

# CompactPCI® SYSTEM POWER SUPPLIES

## CPCI SERIES 150 to 350 Watts, Ac Input with PFC

## DCPI SERIES 150 to 350 Watts, 48 Vdc Input



EXECUTIVE MEMBER



### FEATURES:

- 150 W and 200 W in 3U x 8HP, 350 W in 6U x 8HP
- Fully compliant with PICMG **CompactPCI®** specifications
- Current sharing and internal OR-ing diodes for N+1 redundancy
- High current 5 V and 3.3 V outputs
- **CompactPCI®** package requires only 15 cfm of external cooling air
- Universal ac input versions with power factor correction
- 48 Vdc input versions

The CPCI series (ac input) and DPCI series (dc input) are highly reliable power supplies for CompactPCI systems, which are increasingly used in communications, industrial, military/aerospace, and other applications. These power supplies offer high power density in plug-in modules that meet the requirements of the PICMG® power interface specification for CompactPCI systems.

These units may be used as a single power supply for a CompactPCI system, or multiple units may be used in parallel for higher power capability as needed. In addition, all units include current sharing, internal OR-ing diodes, and a hot plug input/output connector to offer full hot swap capability and N+1 redundancy. Also, compatible ac and dc input units offer standardization on a single power supply series for a system mechanical configuration.

3U x 8 HP



6U x 8 HP



| Connector      | Input | Power | Model No.      | Connector      | Input | Power | Model No.      |
|----------------|-------|-------|----------------|----------------|-------|-------|----------------|
| 47 Pin Modular | Ac    | 150 W | CPCI-154-1203  | 47 Pin Modular | Ac    | 350 W | CPCI-354T-1203 |
|                |       | 200 W | CPCI-204-1203  |                | Dc    | 350 W | DPCI-354T-1203 |
|                | Dc    | 150 W | DPCI-154-1203  | 38 Pin Modular | Ac    | 350 W | CPCI-354-1203  |
|                |       | 200 W | DPCI-204-1203  |                | Dc    | 350 W | DPCI-354-1203  |
| DIN "M"        | Ac    | 150 W | CPCI-154-1203M |                |       |       |                |
|                |       | 200 W | CPCI-204-1203M |                |       |       |                |
|                | Dc    | 150 W | DPCI-154-1203M |                |       |       |                |
|                |       | 200 W | DPCI-204-1203M |                |       |       |                |



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# CompactPCI® SYSTEM POWER SUPPLIES

## CPCI SERIES 150 to 350 WATTS, AC INPUT WITH PFC, QUAD OUTPUT, HOT SWAP SPECIFICATIONS

**AC INPUT:** 90-264 Vac continuous range, 47 to 63 Hz.

**POWER FACTOR:** 0.99 typical at full load. Meets EN61000-3-2.

**INRUSH:**

**CPCI-154, 204 MODELS:** Cold start ac current is less than 15 A at 115 Vac, and 30 A at 230 Vac. Limited by thermistor.

**CPCI-354 MODELS:** Cold start ac current is less than 30 A at 115 Vac, and 60 A at 230 Vac. Limited by thermistor.

**BROWNOUT PROTECTION:** Holds regulation to 85 Vac (30 seconds maximum)

**HOLDUP TIME:** 16 ms minimum after removal of power at full load. 10 ms minimum for CPCI 200s.

**EFFICIENCY:** 70% typical.

**EMI: CONDUCTED RFI**

Meets FCC Part 15, Subpart J, class B;

EN55022 class A; CISPR 22 class B.

All 150 W and 200 W models class A

**FAIL# SIGNAL:** TTL compatible signal. Signal goes low under the following conditions:

**CPCI-154 & CPCI-204 Models (all connector types):**

Outputs #1 or #2 fail; an overcurrent condition on outputs

#1, #2, or #3; an overtemperature shutdown; an overvoltage

shutdown; or an ac input failure (5ms warning before outputs shutdown).

