

JASPER ELECTRONICS



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 (48V nom)
- Current Sharing on 5.0V, 3.3V and +12.0V Outputs
- Standard 47 Pin Connector Configurations
- 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**
- cULus, TUV, CE Marked



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CompactPCI® Series 250 Watt - 3U 8HP Power Supplies

(PICMG® COMPLIANT)



COMPACTPCI® SERIES FRONT VIEW

GENERAL OVERVIEW

Jasper's Compact PCI Power Supplies comply with the industry standard PICMG requirements and are available in AC or DC input, from 175W to 500W DC output.

FEATURES ON SELECT MODELS INCLUDE:

- AC/DC: 90-264VAC Input – 175, 200, 250, 300, 350, & 500 Watt Models – 3U & 6U x 8HP
- DC/DC: 18-72VDC Input – 175, 200, 250, 300, 350, & 500 Watt Models – 3U & 6U x 8HP
- PICMG 2.11 Compliant
- Active PFC
- UL/CSA, NEMKO/TUV & CE Certified
- RoHS Compliant
- Current Sharing on 3.3, 5 & +12V Rails
- Hot Swap & ORing Diodes N+1 Operation
- Standard 47 Pin Output Connector with 38 & 32 Pin Options (Some Models)
- Models can be ruggedized against high shock, vibration, and humidity to meet MIL-STD-810 requirements
- Customizing To Meet Your System Requirements Is Our Specialty



ISO9001:2015

Rev A-January-15-2023

TECHNICAL 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			
AC Power Factor	0.99 line PFC typical at AC 115V, full load			
AC 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 (<i>differential and common mode</i>)			
EMI Filtering	Meets IFCC Level A, and EN 55022 Level A (<i>conducted</i>)			
Efficiency	78% typical at AC 115V, full load			
Redundant/Hot Swap	Full power N+1 redundant, hot swap capable			
OUTPUT				
Voltage/Current (V/A)	V1	V2	V3	V4
Model PCI254-1022-4	5.0/33	3.3/33	+12/6.0	-12/1.0
Model 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
Model 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				
Line Regulation	At the Sense Point, Over Full Input Range $\leq \pm 1\%$, sense leads connected			
Load Regulation	Output voltage droops with increasing load			
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			
Minimum Loading	5% minimum on V1 for standard models. None required for option "P" models			
Over/ Under Shoot	None at turn-on or turn-off			
Stability	Output drift $\leq \pm 0.2\%$ after 20 minute warm-up			
Temperature 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 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			
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			
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 Vout 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 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			

*Specifications subject to change without notice.

LED Indicator	Dual LEDs. Green indicates input power ON and outputs within regulation. Off or Amber indicates input and/or output power fault
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
Weight	Approx: 1.8 lbs / 1.06 kgs.
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
OPERATING ENVIRONMENT	
Operating Temperature	0° – 50°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
Note: Use of the specified mating connector is required to insure proper “make/break” sequential contact sequence	
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.	

*Specifications subject to change without notice.

