

# AC/DC Front End

## 4000 Watts CFP4K Series

**XPIQ inc.**

Intelligent Design Quality Product



- Hot Swap N + 1 Redundant
- Single Phase or Three Phase Input
- Power Factor Correction
- Overvoltage, Overcurrent and Thermal Protection
- Visual LED Indicators
- 19" 3U High Rack Available
- International Safety Approvals

### Specification

#### Input

- Input Voltage • 180-264 VAC
- Input Frequency • 47-63 Hz
- Inrush Current • 50 A max
- Input Current • 25.5 A at 180 VAC full load single phase, 15 A/phase at 180 VAC full load 3 phase
- Remote On/Off • On = TTL high or open, Off = TTL low
- Input Fusing • 30 A internal for 1 phase, 20 A for 3 phase
- Transient Protection • MOV and Gas Tube

#### Output

- Output Voltage • +48 VDC nominal
- Output Power Good • TTL high = power good  
TTL low = output out of limits
- Minimum Load • No minimum load required
- Output Voltage Range • +43.2 to +52.8 VDC via trim pot
- Margining • High: +51.75 to +53.85 VDC  
Low: +42.35 to 44.15 VDC
- Line/Load Regulation • ±0.5% using remote sense,  
±5% for 5 V stand by
- Ripple & Noise • 480 mV pk-pk maximum
- Transient Response • 3% max deviation 0.50ms  $\mu$ s recovery time for a 25% load change
- Start-up Time • 2 seconds max
- Hold Up Time • >16 ms at 230 VAC minimum
- Output Rise Time • 250 ms
- Overshoot/Undershoot • 1% at turn on/off
- Temperature Coefficient • 0.02%/°C
- Overvoltage Protection • +55 to +63 VDC  
Reset by cycling input power

- Current Limit Protection • 110-140% V1, 5VSB <2.5 A latches off after 2 seconds
- Overtemperature Protection • Shutdown at +95 °C with auto reset

#### General

- Efficiency • 89% typical at 230 VAC
- Power Factor • 0.99 for 1 phase input, 0.95 for 3 phase input
- MTBF • 300,000 hrs per Bellcore-std
- LED Indicators • DC Good: Green LED; Temperature OK Green LED; and AC Good: Amber LED
- Size • 5.0" x 5.0" x 14.12" not including handle
- Weight • 13.5 pounds

#### Environmental

- Operating Temperature • 0 °C to +50 °C, derate linearly 2.2%/°C to +65 °C
- Cooling • Internal ball bearing fan
- Shock & Vibration • MIL STD-810F NEBS Compliant to Bellcore GR 63 Core

#### EMC & Safety

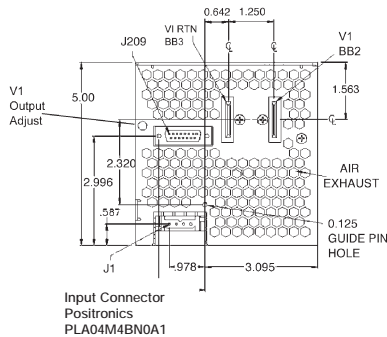
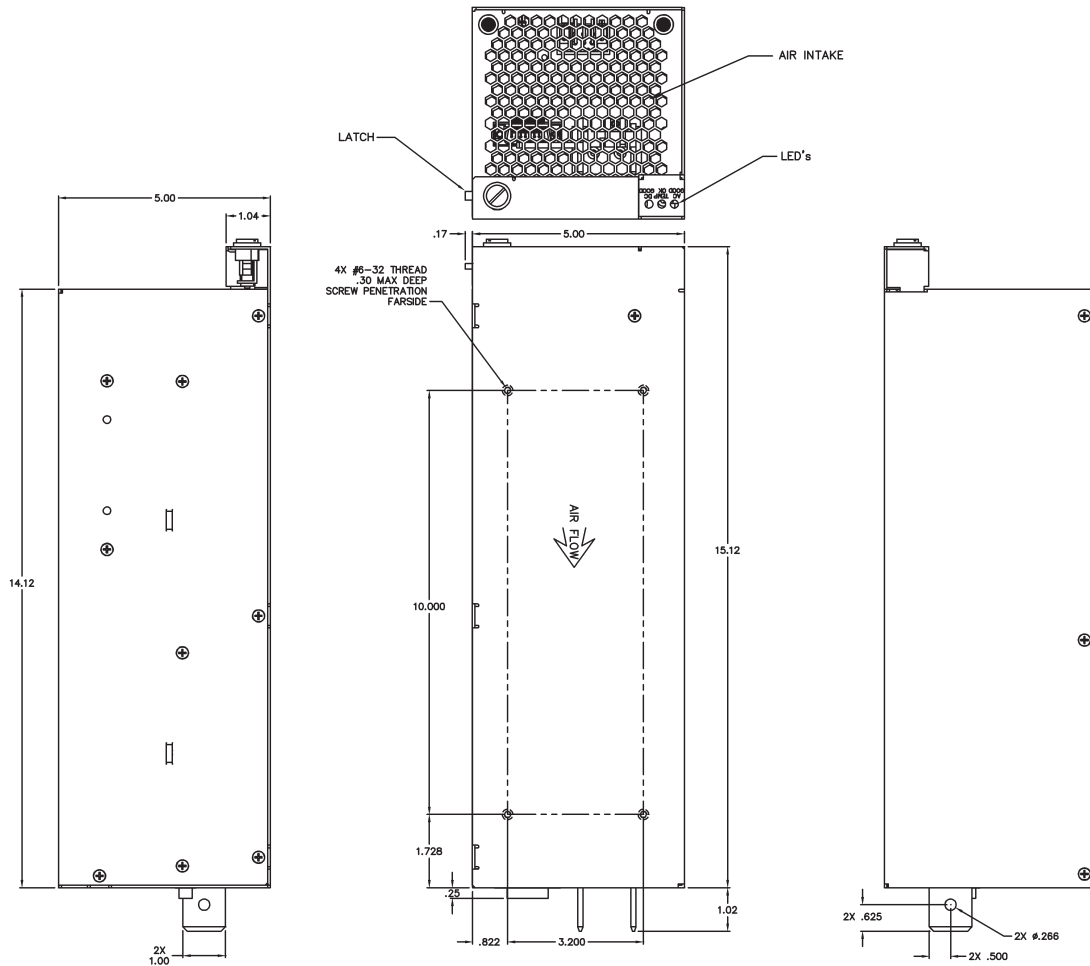
- Safety Approvals • UL1950, CSA 22.2 No. 650 EN60950 & CE Mark LVD Meets EN61000-3-2, -3, CISPR22 and FCC Part 15 Class A Bellcore GR-1089-Core
- EMI/EMC