**CPCI-354 & CPCI-354T Models:**

Any of 4 outputs fail; an overtemperature shutdown; an

overvoltage shutdown; or an ac input failure (5ms warning

before outputs shut down).

### AC INPUT

| Model          | Power | Output 1     | Output 2     | Output 3     | Output 4      | Min. Load on V1* | Maximum Output From V1 & V2 |
|----------------|-------|--------------|--------------|--------------|---------------|------------------|-----------------------------|
| CPCI-154-1203  | 150 W | 5.0 V @ 25A  | 3.3 V @ 20 A | 12 V @ 5.5 A | -12 V @ 0.5 A | 2.5 A            | 25 A                        |
| CPCI-154-1203M | 150 W | 5.0 V @ 25 A | 3.3 V @ 20 A | 12 V @ 5.5 A | -12 V @ 0.5 A | 2.5 A            | 25 A                        |
| CPCI-204-1203  | 200 W | 5.0 V @ 25 A | 3.3V @ 30 A  | 12 V @ 5.5 A | -12 V @ 0.5 A | 3.0 A            | 35 A                        |
| CPCI-204-1203M | 200 W | 5.0 V @ 25 A | 3.3 V @ 25 A | 12 V @ 5.5 A | -12 V @ 0.5 A | 2.5 A            | 35 A                        |
| CPCI-354-1203  | 350 W | 5.0 V @ 50 A | 3.3 V @ 40 A | 12 V @ 12 A  | -12 V @ 4 A   | 5.0 A            | 65 A                        |
| CPCI-354T-1203 | 350 W | 5.0 V @ 50 A | 3.3 V @ 40 A | 12 V @ 12 A  | -12 V @ 4 A   | 5.0 A            | 65 A                        |

\* For full output current capability on V2, V3, V4.

## DPCI SERIES 150 to 350 WATTS, QUAD OUTPUT, 48 VDC INPUT, HOT SWAP SPECIFICATIONS

**DC INPUT:** 36-72 Vdc

**EFFICIENCY:** 75% typical

**FAIL# SIGNAL:** TTL compatible signal. Signal goes low under the following conditions: Any of 4 outputs fail; an overtemperature shutdown; or an overvoltage shutdown.

### 48 VDC INPUT

| Model          | Power | Output 1   | Output 2     | Output 3     | Output 4      | Min. Load on V1* | Maximum Output From V1 & V2 |
|----------------|-------|------------|--------------|--------------|---------------|------------------|-----------------------------|
| DPCI-154-1203  | 150 W | 5 V @ 25 A | 3.3 V @ 20 A | 12 V @ 5.5 A | -12 V @ 0.5 A | 2.5 A            | 25 A                        |
| DPCI-154-1203M | 150 W | 5 V @ 25 A | 3.3 V @ 20 A | 12 V @ 5.5 A | -12 V @ 0.5 A | 2.5 A            | 25 A                        |
| DPCI-204-1203  | 200 W | 5 V @ 25 A | 3.3 V @ 30 A | 12 V @ 5.5 A | -12 V @ 0.5 A | 3.0 A            | 35 A                        |
| DPCI-204-1203M | 200 W | 5 V @ 25 A | 3.3 V @ 25 A | 12 V @ 5.5 A | -12 V @ 0.5 A | 2.5 A            | 35 A                        |
| DPCI-354-1203  | 350 W | 5 V @ 50 A | 3.3 V @ 40 A | 12 V @ 12 A  | -12 V @ 4 A   | 5.0 A            | 65 A                        |
| DPCI-354T-1203 | 350 W | 5 V @ 50 A | 3.3 V @ 40 A | 12 V @ 12 A  | -12 V @ 4 A   | 5.0 A            | 65 A                        |

\* For full output current capability on V2, V3, V4.



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# CompactPCI® SYSTEM POWER SUPPLIES

## GENERAL SPECIFICATIONS

### OUTPUT

#### LINE & LOAD REGULATION:

± 2% over input range and 0 to 100% load change.

