

## Product Specification

Universal AC Input with PFC,  
48VDC or 24/28VDC Input

## Key Product Features - Modified per Request

- Up to 300W
- 3U Cabinet
- Environmentally Rugged
- High Current 3.3V and 5V Outputs
- Up to 40A
- Accurate Current Sharing
- Internal Oring FETs for redundant applications
- PICMG 2.11 Compliant
- Ruggedized for Enhanced Shock & Vibration
- Conformal Coated

## Safety and EMC

- UL/cUL 60950-1, IEC/EN60950-1 Approved (AC Input and 48 VDC Input)
- EN55022 Level B Emissions (with external filter)

# CPCI-3U-R (Ruggedized) COTS Series

200–300 Watt Military Grade Compact-PCI Power Supply for Harsh Environment and Military Applications



### Description

The CPCI 3U Series of power supplies offer industry leading performance with up to 300 Watts in a 3U package. A full range of AC Input, 24/28VDC Input and 48VDC Input products is available and all products are compliant to the PICMG 2.11 power interface specification. These CPCI products are ruggedized and excel in defense and harsh industrial applications.

### Specifications

Input Voltage Range—AC Input Input	85-264 VAC, 47-63Hz
Voltage Range—48VDC Input Input	36-72 VDC
Voltage Range—24/28VDC Input	18-36 VDC
Operating Temperature Range Current	-5°C to +55°C Full Power with 250 LFM
Sharing Accuracy (V1 and V2)	10% Sharing – up to 6 units
Cage Code	59947

### Model Selection

Model	Input	Output Power	V1 Output	V2 Output	V3 Output	V4 Output	NSN
CPCI-AC-3U-200R	85-264VAC	200W	+5V/20A	+3.3V/30A	+12V/3A	-12V/0.5A	6130-01-526-6870
CPCI-AC-3U-300R	85-264VAC	300W	+5V/30A	+3.3V/40A	+12V/5A	-12V/1.0A	6130-01591-7607
CPCI-DC-3U-200/24R	24/28VDC (18-36)	200W	+5V/25A	+3.3V/36A	+12V/3A	-12V/0.5A	6130-01-526-6793
CPCI-DC-3U-300/24R	24/28VDC (20-36)	300W	+5V/30A	+3.3V/40A	+12V/5A	-12V/0.5A	
CPCI-DC-3U-200/48R	48VDC (36-72)	200W	+5V/20A	+3.3V/30A	+12V/3A	-12V/0.5A	
CPCI-DC-3U-300/48R	48VDC (36-72)	300W	+5V/30A	+3.3V/40A	+12V/5A	-12V/1.0A	

VDC-Out Adjustment Range: V1= 4.8V-5.4V; V2=3.1V-3.5V; V3=0V; V4=0V

CPCI-3U-200 Watt: Note: Maximum output power at any combination within this table is 200W CPCI-3U-300 Watt:

Notes: 1) Maximum output power at any combination within this table is 300W

2) Maximum output power on V1+V3 not exceed 185W

3) Maximum output power on V2+V4 not exceed 138W

## Electrical Specifications

### Input

AC Models	85–264 VAC, 47–63 Hz
Power Factor	>0.90/0.95 typical @ 110/220 VAC (full load)
Hold-up Time	20 ms minimum (full load)
Inrush Current	<30/60 A @ 110/230 VAC
48VDC Input Models	36–72 VDC Input range
24VDC Input Models	18–36 VDC Input range

### Output

Line Regulation	± 0.5% for minimum to maximum voltage input
Transient Response	For a step Load of 50%max Load peak transient <5%. & output Recovers to 1% in Less than 0.5mSec
Over-Voltage Protection	110–125% of V1/V2/V3 (latched shutdown)
Overload Protection	V1 and V2: 125% / V3 and V4: 200% auto recovery
Load Regulation	V1 and V2: ±1% maximum, V3 and V4: ±5% maximum
Min Load Requirement	None
Turn-On Delay	2 seconds maximum
Initial Setting Accuracy	V1 and V2 ±0.4% @ 50% load, V3 and V4 ±2% @ 50% load
Ripple/Noise (20MHz BW)	V1 and V2: 60 mV, V3 and V4: 120mV (20M Hz bandwidth)

## EMC and Safety Certifications

### Electromagnetic Compatibility

Electrostatic Discharge	EN61000-4-2, ±KV Contact / ±8KV Air Discharge
Radiated Susceptibility	EN61000-4-3, 26-1000MHz, 10V/M, 80% AM
EFT / Bursts	EN61000-4-4, ±1KV
Surges	EN61000-4-5, ±2KV Line-Earth, ±1KV Line-Line
Conducted Immunity	EN61000-4-6, 0.15-800MHz, 10V, 80% AM
Voltage Dips	EN61000-4-11, 30% Dip for 10ms, 60% Dip for 100ms
Voltage Interruptions	EN61000-4-11, 95% Reduction, 5s
Fluctuations & Flicker	EN61000-3-3

