

JASPER ELECTRONICS

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CompactPCI[®]

200 Watt - 3U 4HP, 3U 6HP

Power Supplies

(PICMG[®] COMPLIANT*)

FEATURES:

- ✓ **Standard PCI Output Voltages: 5.0V, 3.3V, ±12.0V, with Variable Currents.**
- ✓ **Hot Swap, N+1 Redundant with Internal OR-ing Diodes.**
- ✓ **DC 36-72V Input.**
- ✓ **Current Sharing on 5.0V and 3.3V Outputs.**
- ✓ **Standard 47 Pin Connector Configuration.**
- ✓ **Custom Configurations To Meet User Specified Requirements.**
- ✓ **Excellent Performance, Competitively Priced.**
- ✓ **2 Year Warranty.**
- ✓ **Complies With All Requirements Of PICMG Power Interface Specifications.**
- ✓ **cULus, TUV Approved.**



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Cat.# 02127-004 B



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GENERAL PRODUCT SPECIFICATIONS:

-INPUT-

Voltage/Current	DC 36-72V, 6.5A max.
Fusing	10.0A Internal line fuse provided, non-user serviceable.
Inrush Current	Soft start circuitry provided, 15Apk @ DC 70V.
EMI Filtering	Meets IFCC Level A, and EN 55022 Level A.
Efficiency	65% typical at DC 48V, full load.
Redundant/Hot Swap	Full power N+1 redundant, hot swap capable.

-OUTPUTS-

Voltage/Current (V/A)	V1	V2	V3	V4
Model: HDPCI204-1022	5.0/30,	3.3/20,	+12/5.0,	-12/1.0.
Total loading on all outputs not to exceed 200W.				
Combined load on V1 + V2 not to exceed 150W.				
Line Regulation	At the Sense Point, Over Full Input Range $\leq \pm 1\%$, sense leads connected.			
Load Regulation	Output voltage droops with increasing load.			
Minimum Loading	5% minimum on V1.			
Stability	Output drift $\leq \pm 0.2\%$ after 20 minute warm-up.			
Temp. Coefficient	$\leq \pm 0.02\%/^{\circ}\text{C}$, 0° - 50°C , after 20 minute warm-up.			
Dynamic Response	Less than 3% deviation with a 25% load change at 1A/ μsec . Output returns to within 1% in less than 300 μsec .			
Ripple and Noise (PARD)	For all outputs, 50mV max or 1% peak-to-peak nominal, which ever is greater, DC to 20MHz bandwidth with a coaxial probe and 0.1 $\mu\text{F}/22\mu\text{F}$ capacitors at the output terminals.			
Current Sharing/ Parallel N+1 Operation	V1, V2, V3 Outputs. Droop method standard. Optional single wire connection for $\pm 10\%$ current sharing between any number of units in development. Consult factory for availability.			
Remote Sense	V1, V2, V3 outputs compensate for up to 0.25V total line drop in the load cables. Outputs are internally sensed if leads are opened.			
Over Current/Short Circuit Protection	Current limit on all outputs. Automatic recovery when overload is removed.			
Over Temperature Protection	Internal temperature sensing. Causes all outputs to shut down. Automatic recovery.			
Over/Under Shoot	None at turn-on or turn-off.			
Under Voltage Warning	Any output dropping below 10% of nominal triggers the power fail warning signal.			
Over Voltage Protection	Non-crowbar type. Any output that exceeds $25\% \pm 10\%$ of nominal V_{out} will cause all outputs to latch off. Remote inhibit, enable or input recycle required to reset.			

-SIGNALS, INDICATORS and CONTROLS-

Remote Enable	Enabled by closed circuit or TTL logic 0. Disabled by open circuit or TTL logic 1.
Remote Inhibit	Enabled by open circuit or TTL logic 1. Disabled by closed circuit or TTL logic 0.

