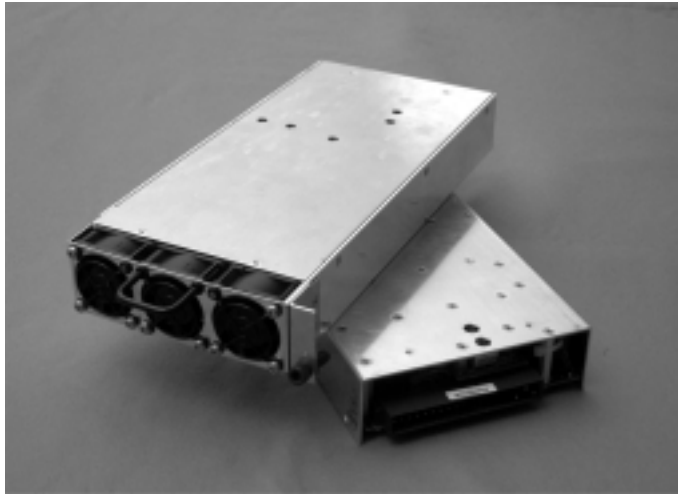


# AC/DC Front End

## 800 Watts ZC8 Series

**XPiQ inc.**  
Intelligent Design Quality Product



Hot Swap or Chassis Mount  
Front End Switcher

•  
Optional 3 Bay / 1U High Rack for  
Hot-Swap 2+1 Redundant Operation

•  
Active PFC - Meets EN61000-3-2, -3

•  
World Wide Safety Approvals & CE Mark

•  
OR'ing Diodes Standard on all Models

•  
Single Wire Current Share

## Specification

### Input

- AC Input Voltage • 85-264 VAC
- Input Frequency • 47-63 Hz
- Power Factor • 0.99
- Inrush Current • Limited to 30 A peak
- Input Protection • Internal 20 A fuse

### Output

- Output Voltage • 12, 24 or 48 VDC with 5 VSB at 250 mA
- Output Power • 650-800 W
- Output Voltage Adjustment •  $\pm 5\%$  min
- Minimum Load • No minimum load for all outputs
- Line/Load Regulation •  $\pm 2\%$
- Ripple & Noise • 1% pk-pk maximum
- Transient Response • 4% max deviation, 300  $\mu$ s recovery time for a 25% load change
- Temperature Coefficient • 0.02%/°C
- Hold Up Time • 20 ms minimum
- Remote Sense • Up to 0.25 V compensation
- Overvoltage Protection • Latched shutdown, recycle input to reset
- Overcurrent Protection • Standard with auto recovery
- Overtemperature Protection • Logic high signal for overtemp conditions
- Current Sharing •  $\pm 10\%$

### General

- Efficiency • 75-85% typical at full load
- MTBF • 200,000 hrs per Bellcore
- Isolation Voltage • 3000 VAC Input to Output  
1500 VAC Input to Ground  
500 VAC Output to Ground
- Signals • DC OK = Logic Low  
AC Fail = Logic High  
Global Inhibit = Logic Low  
Enable = Logic Low  
Overtemp = Logic Hi
- LED Indicators • 2 status indicators
- Size • 5.0" x 10.0" x 1.6"
- Weight • 2.9 lbs. (1.3 kgs.)

### Environmental

- Operating Temperature • 0°C to +70 °C, full power to +50 °C derate from +50 °C to 70 °C at 2.5%/°C
- Cooling • Internal ball bearing fans
- Humidity • <95% RH, non-condensing
- Storage Temperature • -40 °C to +85 °C

### EMC & Safety

- Safety Approvals • UL1950, CSA C22.2 No 950, EN60950 CE Mark LVD
- EMC • EN61000-3-2, -3, EN55022 and FCC 20780 part 15J Class B conducted
- Immunity & Surge • Meets EN61000-4-4, -5