### Safety & Emissions

Safety Approvals	UL/cUL 60950-1, IEC/EN 60950-1
Emissions	EN 55022 Level-B with external filter

**Environmental Specifications**

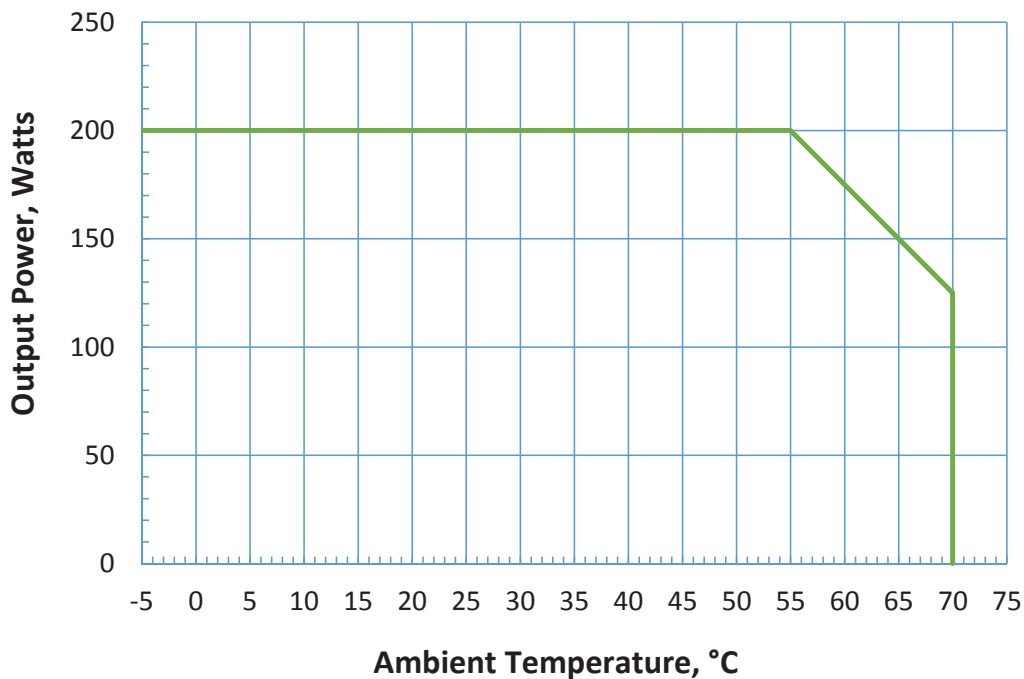
Operating Temperature Range	-5°C to 55°C (23°F to 131°F); De-rate of 2.5% per 1°C to 70°C (34°F to 158°F)
Storage Temperature Range	-40°C to 85°C (-40°F to 185°F)
Cooling	200W and 300W models: 250LFM airflow required for full power at 55°C
Humidity	Up to 95% RH non-condensing
Shock & Vibration	Storage: EN 300 019-2-1 class 1.2. Transportation: EN 300 019-2-2 class 2.3. Use: EN 300 019-2-3 class 3.3.
MTBF	>400,000 hours per Belcore 332 issue 6

**Status/Control**

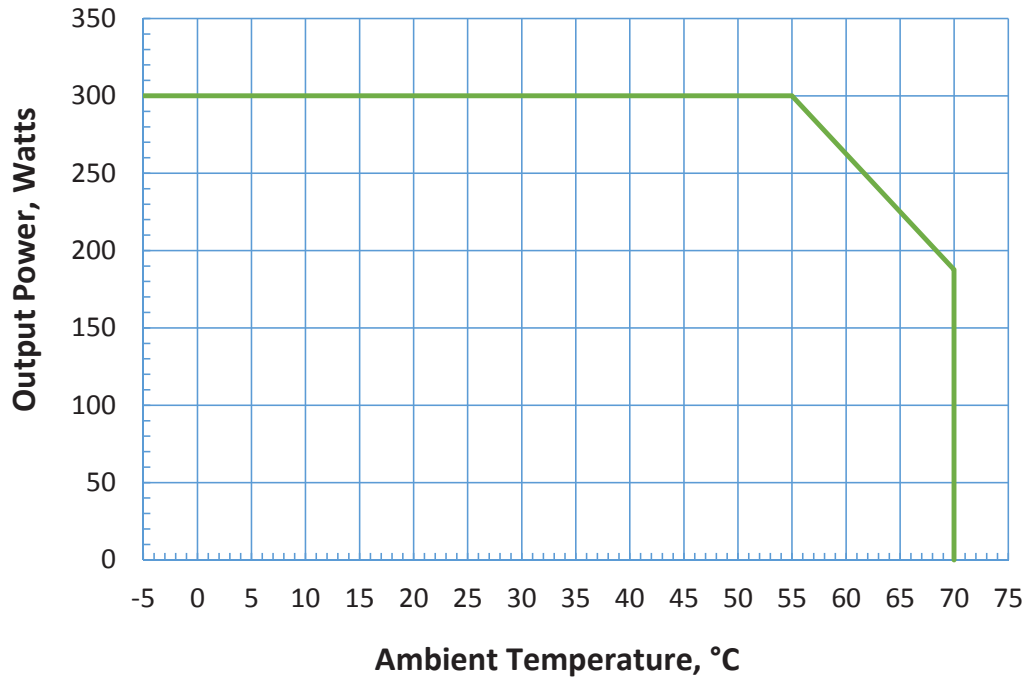
Remote Inhibit	Inhibited with GND or TTL“0” = Off
DC Fail	Open collector—Active Low signal. Indicates one or more outputs below 90% of specified rating
Over Temperature Warning	Open collector Active Low nominally 10 deg C before shut down.
Remote Sense	Available V1 and V2. Total voltage compensation up to 300 mV drop.
Current Share	Single wire (V1 and V2) ±10% up to 6 parallel units.
Front Panel Green LED	Outputs OK
Front Panel Red LED	Fault condition

