

## Highlights

- >> Delivers a Combined Total of 40A for the +5V and +3.3V Outputs (no Minimum Load Restrictions)
- >> Protection Features:
  - Output Overvoltage
  - Output Overcurrent
  - Overtemperature Protection
- >> Status LEDs: Power Fail, Input Good
- >> Status Output Signals: (DEG#), (FAL#)
- >> Remote Sense and Active Share on +3.3V, +5V, +12V
- >> Inhibit (INH#) and Enable (EN#) Inputs (open drain, TTL compatible)
- >> PICMG® 2.11-Compliant 47-Pin Connector
- >> Fully Compliant to PICMG 2.11 CompactPCI® Specification



The ZT 6303 Hot-Swap AC Power Supply is a highly reliable modular package designed for AC power input systems. Extra-high current density allows this unit to deliver up to 40 amperes on either the +5 or +3.3 volt outputs at 50 C.

This highly dense, hot-swap, redundant supply is ideally suited for telecommunications, industrial automation and a variety of embedded computer applications utilizing the CompactPCI® 3U x 8HP x 160 mm form factor.

The universal input voltage range is 90 to 264VAC @ 47 to 63Hz with remote sense and active current sharing. Four outputs are capable of providing total combined power of 250W for +3.3VDC, +5VDC and ±12VDC with independent output regulation. The low-cost unit meets the electrical and mechanical requirements of the PICMG® specification for CompactPCI systems. It utilizes a PICMG 2.11-compliant 47-pin power connector to provide efficient, effective connectivity and is UL, CSA, TUV and CE certified. The ZT 6313 250-Watt Hot-Swap DC Power Supply is available as the DC input alternative (36-75VDC).

## Design Elements

### Operation

The ZT 6303 250W power supply utilizes switching technology to achieve its small size and large power output. An EMI-filtered universal input automatically accepts AC input voltages from 90 to 264V. Optionally, two or more power supplies can be used to implement an N+1, load sharing, fault-tolerant system.

### Load Sharing and N+1 Redundancy

Two power supplies can share the same output load. These two supplies each supply approximately 50 percent of the total output power during normal operation, although either is capable of powering the entire system in the event that the other should fail (with a 250W load). This feature increases overall system reliability by sharing the load responsibilities. Additional power supplies may be used to implement true N+1 load sharing (i.e., a 500W system requires two power supplies, plus a third for redundancy).

### Hot-Swap and Fault Tolerance

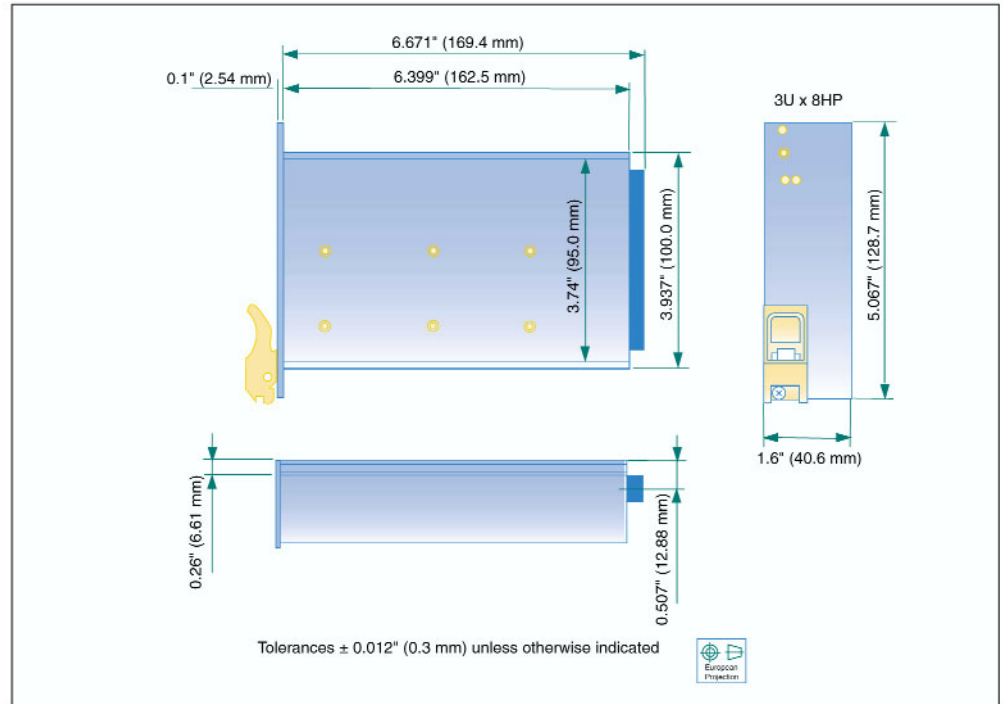
The power supplies can be inserted or removed from the system without disturbing operation or reducing the reliability of any associated devices. Likewise, a failed power supply will not disturb the operation of the system if a redundant power supply is operating in the system.

