

## Product Specification

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

## Key Product Features

- 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

## 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 Series

200–300 Watt Compact PCI Power Supply



## 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.

## Ratings

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

## Model Selection

| Model             | Input            | Output Power | V1 Output | V2 Output | V3 Output | V4 Output | Efficiency (Typical) |
|-------------------|------------------|--------------|-----------|-----------|-----------|-----------|----------------------|
| CPCI-AC-3U-200    | 85-264VAC        | 200W         | +5V/20A   | +3.3V/30A | +12V/3A   | -12V/0.5A | 79-81%               |
| CPCI-AC-3U-300    | 85-264VAC        | 300W         | +5V/30A   | +3.3V/40A | +12V/5A   | -12V/1.0A | 79-81%               |
| CPCI-DC-3U-200/24 | 24/28VDC (18–36) | 200W         | +5V/25A   | +3.3V/36A | +12V/3A   | -12V/0.5A | 82%                  |
| CPCI-DC-3U-300/24 | 24/28VDC (20–36) | 300W         | +5V/30A   | +3.3V/40A | +12V/5A   | -12V/0.5A | 82%                  |
| CPCI-DC-3U-200/48 | 48VDC (36–72)    | 200W         | +5V/20A   | +3.3V/30A | +12V/3A   | -12V/0.5A | 83%                  |
| CPCI-DC-3U-300/48 | 48VDC (36–72)    | 300W         | +5V/30A   | +3.3V/40A | +12V/5A   | -12V/1.0A | 83%                  |

**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

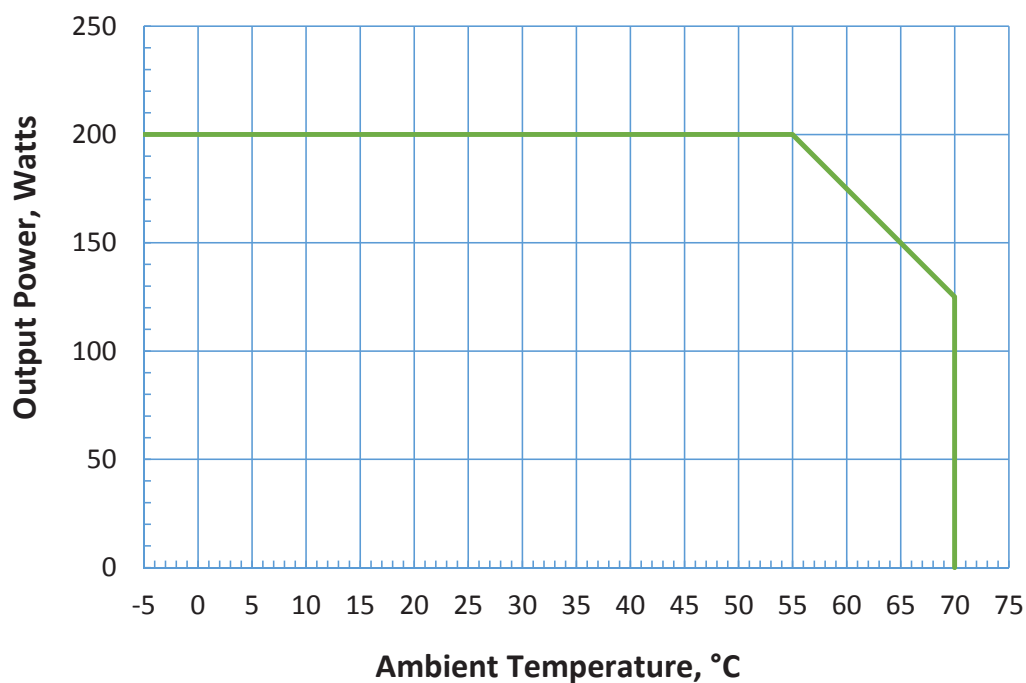
|                             |                                                                                                             |
|-----------------------------|-------------------------------------------------------------------------------------------------------------|
| Operating Temperature 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

