



## 200 WATTPOWER FACTOR CORRECTED SUPPLIES

### DESCRIPTION

The PFC200 series comprises single and multiple output models for 200 watts of continuous output power. All models have a power factor better than 0.95, and have the same mechanical dimensions and output pinning as their corresponding PU200 series models. All auxiliary outputs are with magnetic amplifier to keep regulation. The units are constructed on a printed circuit board with a U-bracket for mechanical support and heat sinking. Both "B" and "C" versions are with UL, CSA and TÜV approvals.

### FEATURES

- Power factor 0.98 typical
- 90 VAC to 264 VAC universal input
- In compliance with EN 55024, EN 61000-3-2 and EN 61000-3-3
- Overvoltage protection
- Short-circuit protection
- Power Fail Detect  PFD  signal
- 100  burn-in at full rated load
- Remote sense on single output models

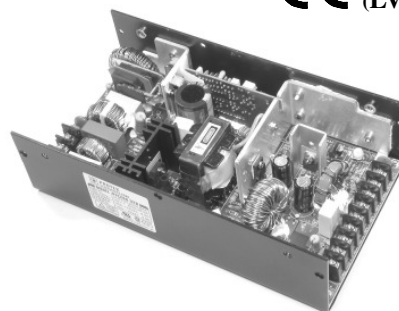
### INPUT SPECIFICATIONS

<b>Input voltage</b> <input type="checkbox"/>	90 to 264 VAC
<b>Input frequency</b> <input type="checkbox"/>	47 to 63 Hz
<b>Input current</b> <input type="checkbox"/>	3.6A <input type="checkbox"/> rms <input type="checkbox"/> for 115VAC 1.8A <input type="checkbox"/> rms <input type="checkbox"/> for 230VAC
<b>Leakage current</b> <input type="checkbox"/>	0.4mA max. @115VAC, 60Hz 0.8mA max. @230VAC, 50Hz 60Hz

### OUTPUT SPECIFICATIONS

<b>Output voltage/current</b> <input type="checkbox"/>	See rating chart
<b>Total output power</b> <input type="checkbox"/>	200 watts maximum
<b>Ripple and noise</b> <input type="checkbox"/>	2 <input type="checkbox"/> peak to peak maximum
<b>Overvoltage protection</b> <input type="checkbox"/>	Provided on output #1 only; set at 112-132 <input type="checkbox"/> of its nominal output voltage
<b>Overcurrent protection</b> <input type="checkbox"/>	All outputs protected to short circuit conditions
<b>Temperature coefficient</b> <input type="checkbox"/>	All outputs $\pm 0.04$ <input type="checkbox"/> / <input type="checkbox"/> maximum
<b>Transient response</b> <input type="checkbox"/>	Maximum excursion of 4 <input type="checkbox"/> or better on all models, recovering to 1 <input type="checkbox"/> of final value within 500us after a 25 <input type="checkbox"/> step load change
<b>PFD signal</b> <input type="checkbox"/>	TTL logic high for normal operation and TTL logic low upon loss of input power. This signal appears at least 1 ms prior to +5V output dropping 5 <input type="checkbox"/> below its nominal value. This signal also provides a minimum delay of 100 ms after +5V is within regulation.

### PFC200 SERIES



### Safety Standard Approvals



**UL 60950-1, CSA C22.2 NO. 60950-1**  
**File No. E137410**

**TÜV EN60950-1**  
**Certificate No. R9955628**

### ENVIRONMENTAL SPECIFICATIONS

<b>Operating temperature</b> <input type="checkbox"/>	0 <input type="checkbox"/> to +70 <input type="checkbox"/>
<b>Storage temperature</b> <input type="checkbox"/>	-40 <input type="checkbox"/> to +85 <input type="checkbox"/>
<b>Relative humidity</b> <input type="checkbox"/>	5% to 95% non-condensing
<b>Derating</b> <input type="checkbox"/>	Derate from 100 <input type="checkbox"/> at +50 <input type="checkbox"/> linearly to 50% at +70 <input type="checkbox"/>
<b>Cooling</b> <input type="checkbox"/>	25 CFM forced air, provided on "C" version, to be provided for "B" version by user