Power Fail Warning

Loss of DC input causes a TTL compatible signal to go low. PF signal also triggered by an under voltage condition on any output.

LED Indicator

Dual LEDs. Green indicates input power ON and outputs within regulation. Off or Amber indicates input and/or output power fault.

-OPERATING ENVIRONMENT-

Operating Temperature	0° - 50°C ambient at full load, with specified airflow.
Cooling, 3U 4HP	A minimum of 600 lfm (800 cfm) direct forward airflow required to achieve full rated power and specified MTBF. Consult factory for derating guidelines with reduced or reversed airflow.
Cooling, 3U 6HP	A minimum of 400 lfm direct forward airflow required with the optional external heatsink.
Relative Humidity	Up to 90% RH, non-condensing.
Operational Vibration	0.75G peak, 5 - 500Hz along three orthogonal axis.
Storage Temperature	-40° to 85°C .
Altitude	Operating to 10,000 ft; Storage to 30,000 ft.
MTBF	Designed for 100,000 hrs at 25°C .

-INTERCONNECT-

I/O Connector. Refer to JE Outline Configuration Drawing #02638-000 or the chart in this catalog for pin function identification-
47 Circuit

Positronic Ind. P/N PCIH47M400A1.
Mates with PI P/N PCIH47F300A1.

Note: Use of the specified mating connector is required to insure proper "make/break" sequential contact sequence.

-MECHANICAL-

Outline	3U x 4HP front panel. Refer to JE Outline Dwg #02638-000 or the Mechanical Outline in this catalog. Complies with pending PICMG CompactPCI PSU specifications.
Retaining Latches	Supplied with a single Rittal #3686.135 Type VII (Telecom) Lower Latch. Other manufacturers and types available. Consult factory.
Guide Rails	Supplied with .260[6.61] offset guide rails for use with Rittal 3687.832 (or equivalent) PSU guides.
Front Panel Overlay	Supplied with Lexan overlay and JE Logo. May be deleted, or supplied with customer specified logo or other information. Consult factory.
Weight	Approx: 1.8 lbs / 1.06 kgs.

-SAFETY-

Recognized to U.S. and Canadian Bi-National Standard CSA C22.2 No. 60950 / UL 60950, Third (3rd) Edition (cULus);
TUV approved to EN60950:2000.