47 PIN DIN I/O CONNECTOR FUNCTIONS

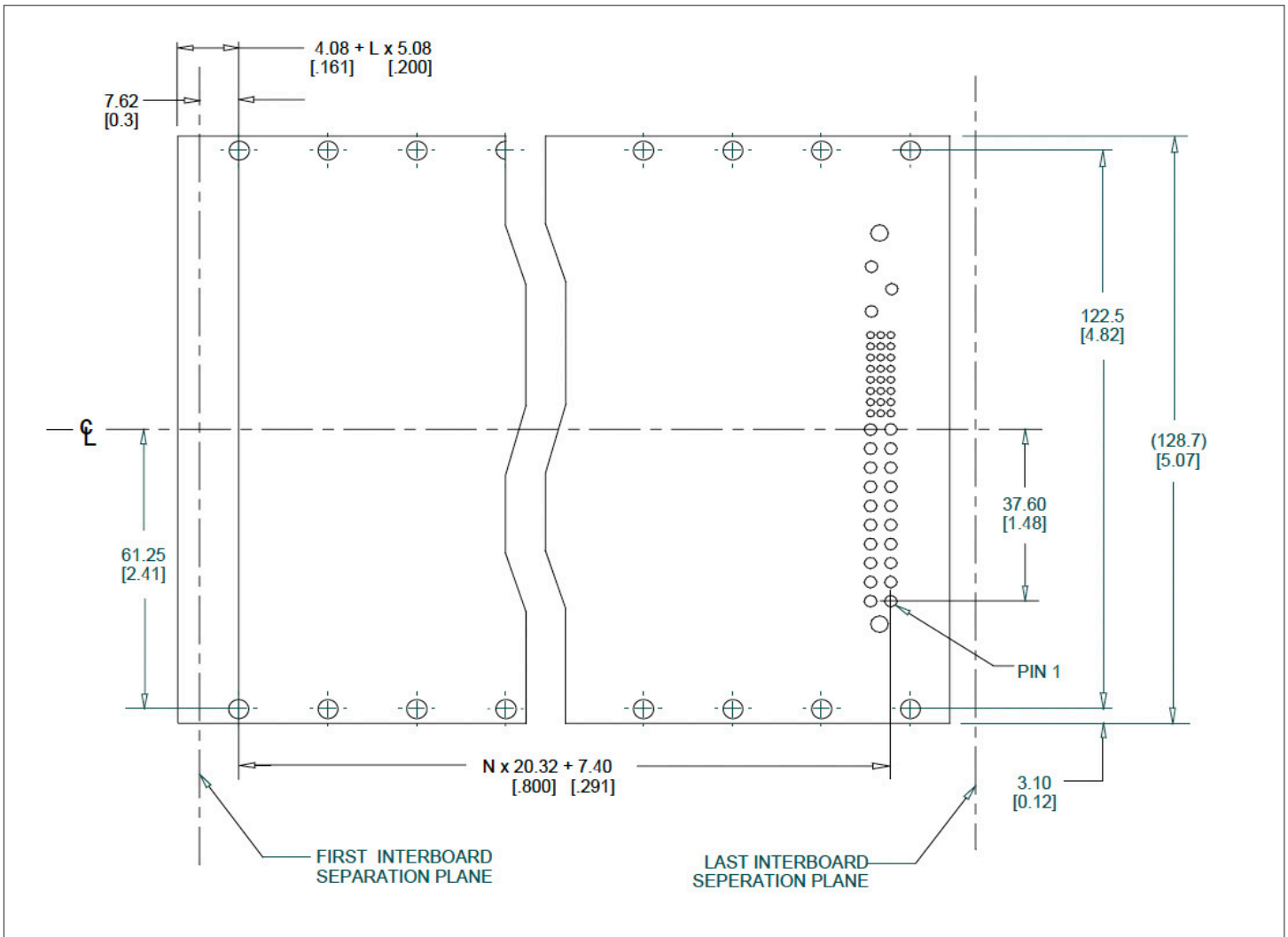
PIN#	SEQ ⁽¹⁾	FUNCTION	
01-04	2	+5.0V	v1 Ouput
05-12	2	GND	V1+V2 Return
13-18	2	+3.3V	V2 Output
19	2	GND	V3 Return
20	2	+12.0V	V3 Output
21	2	-12.0V	V4 Output
22	2	RTN	Signal Return
23	2	N.C	No Connection (Reserved)
24	2	GND	V4 Return
25,26	2	N/C	No Connection (Reserved)
27	3	R/EN	Remote Enable. Closed Circuit to GND
28,29	2	N/C	No Connection (Reserved)
30	2	+S1	+5.0V (V1) Remote Sense
31,32	2	N/C	No Connection (Reserved)
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 (Option C)
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 (V3) Current Share (Option C)
42	2	PF	Power Fail Signal
43	2	N/C	No Connection (Reserved)
44	3	ISHR-3	+12.0V (V3) Current Share (Option C)
45	1	PF	Protective Earth (chassis) Ground
46	2	Input Power	PCI: Neutral (N) ACC Power Input DPCI: +DC
47	2	Input Power	PCI: Line (L) AC Power Input DPCI: -DC
*(1) Contact mating sequence. 1= First to make/ last to break			

