**JASPER ELECTRONICS**

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CompactPCI®

250 Watt – 3U 8HP

Power Supplies

(PICMG® COMPLIANT*)

FEATURES:

- ✓ **Standard PCI Output Voltages: 5.0V, 3.3V, \pm 12.0V, with Variable Currents.**
- ✓ **Hot Swap, N+1 Redundant with Internal OR-ing Diodes.**
- ✓ **.99 Power Factor Corrected AC 90-264V Input, or DC 36-72V.**
- ✓ **Current Sharing on 5.0V, 3.3V and +12.0V 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.**
- ✓ **Fully Compliant with the EU RoHS Directive.****
- ✓ **cCSAus, NEMKO, CE Marked.**



*CompactPCI® and PICMG® are registered trademarks of the PCI Industrial Computer Manufacturers Group.

**See Ordering Information.

GENERAL PRODUCT SPECIFICATIONS:

-INPUT-

Voltage/Current	AC 90-264V, 3.6A max, 47-63Hz, 1 Phase; or, DC 36-72, 6.55A@48V nom (9.0A max).
Fusing	Internal line fuse provided, non-user serviceable. AC- 4.0A, 250V; DC- 10.0A.
Power Factor	0.99 line PFC typical at AC 115V, full load.
Inrush Current	Thermistor soft start. ~25°C AC cold start current 15Apk @ AC 115V; 30Apk @ AC 230V.
Transient Protection	MOV. Withstands transients as specified by IEEE C62.41 3KV (differential and common mode).
EMI Filtering	Meets IFCC Level A, and EN 55022 Level A (conducted).
Efficiency	78% typical at AC 115V, full load.
Redundant/Hot Swap	Full power N+1 redundant, hot swap capable.

-OUTPUTS-

Voltage/Current (V/A)	V1	V2	V3	V4
Model: PCI254-1022-4	5.0/33	3.3/33	+12/6.0	-12/1.0
PCI254-1022-4-P	5.0/33	3.3/33	+12/6.0	-12/1.0
Total loading on all outputs not to exceed 250W.				
Maximum combined load of V1+V2 not to exceed 55.0A				
Model: DPCI254-1022-4	5.0/33	3.3/33	+12/6.0	-12/1.0
DPCI254-1022-4-P	5.0/33	3.3/33	+12/6.0	-12/1.0
Total loading on all outputs not to exceed 250W.				
Maximum combined load of V1+V2 not to exceed 55.0A.				
Minimum Loading	5% minimum on V1 for standard models; none required for option "P" models.			
Line Regulation	At the Sense Point, Over Full Input Range $\leq \pm 1\%$, sense leads connected.			
Load Regulation	Output voltage droops with increasing load.			
Stability	Output drift $\leq \pm 0.2\%$ after 20 minute warm-up.			
Temp. Coefficient	$\leq \pm 0.02\%/^{\circ}\text{C}$, $0^{\circ} - 50^{\circ}\text{C}$, 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, whichever is greater, DC to 20MHz bandwidth with a coaxial probe and 0.1 μF /22 μF capacitors at the output terminals.			
Current Sharing/ Parallel N+1 Operation	V1, V2, V3 Outputs. Single wire connection for $\pm 10\%$ current sharing between any number of units. Mixing standard and opt. "P" models is not recommended.			
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.			
Hold-Up Time	Outputs remain in regulation >15msec minimum following loss of AC power at low line, full load.			
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 Voltage Protection	Non-crowbar type. Any output that exceeds 25% $\pm 10\%$ of nominal Vout will cause all outputs to latch off. Remote inhibit, enable or input recycle required to reset.			

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.

-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 input AC causes a TTL compatible signal to go low >4msec prior to V1 or V2 output dropping out of regulation. At AC turn-on, signal stays low until outputs are in regulation. AC and DC input: PF signal triggered by an under voltage condition on V1 or V2 outputs.
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	$0^{\circ} - 50^{\circ}\text{C}$ ambient at full load, with specified airflow.
Cooling	A minimum of 20 cfm / 600 lfm direct forward airflow required to achieve full rated power and specified MTBF. Consult factory for derating guidelines with reduced or reversed airflow.
Relative Humidity	Up to 90% RH, non-condensing.
Operational Vibration	2.0G 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 150,000 hrs at 25°C .

-INTERCONNECT-

I/O Connectors. Request JE Outline Configuration Drawing #02102-000 (AC), 02600-000 (DC), or refer to the chart in this catalog for pin function identification-

47 Circuit	Positronic Ind. P/N PCIH47M400A1. Mates with PI P/N PCIH47F300A1.
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Note: Use of the specified mating connector is required to insure proper "make/break" sequential contact sequence.