### Power Factor Correction

Power factor correction is utilized on the ZT 6303 to conserve power and decrease energy costs. The power factor correction circuitry also achieves reduced power line harmonics.

# ZT 6303

250-Watt Hot-Swap AC Power Supply



CPS Series - 250-Watt

## Status LEDs

Two status LED indicators are visible from the front of the power supply. The green "INPUT" LED indicates that the input voltage is present. The red "FAULT" LED indicates a failed power supply or input source.

## Remote Sense

Remote sense on the +3.3V, +5V and +12V power supply outputs compensate for connector, backplane and wiring voltage drops.

## Inhibit/Enable Inputs

The Inhibit (INH#) input signal on the rear connector will turn off the outputs when connected to logic ground. The Enable (EN#) input must be connected to logic ground for proper operation of the supply; this signal input is used as the last-mate / first-break contact for hot-swap operation. Both signals are open-drain TTL compatible inputs.

## System Notification

Two fault outputs are available on the rear connector for system notification. One output (DEG#) is an open-drain, low-true signal that indicates the internal temperature is approaching the maximum internal operating temperature. If action does not reverse the internal temperature rise, the supply will shut off the outputs. The second output (FAL#) is an open-drain, low-true signal that indicates that any of the outputs have failed and/or the input voltage has dropped less than 85VAC.

## Contact Information

### Performance Technologies

205 Indigo Creek Dr.  
Rochester, NY 14626  
Tel: 585-256-0200  
Fax: 585-256-0791  
E-mail: sales@pt.com

[www.pt.com](http://www.pt.com)

## Warranty

One year



# ZT 6303

## 250-Watt Hot-Swap AC Power Supply

### Ordering Information

>> To discuss your requirements and/or pricing, please contact sales@pt.com.

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### Specifications

#### Input Specifications

- Input Voltage Range: 85-264VAC
- Input Frequency Range AC: 47 to 63Hz
- Hold-up Time: 20 ms
- Input Protection: internal input line fuse
- Inrush surge current: 30A max., cold-start
- Internal Switching Frequency: 125-145kHz

#### Output Specifications

Output Voltage	Output Current	Line Regulation	Load Regulation	Load Regulation
+5V	40A	0.5%	1%	2%
+3.3V	40A	0.5%	1%	2%
+12V	5.5A	0.5%	1%	1.3%
-12V	1.5A	0.5%	1%	1.3%

\* Maximum peak-to-peak expressed as a percentage of output voltage, 20MHz bandwidth

- Efficiency: 80% @ full rated load, 115VAC
- Minimum Load (V1, V2, V3): None
- Minimum Load on V3 required to maintain regulation on V4: 75% of V4 load
- Output Power @ 250 LFM forced-air cooling: 200W
- Output Power @ 400 LFM forced-air cooling: 250W
- Overshoot/Undershoot at turn-on: 0%
- Turn-on delay: 150ms to initial output stabilization
- Initial Setting Accuracy: +/- 1%

#### Internal Protection

- Overvoltage Protection: 120-130% Vnom (latch style overvoltage protection)
- Overload Protection: Fully protected against output overload and short circuit, with automatic recovery upon removal of overload condition.
- Overtemperature Protection: System shutdown due to excessive internal temperature, automatic reset.

#### Environmental

- Operating Temperature @ 100% load: 0 to 50 C
- Operating Temperature @ 50% load: 0 to 70 C
- Storage Temperature: -40 to +85 C
- Non-Condensing Relative Humidity: 5 to 95%
- Shock @ Peak Acceleration: 20 GPK
- Random Vibration @ 10Hz to 2KHz: 6 GRMS
- Operating Altitude: 10K ASL ft.
- Non-Operating Altitude: 40K ASL ft.
- Weight: 1.75 lbs (0.8 Kg)
- Overall Size: 5.07"H x 1.60"W x 6.40"D (128.7mm x 40.6mm x 162.5 mm)

#### Safety Agency Approvals

- UL1950
- cUL1950
- TUV EN60950

#### Conducted RFI

- Meets FCC Class A
- EN55022/CISPR 22 Class A

#### Dielectric Withstand Voltage

- 4243VDC (Input to Output per EN60950)

#### ESD Susceptibility

- 8kV per EN61000-4-2, level 4

#### Radiated Susceptibility

- 10 V/M per EN61000-4-3, level 3

#### EFT/Burst

- +/- 2kV per EN61000-4-4, level 3

#### Line to Line Input Surge

- 1kV per EN61000-4-5, level 3

#### Line to Ground Input Surge

- 2kV per EN61000-4-5, level 3

#### Conducted Disturbance

- 3V per EN61000-4-6, level 2

#### Insulation Resistance (Input to Output)

- 10Mohms