#### RIPPLE & NOISE

1% p-p or 50 mV, whichever is greater.  
Measured at mating connector with 20 µF

#### REMOTE SENSE

Open sense lead protection

#### TEMPERATURE COEFFICIENT

(Outputs #1 and 2): 0.03% per degree centigrade

#### STABILITY

0.1% over 8 hours after 30 minutes warm-up.

#### TRANSIENT RESPONSE

(Outputs #1 and 2): Output voltage returns to within 1% in less than 1 ms for a 50% load change. Peak transient does not exceed 5%.

#### OVERVOLTAGE PROTECTION

(Outputs #1 and #2): Protects load against power supply induced overvoltage. Trip-point is factory set so that output voltage cannot exceed 136% of nominal. Input power must be recycled to reset.

#### OVERLOAD PROTECTION

All outputs are protected against overload and short circuit, Automatic recovery upon removal of fault.

#### DEG# SIGNAL :

TTL compatible signal. Signal goes low 20°C before an overtemperature shutdown.

#### FAIL LED :

Amber LED illuminates upon a failure condition as per the CPCI and DPCI series specifications.

#### STATUS LED :

Green LED illuminates with no presence of any failure condition.

#### REMOTE ENABLE

Contact closure to common turns on dc outputs.  
Recessed pin for “make last, break first” connection.

#### REMOTE INHIBIT

Contact closure to the negative sense line or a TTL level “0” turns off dc outputs.

#### REDUNDANCY

Built-in ORing diodes, slope program current sharing on all outputs, and self aligning connector provide hot swap and N+1 capabilities. Current sharing remains within 10% of the unit's full output rating while units are in thermal equilibrium.

#### REVERSE VOLTAGE

Protected against reverse voltage up to supply current rating, except for reverse voltage on output #4 on CPCI-200.

### ENVIRONMENTAL

#### COOLING

15 cfm, 400 lfm airflow required for cooling.

#### OUTPUT ISOLATION

Isolated from ground 50 Vdc (leakage current <20 µA)

#### THERMAL PROTECTION

Shuts down power supply if overheated.  
Automatic recovery.

#### TEMPERATURE RANGE

0 to 40° centigrade at full ratings; derate 2.5% per degree centigrade from 40° to 70° centigrade.  
Unit will start up at -20° centigrade.

### MISCELLANEOUS

#### SAFETY AGENCY APPROVALS

Models are approved to UL1950; CSA 22.2 #234; IEC 950 and TUV EN60950, Class 1 SELV., CE 72/23/EEC/93/68EEC (low voltage directive).

#### GUARANTEED FOR 2 YEARS

Two year guarantee includes labor and parts.  
Guarantee applies to operation at full published specifications at the end of 2 years.

### OPTIONS

#### LOW LEAKAGE

##### (CPCI Models only)

“L” option: Leakage current less than 0.5 mA per unit. Will require additional filtering for compliance to EMI specifications.

### MECHANICAL DIMENSIONS

#### CPCI-154, CPCI-204, DPCI-154 & DPCI-204 Models:

3U H x 8HP W, 160 mm board depth (see outline drawing).  
Utilizes a 47 pin modular connector in accordance with PICMG® Power Interface Specification 2.11.

#### CPCI-154M, CPCI-204M, DPCI-154M & DPCI-204M Models:

3U H x 8HP W, 160 mm board depth (see outline drawing).  
Utilizes a DIN “M” connector as referenced in the PICMG® Power Interface Specification 2.11.

#### CPCI-354, DPCI-354 Models:

6U H x 8HP W, 160 mm board depth (see outline drawing).  
Utilizes a 38 pin modular connector as referenced in the PICMG® Power Interface Specification 2.11.

#### CPCI-354T, DPCI-354T Models:

6U H x 8HP W, 160 mm board depth (see outline drawing).  
Utilizes a 47 pin modular connector in accordance with PICMG® Power Interface Specification 2.11.



