

JASPER ELECTRONICS

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CompactPCI[®]

250 Watt – 3U 8HP

**110VDC Nominal Input Railway 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.**
- ✓ **DC 66-160V Wide Range Input for Railway Applications.**
- ✓ **Current Sharing on 5.0V, 3.3V and +12.0V Outputs.**
- ✓ **Standard 47 Pin Connector Configuration.**
- ✓ **Custom Configurations To Meet User Specified Requirements.**
- ✓ **Wide Operating Temperature Range -40 to +75 °C.**
- ✓ **Excellent Performance, Competitively Priced.**
- ✓ **EMI Meets EN55022 / FCC Class A**
- ✓ **1 Year Warranty.**
- ✓ **Complies With All Requirements Of PICMG Power Interface Specifications.**



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

PCI 3U 8HP 250W

GENERAL SPECIFICATIONS

-INPUT-

Voltage/Current	DC 66-160, 2.80A@110V nom.
Fusing	Internal line fuse provided, non-user serviceable.
Inrush Current	Thermistor soft start. ~25°C AC cold start current 10.5Apk @ DC 110V.
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.....	79% typical at DC 110V, full load.
Redundant/Hot Swap	Full power N+1 redundant, hot swap capable.

-OUTPUTS-

Voltage/Current (V/A)	V1	V2	V3	V4
Model: DPCI254-1022-4/110	5.0/33,	3.3/33,	+12/6.0,	-12/1.5.
	Total loading on all outputs not to exceed 250W. Combined load on V1 + V2 not to exceed 55.0A.			
Line Regulation	At the Sense Point, Over Full Input Range $\pm 1\%$, sense leads connected.			
Load Regulation	Output voltage droops with increasing load.			
Minimum Loading.....	5% minimum on V1.			
Stability	Output drift $\pm 0.2\%$ after 20 minute warm-up.			
Temp. Coefficient	Typical 2% / °C			
Dynamic Response	Less than 3% deviation with a 25% load change at 1A/ μ sec. Output returns to within 1% in less than 300 μ sec.			
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 μ F/22 μ F 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.			
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	-40° – +75°C ambient at full load, with specified airflow. Derates linearly to 60% at 75°C.
Cooling	A minimum of 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	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 150,000 hrs at 25°C.

-INTERCONNECT-

I/O Connectors. 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 8HP front panel. Refer to JE Outline Dwg #02638-000 or the Mechanical Outline in this catalog. Complies with all current 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: 0.61 kgs.

-SAFETY-

All Models.....	Pending.
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47 Pin I/O Connector Functions:

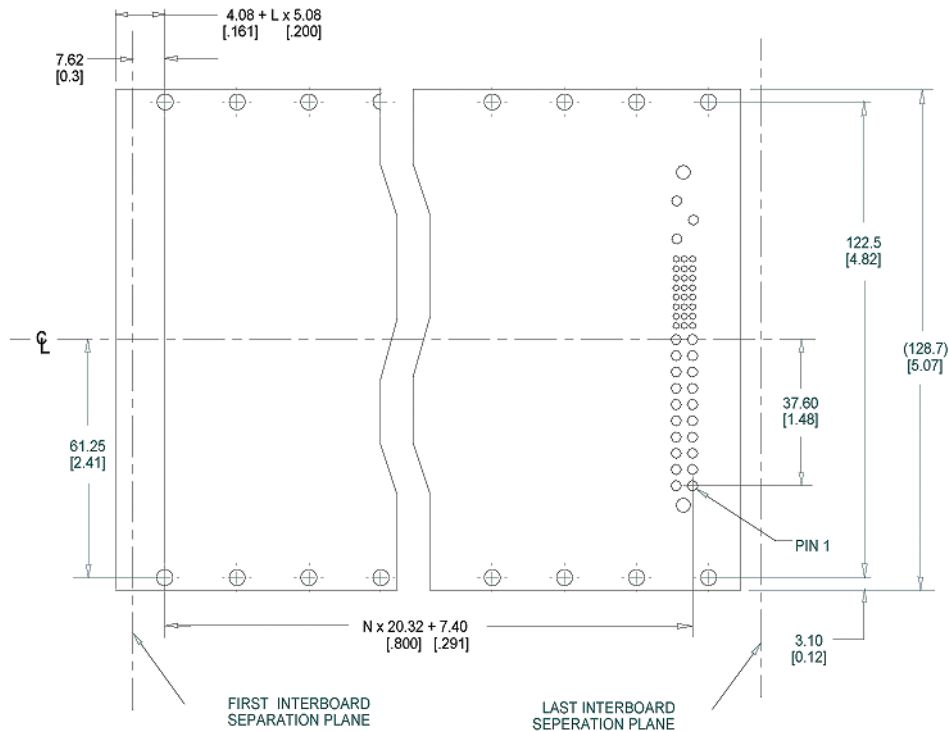
PIN#	SEQ ⁽¹⁾	FUNCTION
01-04	2	+5.0V V1 Output.
05-12	2	GND V1+V2 Return.
13-18	2	+3.3V V2 Output.
19	2	GND V3 Return.
20	2	+12.0V V3 Output.
21	2	-12.0V V4 Output.
22	2	RTN Signal Return.
23	2	N/C No Connection (Reserved).
24	2	GND V4 Return.
25,26	2	N/C No Connection (Reserved).
27	3	R/EN Remote Enable. Close circuit to GND.
28	2	N/C No Connection (Reserved).
29	2	V1-ADJ V1 Remote Voltage Adjust.
30	2	+S1 +5.0V (V1) Remote Sense.
31	2	N/C No Connection (Reserved).
32	2	V2-ADJ V2 Remote Voltage