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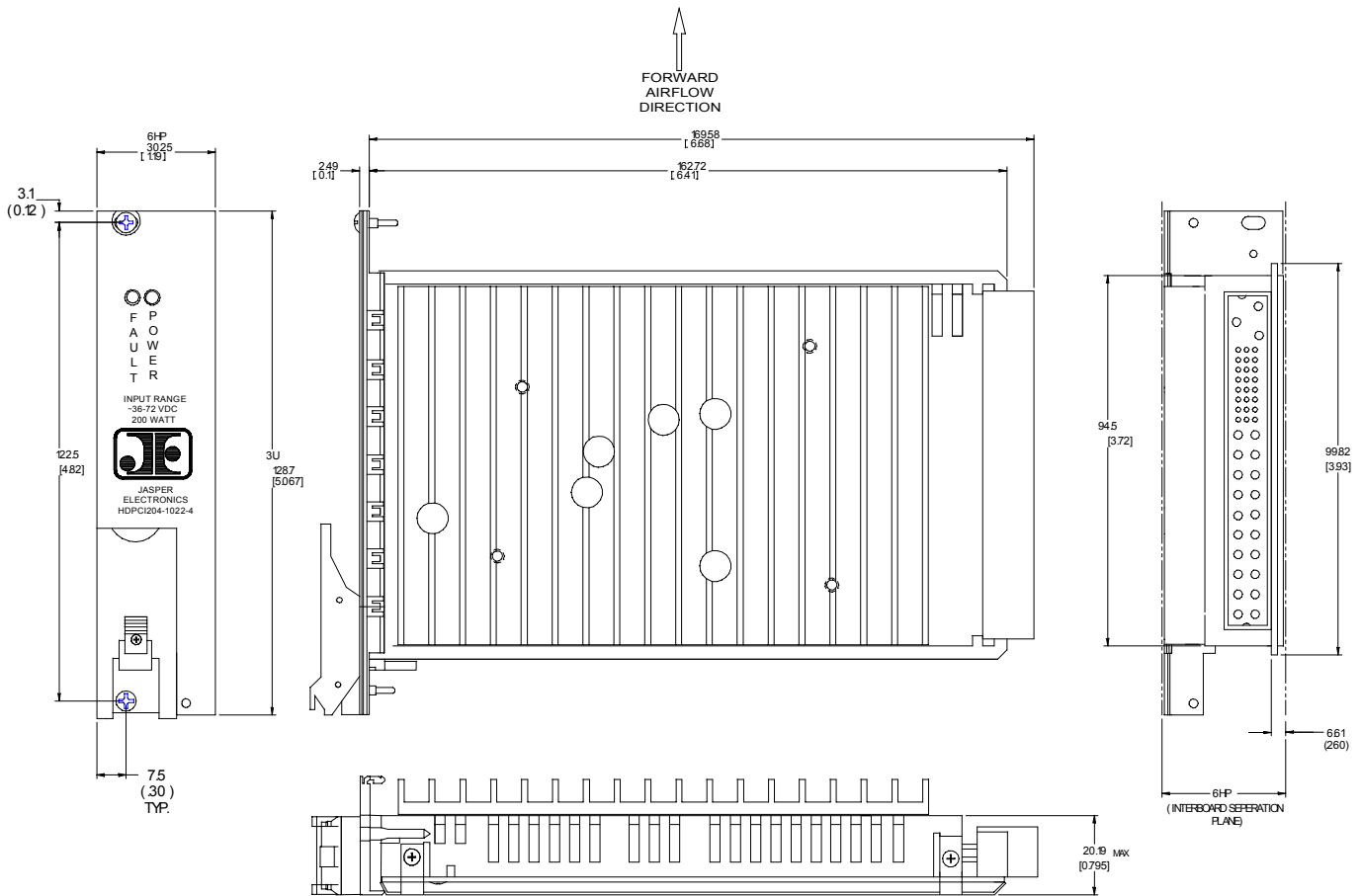
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47 Pin I/O Connector Functions:

PIN#	SEQ ⁽¹⁾	FUNCTION		PIN#	SEQ ⁽¹⁾	FUNCTION
01-04	2	+5.0V	V1 Output.	34	2	S-RTN Sense Return for V1, V2, V3.
05-12	2	GND	V1+V2 Return.	35	3	ISHR-1 +5.0V (V1) Current Share (opt. C only).
13-18	2	+3.3V	V2 Output.	36	2	+S3 +12.0V (V3) Remote Sense.
19	2	GND	V3 Return.	37	2	N/C No Connection (Reserved).
20	2	+12.0V	V3 Output.	38	2	DEG Thermal Degrade Signal.
21	2	-12.0V	V4 Output.	39	2	R/INH Remote Inhibit. Close circuit to GND.
22	2	RTN	Signal return.	40	2	N/C No Connection (Reserved).
23	2	N/C	No Connection (Reserved).	41	3	ISHR-2 +3.3V (V2) Current Share (opt. C only).
24	2	GND	V4 Return.	42	2	PF Power Fail Signal.
25,26	2	N/C	No Connection (Reserved).	43	2	N/C No Connection (Reserved).
27	3	R/EN	Remote Enable. Close circuit to GND.	44	3	ISHR-3 +12.0V (V3) Current Share (opt. C only).
28,29	2	N/C	No Connection (Reserved).	45	1	PE Protective Earth (chassis) Ground.
30	2	+S1	+5.0V (V1) Remote Sense.	46	2	Input Pwr DPCI: +DC Power Input.
31,32	2	N/C	No Connection (Reserved).	47	2	Input Pwr DPCI: -DC Power Input.
33	2	+S2	+3.3V (V2) Remote Sense.			