# CompactPCI® SYSTEM POWER SUPPLIES

## POWER SUPPLY PIN ASSIGNMENTS

### Model: CPCI-354-1203

Connector: Positronics PCI38M400A1

Mating Connector: PCI38F300A1

| Pin No. | Designation | Pin No. | Designation   |
|---------|-------------|---------|---------------|
| 1       | +5 V        | 20      | Not Used      |
| 2       | +5 V        | 21      | -12 V         |
| 3       | +5 V        | 22*     | GND           |
| 4       | +5 V        | 23      | GND           |
| 5       | GND         | 24      | +5 V Sense    |
| 6       | GND         | 25*     | Enable        |
| 7       | GND         | 26      | Sense Return  |
| 8       | GND         | 27      | +3.3 V Sense  |
| 9       | GND         | 28*     | Not Used      |
| 10      | GND         | 29      | DEG#          |
| 11      | GND         | 30      | +12 V Sense   |
| 12      | GND         | 31      | Inhibit       |
| 13      | +3.3 V      | 32      | Not Used      |
| 14      | +3.3 V      | 33      | Not Used      |
| 15      | +3.3 V      | 34      | Not Used      |
| 16      | +3.3 V      | 35      | Fail #        |
| 17      | GND         | 36**    | Safety Ground |
| 18      | +12 V       | 37      | Ac Neutral    |
| 19      | Not Used    | 38      | Ac Line       |

\* Pins 22, 25, and 28 are last mate, first break pins.

\*\* Pin 36 is a first mate, last break pin.

### Model: DPCI-354-1203

Connector: Positronics PCI38M400A1

Mating Connector: PCI38F300A1

| Pin No. | Designation | Pin No. | Designation          |
|---------|-------------|---------|----------------------|
| 1       | +5 V        | 20      | Not Used             |
| 2       | +5 V        | 21      | -12 V                |
| 3       | +5 V        | 22*     | GND                  |
| 4       | +5 V        | 23      | GND                  |
| 5       | GND         | 24      | +5 V Sense           |
| 6       | GND         | 25*     | Enable               |
| 7       | GND         | 26      | Sense Return         |
| 8       | GND         | 27      | +3.3 V Sense         |
| 9       | GND         | 28*     | Not Used             |
| 10      | GND         | 29      | DEG#                 |
| 11      | GND         | 30      | +12 V Sense          |
| 12      | GND         | 31      | Inhibit              |
| 13      | +3.3 V      | 32      | Not Used             |
| 14      | +3.3 V      | 33      | Not Used             |
| 15      | +3.3 V      | 34      | Not Used             |
| 16      | +3.3 V      | 35      | Fail #               |
| 17      | GND         | 36**    | Safety Ground        |
| 18      | +12 V       | 37      | -48 Vdc Input Return |
| 19      | Not Used    | 38      | -48 Vdc Input        |

\* Pins 22, 25, and 28 are last mate, first break pins.

\*\* Pins 36 is a first mate, last break pin.

### Model: CPCI-354T-1203

CPCI-154-1203

CPCI-204-1203

Connector: Positronics PCI47M400A1

Mating Connector: PCI47F300A1

| Pin No. | Designation | Pin No. | Designation   |
|---------|-------------|---------|---------------|
| 1       | +5 V        | 25      | Not Used      |
| 2       | +5 V        | 26      | Not Used      |
| 3       | +5 V        | 27*     | Enable        |
| 4       | +5 V        | 28      | Not Used      |
| 5       | GND         | 29      | Not Used      |
| 6       | GND         | 30      | +5 V Sense    |
| 7       | GND         | 31      | Not Used      |
| 8       | GND         | 32      | Not Used      |
| 9       | GND         | 33      | +3.3 V Sense  |
| 10      | GND         | 34      | Sense Return  |
| 11      | GND         | 35      | Not Used      |
| 12      | GND         | 36      | +12 V Sense   |
| 13      | +3.3 V      | 37      | Not Used      |
| 14      | +3.3 V      | 38      | DEG#          |
| 15      | +3.3 V      | 39      | Inhibit       |
| 16      | +3.3 V      | 40      | Not Used      |
| 17      | +3.3 V      | 41      | Not Used      |
| 18      | +3.3 V      | 42      | Fail #        |
| 19      | GND         | 43      | Not Used      |
| 20      | +12 V       | 44      | Not Used      |
| 21      | -12 V       | 45**    | Safety Ground |
| 22      | GND         | 46      | Ac Neutral    |
| 23      | Not Used    | 47      | Ac Line       |
| 24      | GND         |         |               |