PIN#	SEQ ⁽¹⁾	FUNCTION
33	2	+S2 +3.3V (V2) Remote Sense.
34	2	S-RTN Sense Return for V1, V2, V3.
35	3	ISHR-1 +5.0V (V1) Current Share.
36	2	+S3 +12.0V (V3) Remote Sense.
37	2	N/C No Connection (Reserved).
38	2	DEG Thermal Degrade Signal.
39	2	R/INH Remote Inhibit. Close circuit to GND.
40	2	N/C No Connection (Reserved).
41	3	ISHR-2 +3.3V (V2) Current Share.
42	2	PF Power Fail Signal.
43	2	N/C No Connection (Reserved).
44	3	ISHR-3 +12.0V (V3) Current Share.
45	1	PE Protective Earth (chassis) Ground.
46	2	Input Pwr PCI: Neutral (N) ACC Power Input
47	2	Input Pwr PCI: Line (L) AC Power Input.

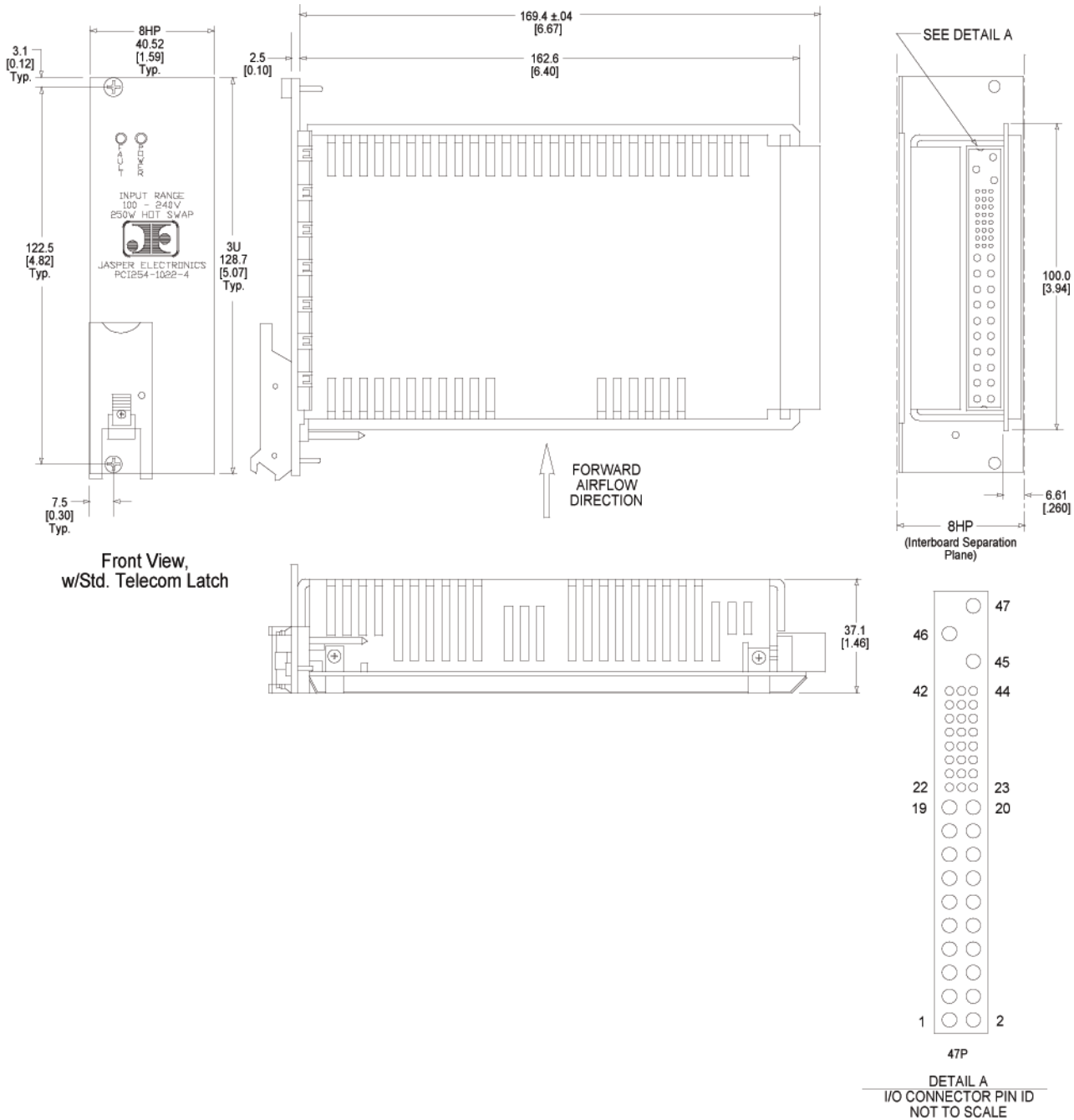
(1) Contact mating sequence. 1= First to make/Last to break.

Backplane Connector Locations, Viewed from the Front of the Enclosure

(Not to Scale)



MECHANICAL SPECIFICATIONS



-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.