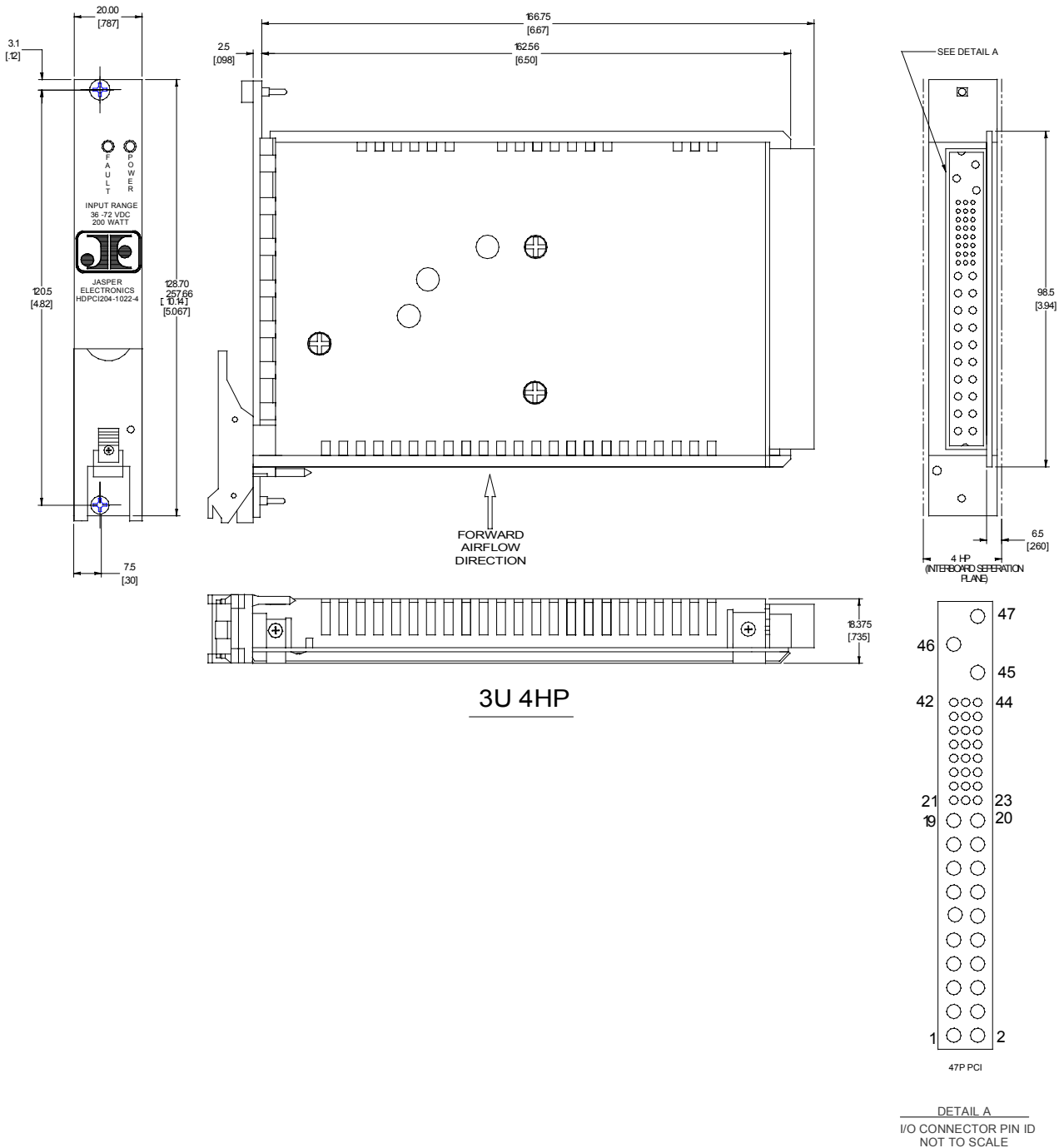
(1) Contact mating sequence. 1= First to make/Last to break.