\* Pin 27 is a last mate, first break pin.

\*\* Pin 45 is a first mate, last break pin.

### Model: DPCI-354T-1203

DPCI-154-1203

DPCI-204-1203

Connector: Positronics PCI47M400A1

Mating Connector: PCI47F300A1

| Pin No. | Designation  | Pin No. | Designation          |
|---------|--------------|---------|----------------------|
| 1       | +5 V         | 25      | Not Used             |
| 2       | +5 V         | 26      | Not Used             |
| 3       | +5 V         | 27*     | Enable               |
| 4       | +5 V         | 28      | Not Used             |
| 5       | GND          | 29      | Not Used             |
| 6       | GND          | 30      | +5 V Sense           |
| 7       | GND          | 31      | Not Used             |
| 8       | GND          | 32      | Not Used             |
| 9       | GND          | 33      | +3.3 V Sense         |
| 10      | GND          | 34      | Sense Return         |
| 11      | GND          | 35      | Not Used             |
| 12      | GND          | 36      | +12 V Sense          |
| 13      | +3.3 V       | 37      | Not Used             |
| 14      | +3.3 V       | 38      | DEG#                 |
| 15      | +3.3 V       | 39      | Inhibit              |
| 16      | +3.3 V       | 40      | Not Used             |
| 17      | +3.3 V       | 41      | Not Used             |
| 18      | +3.3 V       | 42      | Fail #               |
| 19      | GND          | 43      | Not Used             |
| 20      | +12 V Output | 44      | Not Used             |
| 21      | -12 V Output | 45**    | Safety Ground        |
| 22      | GND          | 46      | -48 Vdc Input Return |
| 23      | Not Used     | 47      | -48 Vdc Input        |
| 24      | GND          |         |                      |

\* Pin 27 is a last mate, first break pin.

\*\* Pin 45 is a first mate, last break pin.

### Model: CPCI-154-1203M

CPCI-204-1203M

Male Connector: DIN 41612 Type "M"

Mating Connector: ERNI #914374 or AMP#148370

| Pin No. | Designation    | Pin No. | Designation  |
|---------|----------------|---------|--------------|
| A13     | Not Used       | B17     | +3.3 V       |
| A14     | Inhibit        | B18     | +3.3 V       |
| A15     | Not Used       | B19     | +12 V Output |
| A16     | Sense Return   | B20     | -12 V Output |
| A17     | +5 V Sense     | B22     | +5 V         |
| A18     | +3.3 V Sense   | B25     | GND          |
| A19     | +12 V Output   | B28     | Not Used     |
| A20     | -12 V Output   | B31     | Not Used     |
| B2      | Ac Line        | C13     | Enable       |
| B5      | Ac Neutral     | C14     | DEG#         |
| B8      | Not Used       | C15     | Fail #       |
| B11     | Chassis Ground | C16     | +3.3 V       |
| B13     | +3.3 V         | C17     | +3.3 V       |
| B14     | +3.3 V         | C18     | +3.3 V       |
| B15     | +3.3 V         | C19     | +12 V Output |
| B16     | +3.3 V         | C20     | -12 V Output |

### Model: DPCI-154-1203M

DPCI-204-1203M

Male Connector: DIN 41612 Type "M"