-MECHANICAL-

Outline	3U x 8HP front panel. Refer to JE Outline Dwg #02102-000 (AC), 02600-000 (DC) or the Mechanical Outline in this catalog. Complies with all current PICMG® CompactPCI 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 0.260[6.61mm] 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-

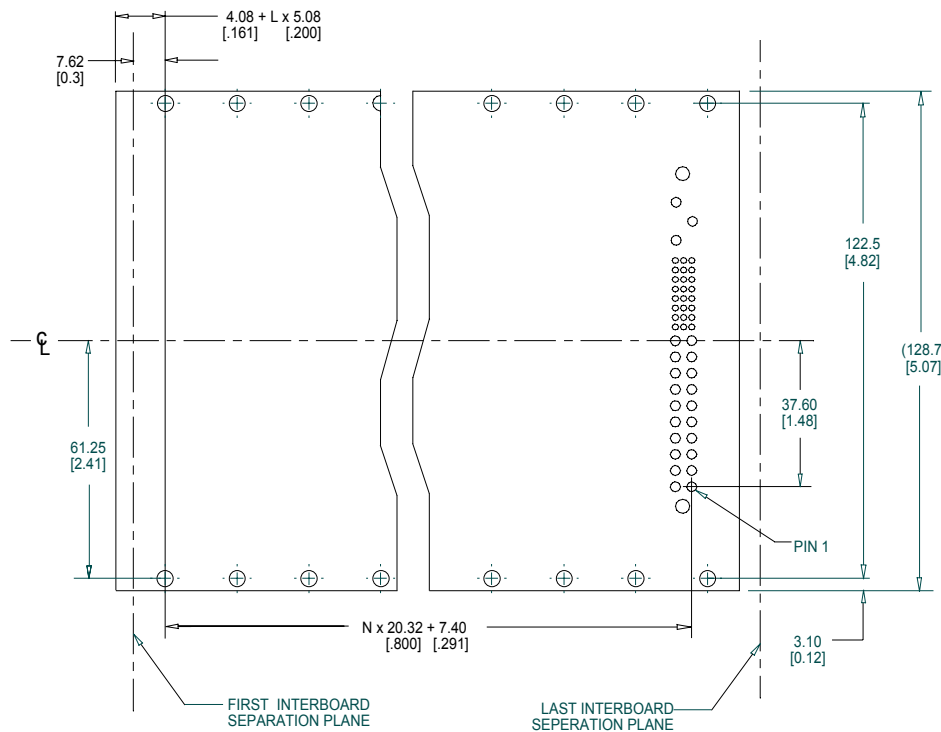
Recognized to Canadian and U.S. Bi-National Standard CSA C22.2 No. 60950-1-03 / UL 60950-1 (2002) (cCSAus Mark); NEMKO certified to EN60950 Ed. 1 (2001) (N Mark). CE Marked.