**Output Power Derating**

**Output Power Derating CPCI-XX-3U-200  
250 LFM Airflow**

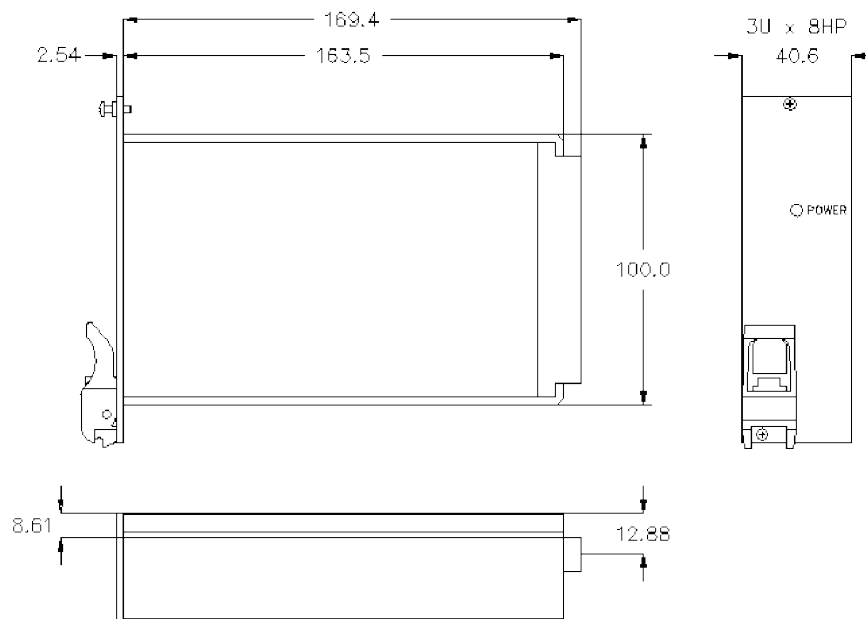


### Output Power Derating CPCI-XX-3U-300 250 LFM Airflow



#### Mechanical Outline

OVERALL SIZE: 5.07"H x 1.60"W x 6.40"D (128.7mm x 40.6mm x 162.5mm) WEIGHT: 800 gr.



TOLERANCES ±0.3 UNLESS OTHERWISE INDICATED

**OUTPUT CONNECTOR - Positronic-PCIH47M400A1/AA**  
**PIN ASSIGNMENT**

Pin	Pin Type	Signal Name.	Description
1-4	Normal	V1	V1 Output
5-12	Normal	RTN	V1 and V2 Return
13-18	Normal	V2	V2 Output
19	Normal	RTN	V3 Return
20	Normal	V3	V3 Output
21	Normal	V4	V4 Output
22	Normal	RTN	Signal Return
23	Normal	RTN	Signal Return
24	Normal	RTN	V4 Return
25	Normal	GA-0	Geographic ADD-0 (option)
26	Normal	Reverse	Reverse
27	Short	EN#	Enable
28	Normal	GA-1	Geographic ADD-1 (option)
29	Normal	NC	Not Connected
30	Normal	V1 Sense	V1 Remote Sense
31	Normal	GA-2	Geographic ADD-2 (option)
32	Normal	NC	Not Connected
33	Normal	V2 Sense	V2 Remote Sense
34	Normal	S RTN	Sense Return
35	Normal	V1 Share	V1 Current Share
36	Normal	NC	Not Connected
37	Normal	IPMB_SCL	System Manager Bus (option)
38	Normal	DEG#	Degrade Signal
39	Normal	INH#	Open – ON Low - OFF
40	Normal	IPMB_SDA	System Manager Bus (option)
41	Normal	V2 Share	V2 Current Share
42	Normal	FAL#	Fail Signal
43	Normal	IPMB_PWR	Power–System Manager (option)
44	Normal	NC	Not Connected
45	Long	Chassis GND	Chassis GND
46	Long	AC Neutral	AC input Neutral
47	Long	AC Line	AC Input Line