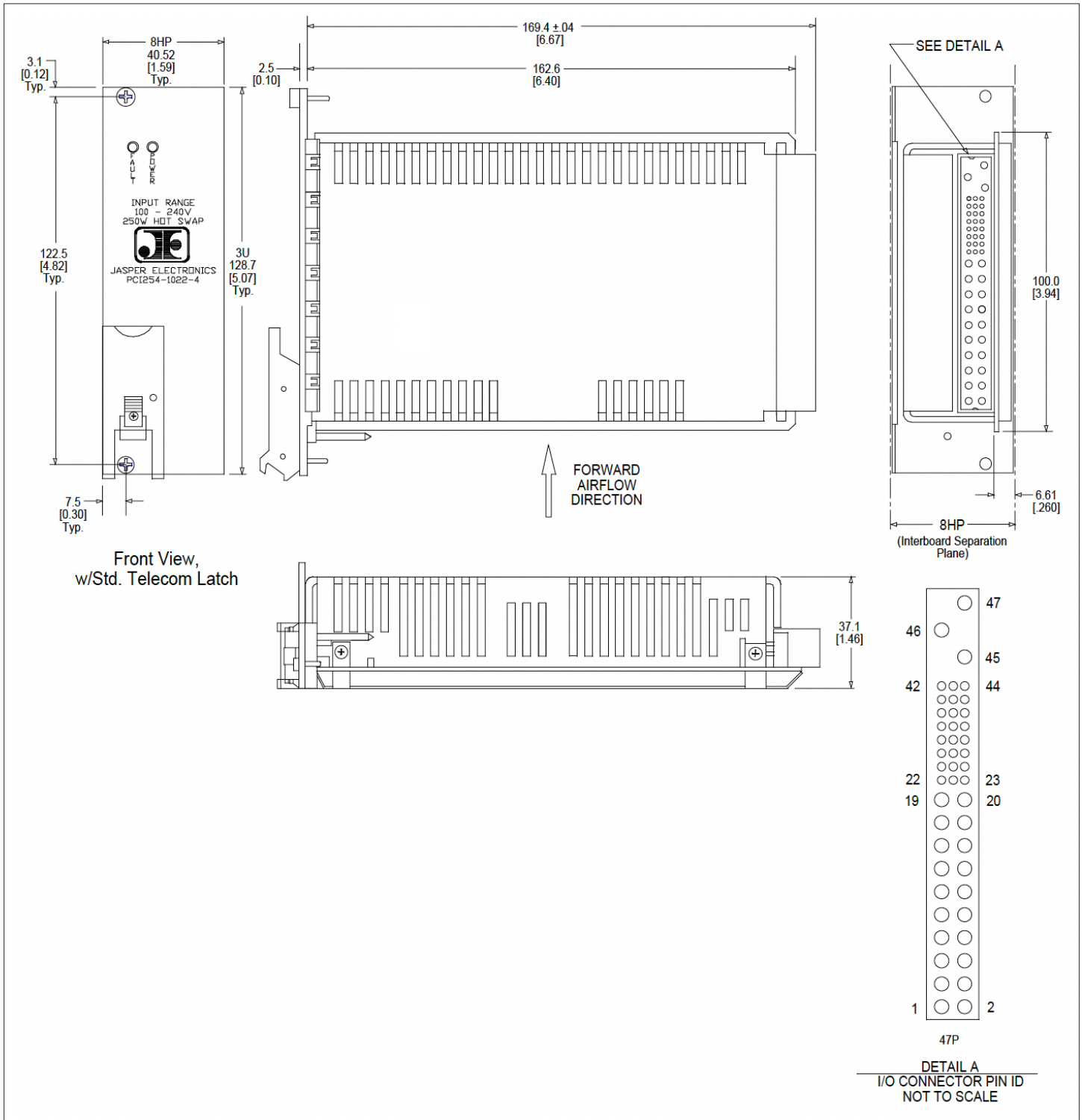
CONFIGURATION OPTIONS

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-PNNNG DPCI254-1022-4-M5412 G