# OUTPUT VOLTAGE & CURRENT RATINGS

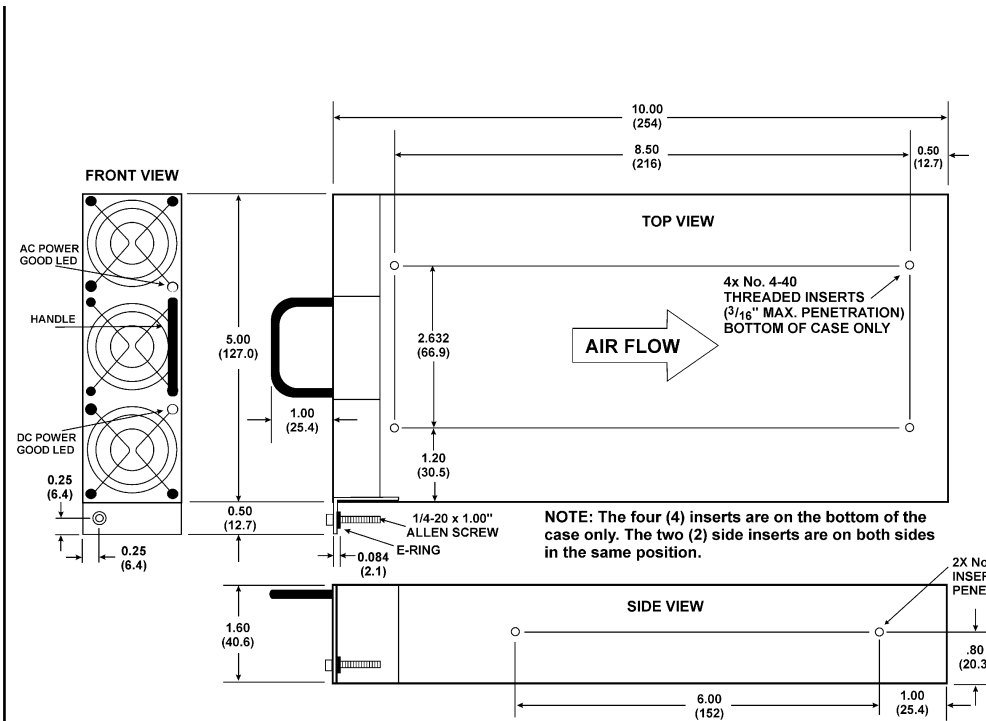
ZC8

Package Style	Maximum Power	Output Voltage	Maximum Amps	Model Number
Hot Swap	650 W	12.0 V	54.2 A	<b>ZCA8HPS12</b>
	700 W	24.0 V	29.2 A	<b>ZCA8HPS24</b>
	800 W	48.0 V	16.7 A	<b>ZCA8HPS48</b>
Chassis Mount	650 W	12.0 V	54.2 A	ZCA8CPS12
	700 W	24.0 V	29.2 A	ZCA8CPS24
	800 W	48.0 V	16.7 A	ZCA8CPS48
Hot Swap with Front Panel IEC-320 Inlet with Switch	480 W	12.0 V	40.0 A	ZCA8HPS12C
	525 W	24.0 V	21.9 A	ZCA8HPS24C
	600 W	48.0 V	12.5 A	ZCA8HPS48C
Chassis Mount with Front Panel IEC-320 Inlet with Switch	480 W	12.0 V	40.0 A	ZCA8CPS12C
	525 W	24.0 V	21.9 A	ZCA8CPS24C
	600 W	48.0 V	12.5 A	ZCA8CPS48C

## Notes

- 1 Part numbers in bold type are standard stock models, all others including options below are build to order.
2. Standard airflow is front to rear. For optional reverse airflow add suffix R to the part number. Derate rear input models 20%, front panel IEC-320 inlet models 16.6%.
3. Optional I<sup>2</sup>C function by adding the suffix I to the part number.
4. Optional reverse airflow and I<sup>2</sup>C function by adding the suffix M to the part number. Derate rear connector models 20%, front panel IEC-320 inlet models 16.6%.

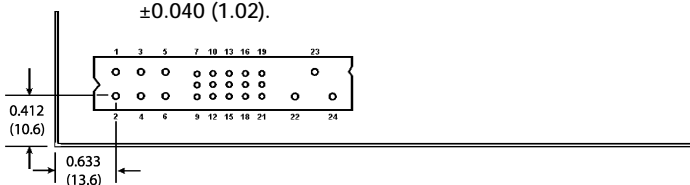
## Mechanical Details - Power Supply



## Notes:

1. Hot swap models are illustrated in the mechanical drawing. Chassis mount models do not have handle or mounting bracket with thumb-screw.
2. For unit to operate, Enable Pin (Pin 7) must be at logic LO or shorted to Pin 9.
3. For proper operation all output pins (1-3) should be connected together. Also, all returns pins (4-6) should be connected together.
4. Pins 11, 12, 14, 17 & 19 functions are only present with I<sup>2</sup>C option.
5. Dimensions shown in inches (mm).
6. Vertical blackplane mounting may not allow for sufficient airflow. Horizontal backplane, or additional spacing with a vertical backplane is recommended.

Connector: Positronics PCIB24W9M400A1  
 Mate: PCIB24W9F400A1  
 Note: Output Connector is flush with the end of the case ±0.040 (1.02).



