAGNETIC EMISSIONS	EN55011:2016/A1:2017, Group1, Class A, conducted and radiated
ELECTROSTATIC DISCHARGE	8 kV per IEC/EN61000-4-2, level 4, contact discharge
ELECTROMAGNETIC FIELD	10 V/m per IEC/EN61000-4-3, level 3
EFT/BURST	+/-2 kV per IEC/EN61000-4-4, level 3
INPUT SURGE	1 kV Line to Line, 2kV Line to Ground, per IEC/EN61000-4-5, level 3
CONDUCTED DISTURBANCE	10 V per IEC/EN61000-4-6, level 3
INSULATION RESISTANCE	>300 MΩ at 500 VDC; Input to (Case+Output) and Output to Case

SAFETY

	UL 60950-1, CSA 60950-1, IEC 62368-1, EN 62368-1
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ENVIRONMENT

ALTITUDE	10k A SL Ft. operating 40k A SL Ft. non-operating
OPERATING TEMPERATURE	At 100 % load: -40 °C .. +50 °C with 250 LFM forced-air cooling At 50 % load: -40 °C .. +70 °C, derate linearly above 50 °C by 2.5 % per °C
STORAGE TEMPERATURE	-40 °C .. +85 °C
RELATIVE HUMIDITY	IEC/EN 60068-2-78, 5 .. 93 % non-condensing
SHOCK	IEC/EN 60068-2-27, 20 G Peak acceleration
VIBRATION	IEC/EN 60068-2-35, 4.9 GRMS Random vibration, 20 Hz to 500 Hz, 3 axis

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.

NUCLEAR AND MEDICAL APPLICATIONS

These products are not designed or intended for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems.

TECHNICAL REVISIONS

The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.

MANUFACTURER

Bel Fuse Inc., Jersey City, NJ 07302, USA.

▶ ORDERING INFORMATION

ARTICLE	DESCRIPTION
CP3-SVE-P200AC-48V	CompactPCI Power Supply, 3U, 200 W, 230 VAC, 3.3 V/40 A, 5V/40 A, +12V/5.5 A, -12 V/1.5 A. With Positronic47 connector. Pinout as in PICMG 2.11. 8 HP width, frontpanel with status LED. Operating temperature -40 °C/+70 °C (50 °C without derating)
CP3-SVE-P200AC-CC	With Conformal Coating. Minimum order quantity 10

▶ GLOBAL HEADQUARTERS

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