Mechanical Outline
 Option "A" 3U 6HP Configuration
 (Dimensions in millimeters [inches])
 (Not to Scale)



3U 6HP

Mechanical Outline
 Standard 3U 4HP Configuration
 (Dimensions in millimeters [inches])
 (Not to Scale)



-LIMITED WARRANTY POLICY-

All Jasper Electronics (JE) standard model power supplies and products are guaranteed to be free of defects in workmanship and materials for a minimum of two (2) years from the date of original shipment, when operated within specification. This warranty applies only to defects that result in a failure to perform to published specifications. Non-standard (custom) power supplies and products may be warranted on an individual basis. The unused portion of this warranty is fully transferable with the original equipment in which the power supply is installed.

ORDERING INFORMATION:

A 3 to 6-character option code is required following the base model description to define the desired model configuration. Codes added in the following sequence, 1 from each category as required:

HD	PCI204-1022-	(1)	-(2)	(3)	(4)	(5)	(6)	(7)
Size/Input: H – 4HP ⁽¹⁾ D – DC	Base Model w/ V _{out} Code. 204 – 200W	Connector Type	Current Share	Latch Type	Front Overlay Type	External Heatsink	-MXXX User Specified Config.	RoHS Compliant Model

⁽¹⁾H also required for 6HP option "A" configuraton.

- * Configuration Options -

Option:

Code:

- (1) Connector Type4 = 47 pin (PICMG standard);
- (2) Current Sharing ...Blank = Standard configuration. Droop method (no code letter required);
C = Optional single wire I-SHR for V1, V2, V3. (New: Consult factory for availability).
- (3) Latch Type S = Standard Type VII (Telecom);
O = Optional Type IV;
N = None provided.
- (4) Overlay S = Standard (JE Logo, model designation, etc);
B = Blank (No logo, model designation, etc);
N = No overlay provided;
*M = Custom – User specified. See (6).
- (5) External Heatsink..... A = Optional extruded aluminum, finned heatsink is secured to the cover for improved cooling in confined or high ambient environments. Increases overall width from 4HP to 6HP. 6HP front panel installed;
- (6) Custom ConfigurationM = Modified, followed by a factory assigned 4-digit number to identify a user specified configuration. Such models may include special or non-standard features and/or options, or be in a configuration differing sufficiently from the design of the approved similar standard model from which it is derived to require re-evaluation of all or part of the design to insure continuing compliance with all safety requirements. Option codes 2,3,4,5 may not be present in the model description as these requirements are generally included in the user specification documentation on file with the factory. Consult the factory for exact requirements.
(May incur additional cost. Consult factory.)
- (7) RoHS 6 CompliantG = Jasper products that are fully compliant with the requirements of Directive 2002/95/EC Restrictions of Hazardous Substances (RoHS) are identified with the letter code "G" either included in or adjacent to the model description on the unit labels and related documents (sales orders, etc). All materials, processes and packaging used in the assembly and shipping of this product comply.
(New Option: Consult factory for availability.)

Examples: HDPCI204-1022-4-SSG (4HP)
 HDPCI204-1022-4-SSAG (6HP)
 HDPCI204-1022-4-M2297G (Custom)

All statements and technical information contained herein are believed by JE to be reliable as of the publication date of this document, but the accuracy or completeness is not guaranteed, and JE reserves the right to change specifications without prior notification. However, every reasonable effort will be made by JE to inform users of JE products of changes to design form, fit or function that may affect the user's applications. JE manufactures a quality product, equal to any available in the marketplace; however, these products are intended to be used in accordance with the specifications described in this catalog. Any use or application that deviates from the stated operating specifications is not recommended and may be unsafe.

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