Pin Connections			
Pin	Function	Pin	Function
1	+V Out	13	Module Present
2	+V Out	14	DC Power Good/Add GA1
3	+V Out	15	AC Power Fail
4	V Return	16	V Trim
5	V Return	17	Overtemp. Warning/Add GA0
6	V Return	18	Current Share
7	Enable	19	Current Monitor/Add GA2
8	+Sense	20	+5V Standby
9	-Sense	21	Standby Return
10	Inhibit	22	Chassis Ground
11	Spare/SDA	23	AC Line
12	Spare/SCL	24	AC Neutral

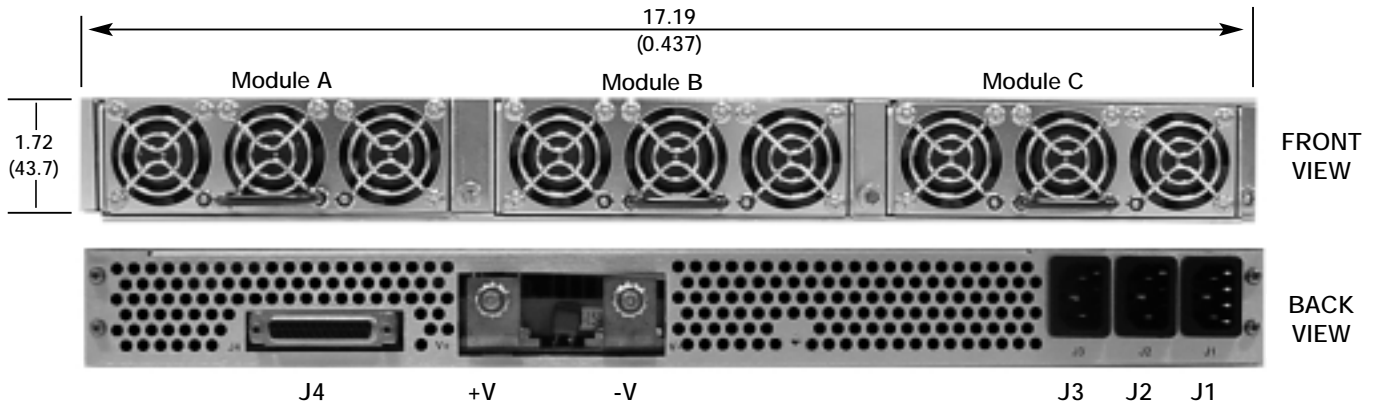
## STANDARD RACK MODELS

Package Style	Model Number
3 Modules with Rear Panel IEC-320 Inlets (for all ZCA8HPSXX Hot Swappable Supplies)	<b>ZCA-1U3R-R</b>
3 Modules with Front Panel IEC-320 Inlets (for all ZCA8HPSXXC Hot Swappable Supplies Modules with Front Panel IEC-320 Inlets)	ZCA-1U3R-C

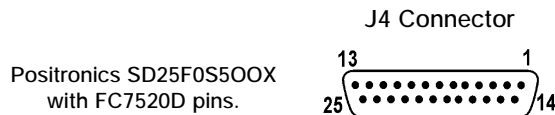
### Notes

- 1 All output connections are made to the rear of both racks. AC input is via IEC603020 connectors either at the rear of the rack (J1 goes to module A, connector J2 to module B and connector J3 to module C) or the front of each individual module.
2. The output of all modules are connected in parallel in the rack.
3. The input voltage range is 85-264 for maximum power in either redundant or non-redundant operation.
4. The Module Present outputs (J4 pins 20, 21 and 22) are grounded (to -Sense) when the module is plugged in and open when the module is out.
5. Optional I<sup>2</sup>C modules require the following part numbers and are build to order: ZCA-1U3R-I for rear panel IEC input, or ZCA1U3R-CI for front panel IEC

## Mechanical Details for ZCA-1U3R-R



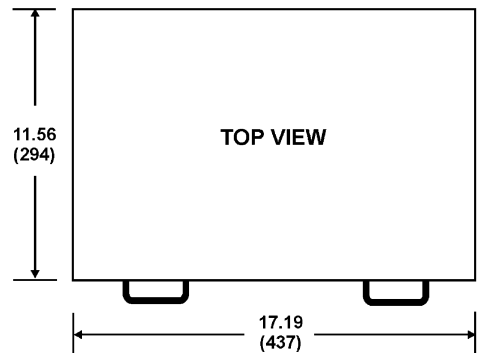
Output Bus Bars are Copper with 1/4-20 studs with nuts.