Mating Connector: ERNI #914374 or AMP#148370

| Pin No. | Designation    | Pin No. | Designation          |
|---------|----------------|---------|----------------------|
| A13     | Not Used       | B17     | +3.3 V               |
| A14     | Inhibit        | B18     | +3.3 V               |
| A15     | Not Used       | B19     | +12 V Output         |
| A16     | Sense Return   | B20     | -12 V Output         |
| A17     | +5 V Sense     | B22     | +5 V                 |
| A18     | +3.3 V Sense   | B25     | GND                  |
| A19     | +12 V Output   | B28     | -48 Vdc Input Return |
| A20     | -12 V Output   | B31     | -48 Vdc Input        |
| B2      | Not Used       | C13     | Enable               |
| B5      | Not Used       | C14     | DEG#                 |
| B8      | Not Used       | C15     | Fail #               |
| B11     | Chassis Ground | C16     | +3.3 V               |
| B13     | +3.3 V         | C17     | +3.3 V               |
| B14     | +3.3 V         | C18     | +3.3 V               |
| B15     | +3.3 V         | C19     | +12 V Output         |
| B16     | +3.3 V         | C20     | -12 V Output         |

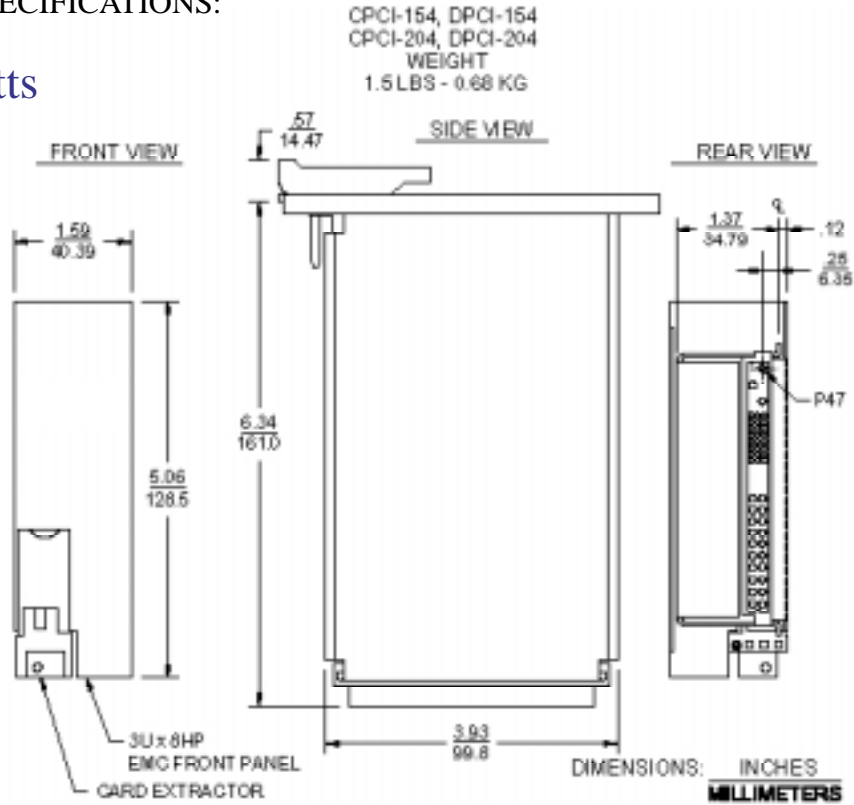


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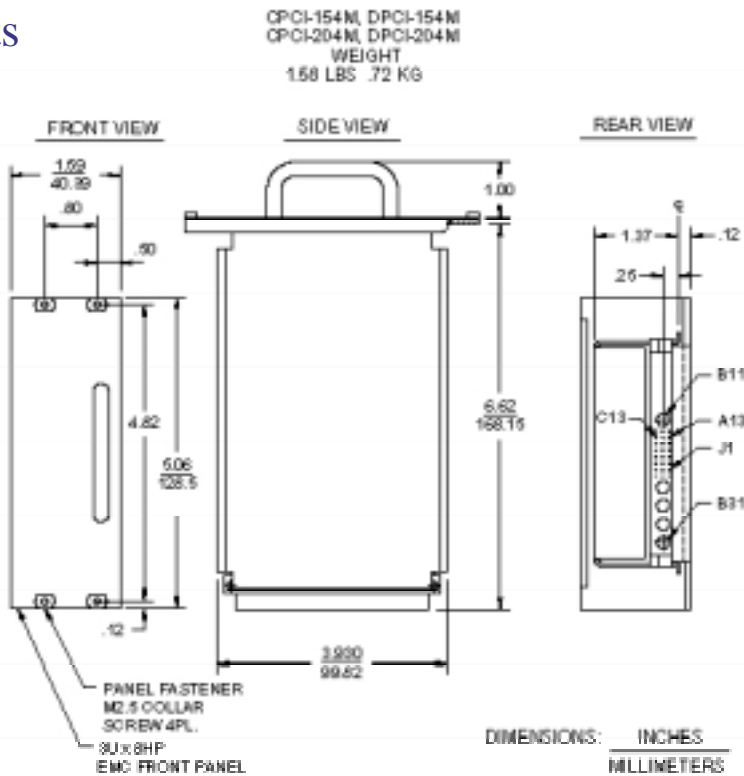
# CompactPCI® SYSTEM POWER SUPPLIES

## MECHANICAL SPECIFICATIONS:

### 150-200 Watts



### 150-200 Watts

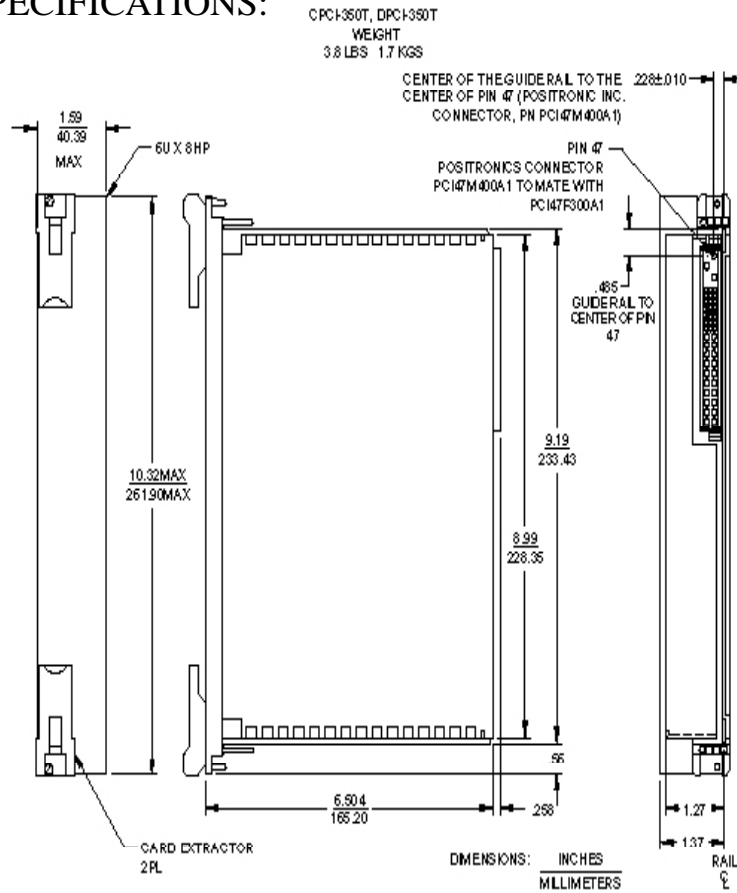


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# CompactPCI® SYSTEM POWER SUPPLIES

## MECHANICAL SPECIFICATIONS:

350 Watts



350 Watts