47 Pin I/O Connector Functions:

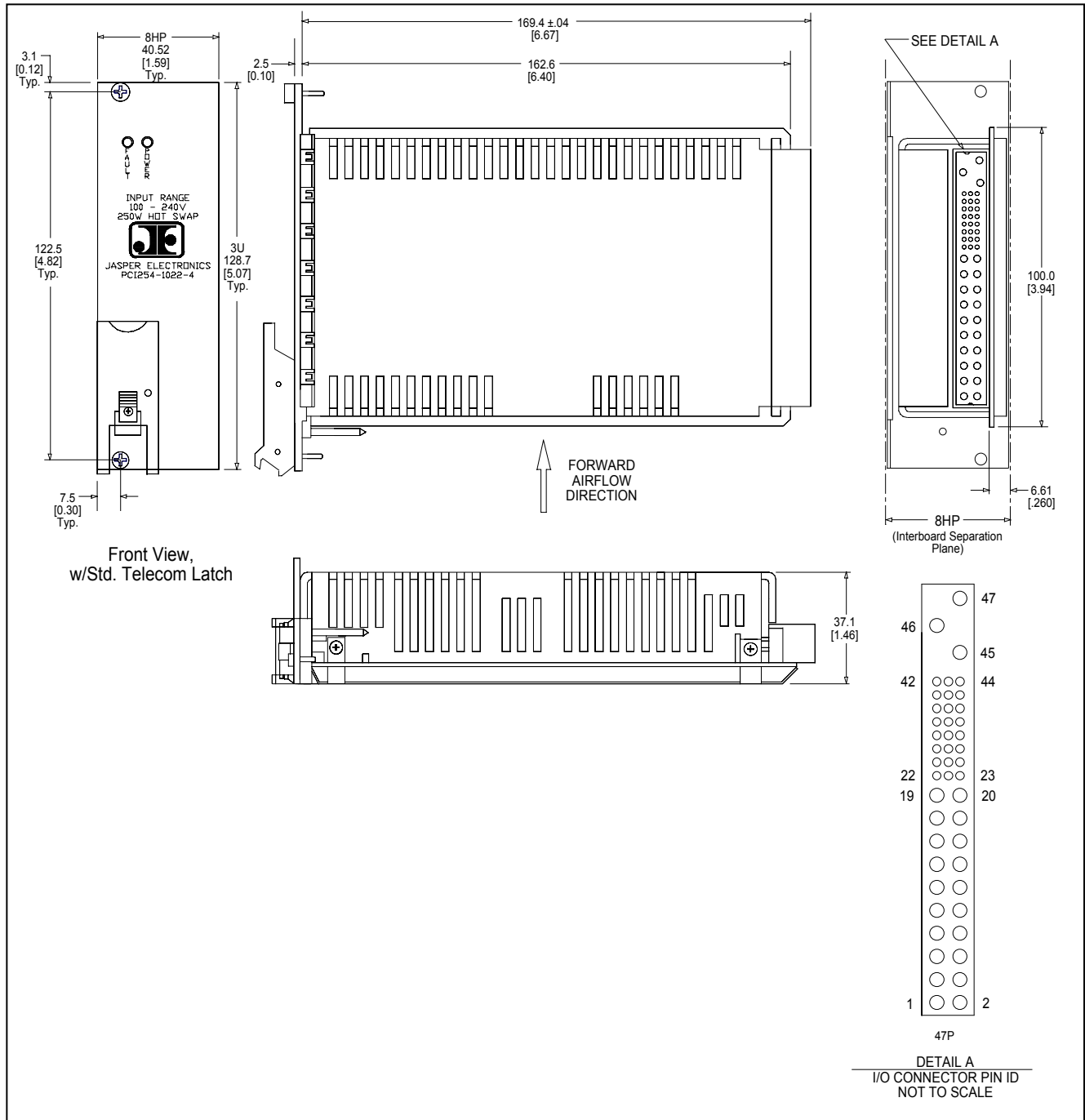
PIN#	SEQ ⁽¹⁾	FUNCTION	PIN#	SEQ ⁽¹⁾	FUNCTION
01-04	2	+5.0V V1 Output.	33	2	+S2 +3.3V (V2) Remote Sense.
05-12	2	GND V1+V2 Return.	34	2	S-RTN Sense Return for V1, V2, V3.
13-18	2	+3.3V V2 Output.	35	3	ISHR-1 +5.0V (V1) Current Share.
19	2	GND V3 Return.	36	2	+S3 +12.0V (V3) Remote Sense.
20	2	+12.0V V3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

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

Backplane Connector Locations, Viewed from the Front of the Enclosure
(Not to Scale)



Mechanical Outline
(Dimensions in millimeters [inches])



-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 4 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 required category:

*	PCI254-1022-	(1)	-(2)	(3)	(4)	(5)	(6)
*Input: AC – Blank DC – D	Base Model w/ V _{out} Code. 254 – 250W, 4 Output	Connector Type	Internal V1 Preload	Latch Type	Overlay Type	-MXXXX User Specified Config.	RoHS Compliant Model

- * Configuration Options -Option:Code:

- (1) Connector Type..... 4 = 47 pin (PICMG standard);
- (2) Internal Preload... Blank = Standard configuration. Refer to minimum external preload requirements in the general specifications.
P = Optional internal preload on V1.
- (3) Latch Type S = Standard Telecom Type VII;
O = Optional Type IV;
N = None provided.
- (4) Overlay S = Standard (JE Logo, model designation, etc);
B = Blank overlay (No logo, model designation, etc);
N = No overlay provided;
NN = No overlay; in addition, the front panel including the EMI strip is also deleted.
For user provided panel or custom enclosure applications. Note: Removal of the panel does not violate safety enclosure requirements or integrity. Contact the factory for panel fastener type, max penetration depth and location information.
M = Custom overlay– user specified. May require a factory assigned custom model code. (- may incur additional cost. Consult factory.)
- (5) Custom Configuration M = 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 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 the factory.)
- (6) RoHS Compliant G = 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.
- Note:** non-RoHS compliant standard models only available until existing stock is depleted. User requests for non-RoHS or RoHS-5 (lead exception) versions may be available under the “-M” custom configuration option, at additional cost. Minimum order quantities may apply. Consult the factory.

Examples: PCI254-1022-4-PSS
DPCI254-1022-4-PNNG
DPCI254-1022-4-M5412 G

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.