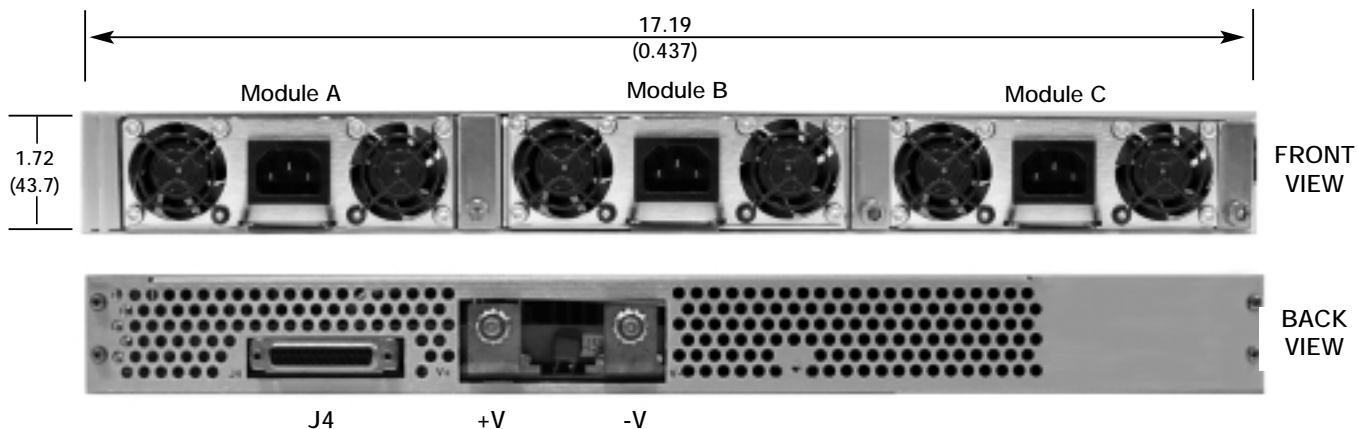
J4 Pin Connections			
Pin	Function	Pin	Function
1	Inhibit	14	AC Power Fail A
2	OVT. Warning A*	15	DC Power Good A*
3	Current Monitor A*	16	AC Power Fail B
4	OVT Warning B*	17	DC Power Good B*
5	Current Monitor B*	18	AC Power Fail C
6	OVT Warning C*	19	DC Power Good C*
7	Current Monitor C*	20	Module Present A
8	+5V Standby	21	Module Present B
9	SDA	22	Module Present C
10	Current Share	23	-Sense
11	+Sense	24	V Adj. A
12	V Adj. B	25	V Adj. -C
13	SCLK		

\* These signals are only present when I<sup>2</sup>C option is used.

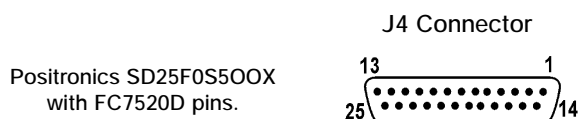
Note: All signal returns are referenced to Pin 23 (-Sense)  
Pin 8 is + 5V/250mA standby



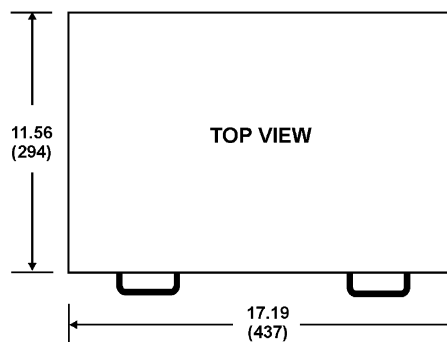
## Mechanical Details for ZCA-1U3R-C



Output Bus Bars are Copper with 1/4-20 studs with nuts.



J4 Pin Connections			
Pin	Function	Pin	Function
1	Inhibit	14	AC Power Fail A
2	OVT. Warning A*	15	DC Power Good A*
3	Current Monitor A*	16	AC Power Fail B
4	OVT Warning B*	17	DC Power Good B*
5	Current Monitor B*	18	AC Power Fail C
6	OVT Warning C*	19	DC Power Good C*
7	Current Monitor C*	20	Module Present A
8	+5V Standby	21	Module Present B
9	SDA	22	Module Present C
10	Current Share	23	-Sense
11	+Sense	24	V Adj. A
12	V Adj. B	25	V Adj. -C
13	SCLK		



\* These signals are only present when I<sup>2</sup>C option is used.

Note: All signal returns are referenced to Pin 23 (-Sense)  
Pin 8 is +5V/250mA standby

See XPIQ website for detailed specifications and application notes.