# OUTPUT VOLTAGE & CURRENT RATINGS

CFP4K

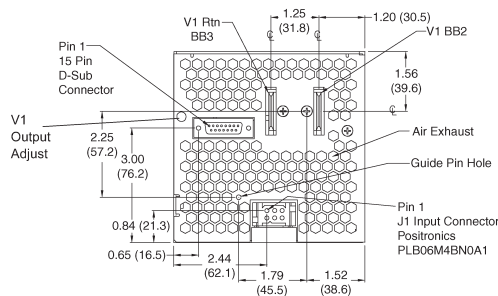
Input	Output Voltage V1	Output Current	Standby Output	Output Power	Model Number
Single Phase	+48 VDC	83 A	5.0 V/0.5 A	4,000 W	CFP4KPS48FE
Three Phase	+48 VDC	83 A	5.0 V/0.5 A	4,000 W	CFP4KPS48FE-3P

## Mechanical Details Module



### Three Phase Input

Input Mating Connector is: Positronics PLA04F8000 with FC114N2 pins



### Single Phase Input

Input Mating Connector is: Positronics PLB06F0000 with FC114N2 pins

## Module Connector Pin Charts

### OUTPUT (BUS BAR) Mating Connector is Elcon 538-17-00100

Bus Bar	Function
BB2	V1
BB3	RTN

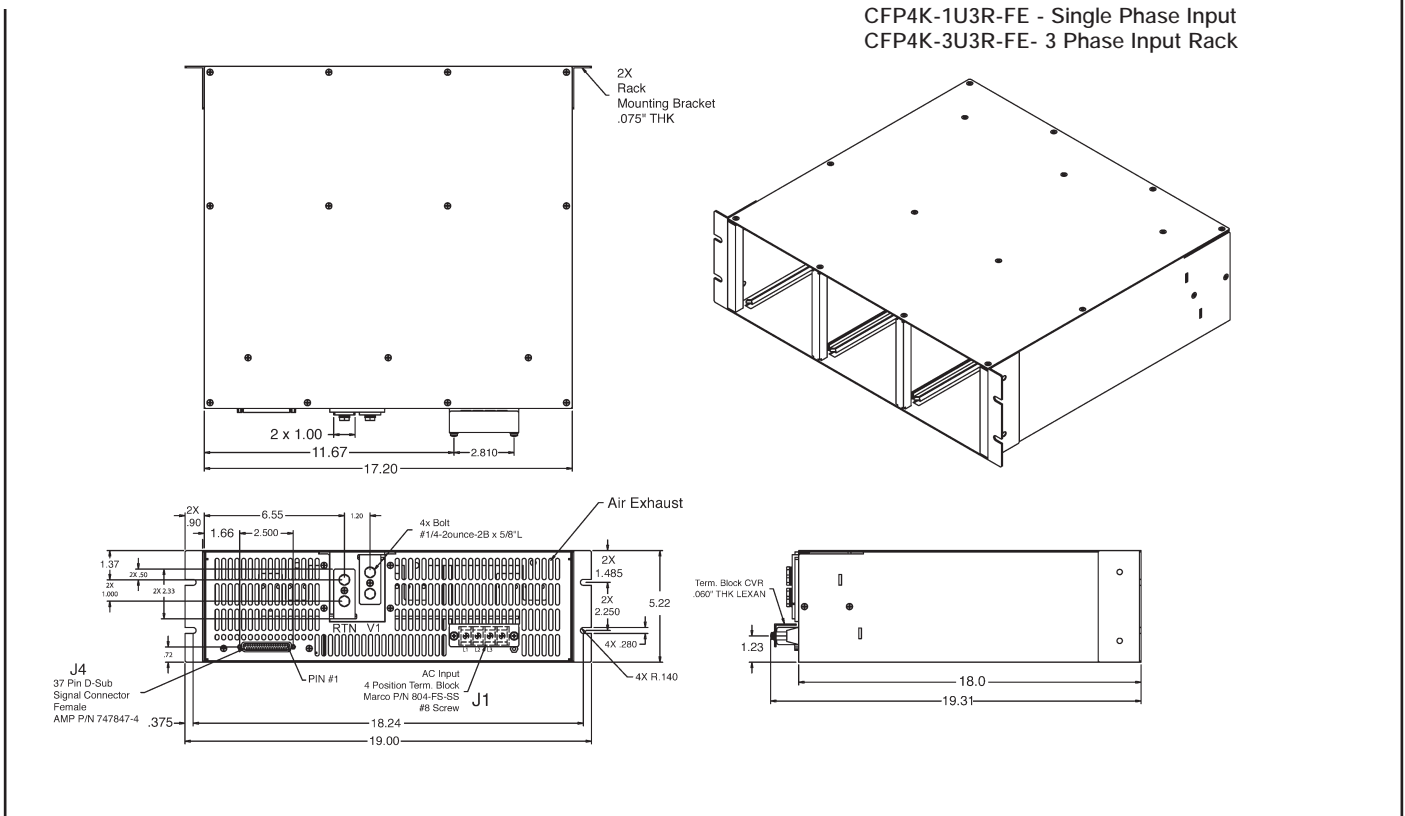
### INPUT CONNECTOR

Connector No.	Single Phase		Three Phase	
	Pin No.	Function	Pin No.	Function
J1	1,4	Chassis Ground	1	Line 1
J1	2,5	Line (L)	2	Line 2
J1	3,6	Neutral	3	Line 3
			4	Chassis Ground

### SIGNAL CONNECTOR Mating Connector is Amp 205205-3 with 205090-1 pins

Connector No.	Pin No.	Function
J209	1	5 vbs
J209	2	5 vsb rtn
J209	3	Module Present
J209	4	PGood