BACKPLANE CONNECTOR LOCATIONS, VIEWED FROM THE FRONT OF THE ENCLOSURE



COMPACTPCI® OUTLINE DRAWING



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. 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. Please see our website for full warranty statement.

INNOVATIVE SPECIALTY DC POWER SYSTEMS

Standard and Custom Power Supplies from 5W to 10KW

TRAFFIC CONTROL POWER SUPPLIES



- 70-400+ Watts / 120 and 220 VAC Models Available
- CALTRANS TEES, NYSDOT, CDOT, GDOT Compliant for 332, 334, 336, 342, 344, and 346 Series cabinets
- RoHS and NEMA Compliant
- Custom labeling and barcoding available
- Ruggedization against shock / vibration / humidity available

CUSTOM POWER DISTRIBUTION ASSEMBLIES (PDAs)



- Compliant with TEES 2020
- 1U smaller than the PDA2-LX and PDA3-LX
- User accessible slots as specified
- Custom labeling and barcoding available
- Ruggedization against shock / vibration / humidity available

COMPACT PCI



- AC or DC input, 175W - 500W DC output, active PFC
- 3U x 8HP, 6U x 8HP sizes
- PICMG 2.11 compliant, UL/CSA, NEMKO/TUV/CE certified, ROHS compliant
- Ruggedization against shock/ vibration/ humidity optional

Primary Applications: Industrial Computing, Military, Satellite Comm, Test, Transportation, Telecom, Aerospace

SPECIALTY HOT-SWAPPABLE POWER SUPPLIES



- 200-1500W, Universal Input, 5-54VDC Output
- Hot Swap. N+1, 90+% Efficiency
- 1U Form Factors
- 30+ Variations for Various Applications Including Nuclear
- Ruggedization against shock/ vibration/ humidity optional

Primary Applications: Medical Equipment, Military, Test, Automotive, Computing, Audio, Sensitive Electronics

RACK POWER SYSTEMS



- 200W-1500W, 2-8 slots, single or mixed output voltages, up to 10KW total
- Single, dual, or individual unit AC or DC input
- Internally or externally redundant DC outputs
- Standard 19" and 23" size or user-specified configurations also available
- Ruggedization against shock/ vibration/ humidity optional

Primary Applications: Medical Equipment, Military, Test, Automotive, Computing, Audio, Sensitive Electronics

CUSTOMS & MODIFIED STANDARDS



- 75W-2KW
- Single to 7 outputs
- Designed and built to custom or semi-custom specifications
- Ruggedization against shock/ vibration/ humidity optional
- Custom electrical specs, chassis, paint, labeling, connectors, interface all available

Primary Applications: Medical Equipment, Military, Test, Automotive, Computing, Audio, Sensitive Electronics

LOW NOISE CONVECTION / CONDUCTION COOLED POWER SUPPLIES



- 200W-500W, 90—264VAC full range input with 12-54 VDC Output
- Wide operating temperature range / high efficiency
- Small form factors
- Ruggedization against shock/ vibration/ humidity optional

Primary Applications: Medical Equipment, Military, IT, Sensitive Electronics

MEDICAL ADAPTERS



- 6W-250W, Efficiency levels V & VI
- Desktop, Wall-mount, and Interchangeable AC plug types
- Large selection of output connectors – additional cable lengths available
- UL60601 (medical) approved adapters available
- Ruggedization against shock/ vibration/ humidity optional