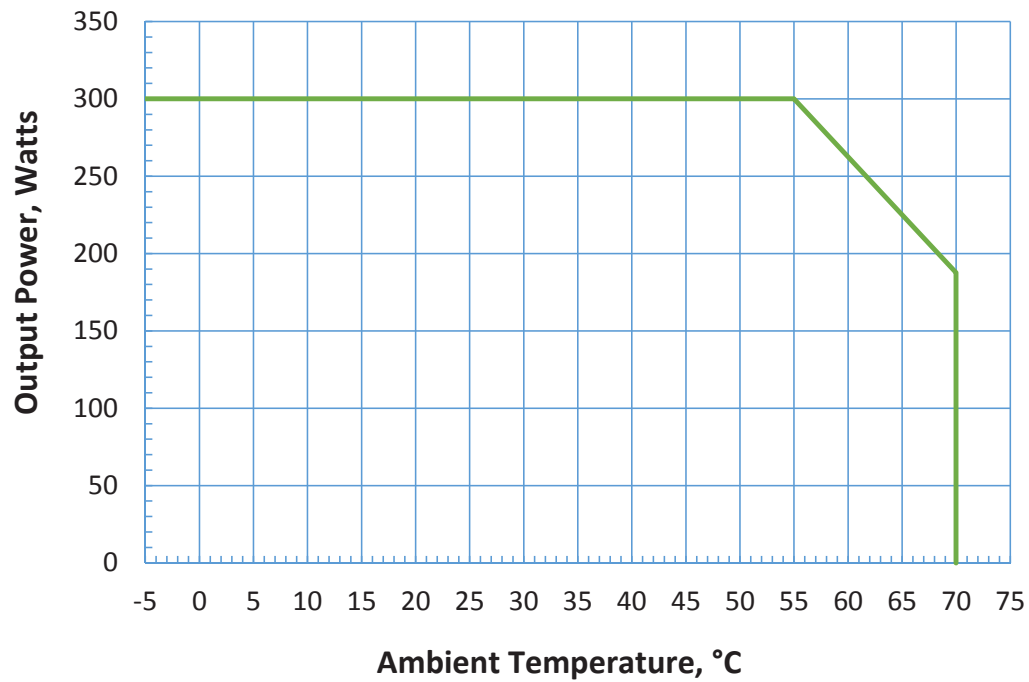
|                          |                                                                                               |
|--------------------------|-----------------------------------------------------------------------------------------------|
| Remote Inhibit           | Inhibited with GND or 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**

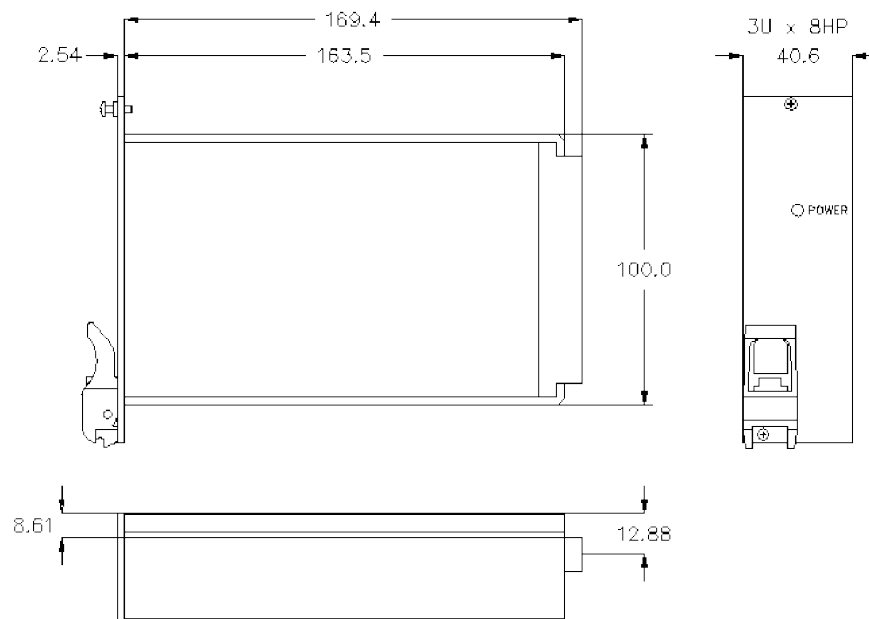


## Output Power Derating CPCI-XX-3U-300 250 LFM Airflow



### 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  $\pm 0.3$  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                 |