J209	5	On/Off
J209	6	I share
J209	7	Mod-Ena
J209	8	OVP test point
J209	9	Ac fail
J209	10	Margin 1
J209	11	V1 Sense
J209	12	Not Used
J209	13	Temp. Ok
J209	14	RS (Return Sense)
J209	15	N/C

## Rack Mechanical Details



## Rack System Connector Pin Charts

SIGNAL CONNECTOR		
Connector No.	Pin No.	Function
J4	1	5vsbrtn
J4	2	Temp.Ok1
J4	3	PGood1
J4	4	ACFail
J4	5	Present 1
J4	6	On/Off1
J4	7	5vsbrtn
J4	8	Temp.Ok2
J4	9	PGood2
J4	10	ACFail2
J4	11	Present2
J4	12	On/Off2
J4	13	5vsbrtn
J4	14	Temp.Ok3
J4	15	PGood3
J4	16	ACFail3
J4	17	Present3
J4	18	On/Off3
J4	19	N/U
J4	20	N/U
J4	21	N/U
J4	22	N/U
J4	23	N/U
J4	24	N/U
J4	25	V1 Sen+
J4	26	Sen -
J4	27	Margin 1
J4	28	Margin 2
J4	29	N/U
J4	30	I-Share
J4	31	RTN
J4	32	N/U
J4	33	5vsbrtn
J4	34	5vsbrtn
J4	35	5Vsb
J4	36	5Vsb
J4	37	N/U

INPUT CONNECTOR - SINGLE PHASE MODEL CFP4K-1U3R-FE		
Connector No.	Pin No.	Function
J1	1	Chassis Ground
J1	2	Line (L)
J1	3	Neutral (N)

INPUT CONNECTOR - THREE PHASE MODEL CFP4K-3U3R-FE		
Connector No.	Pin No.	Function
J1	1	Phase 1
J1	2	Phase 2
J1	3	Phase 3
J1	4	Chassis Ground