### GENERAL SPECIFICATIONS

<b>Switching frequency</b> <input type="checkbox"/>	94KHz $\pm 10$ KHz
<b>Power factor</b>	0.98 typical
<b>Efficiency</b> <input type="checkbox"/>	70 <input type="checkbox"/> minimum on all models
<b>Hold-up time</b> <input type="checkbox"/>	12 msec minimum at 110VAC
<b>Line regulation</b> <input type="checkbox"/>	$\pm 0.5$ <input type="checkbox"/> maximum at full load
<b>Inrush current</b> <input type="checkbox"/>	20 amps @ 115VAC, or 40 amps @ 230VAC, at 25 <input type="checkbox"/> cold start
<b>Withstand voltage</b> <input type="checkbox"/>	3000VAC from input to output 1500VAC from input to ground 500VAC from output to ground
<b>MTBF</b> <input type="checkbox"/>	300,000 hours at full load at 25 <input type="checkbox"/> ambient, calculated per MIL-HDBK-217F
<b>EMC performance (EN55024)</b>	
EN55022:	Class B conducted, Class B radiated
FCC:	Class B conducted, Class B radiated
VCCI:	Class B conducted, Class B radiated
EN61000-3-2:	Harmonic distortion, Class A and D
EN61000-3-3:	Line flicker
EN61000-4-2:	ESD, $\pm 8$ KV air and $\pm 4$ KV contact
EN61000-4-3:	Radiated immunity, 3V/m
EN61000-4-4:	Fast transient/burst, $\pm 1$ KV
EN61000-4-5:	Surge, $\pm 1$ KV diff., $\pm 2$ KV com.
EN61000-4-6:	Conducted immunity, 3Vrms
EN61000-4-8:	Magnetic field immunity, 1A/m
EN61000-4-11:	Voltage dips, 30 <input type="checkbox"/> reduction for 500ms and >95 <input type="checkbox"/> reduction for 10ms

# UNIVERSAL INPUT

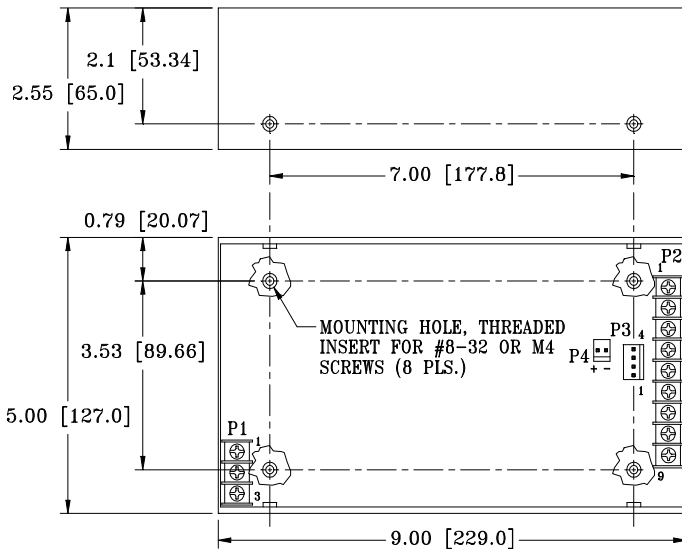
# PFC200 SERIES

## OUTPUT VOLTAGE/CURRENT RATING CHART

(1)(5) Model	Output #1				Output #2 (2)				Output #3				Output #4 (3)				Maximum Output Power (4)
	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	
PFC200-10	5V	3.0A	40A	2%	(N/A)				(N/A)				(N/A)				200W
PFC200-12	12V	1.2A	16.7A	2%	(N/A)				(N/A)				(N/A)				200W
PFC200-13	15V	1.0A	13.4A	2%	(N/A)				(N/A)				(N/A)				200W
PFC200-14	24V	0.6A	8.4A	2%	(N/A)				(N/A)				(N/A)				200W
PFC200-16	30V	0.5A	6.7A	2%	(N/A)				(N/A)				(N/A)				200W
PFC200-18	48V	0.5A	4.2A	2%	(N/A)				(N/A)				(N/A)				200W
PFC200-23	+5V	3.0A	30A	2%	+12V	0A	8A	4%	(N/A)				(N/A)				200W
PFC200-24	+5V	3.0A	30A	2%	+15V	0A	6A	4%	(N/A)				(N/A)				200W
PFC200-25	+5V	3.0A	30A	2%	+24V	0A	4A	4%	(N/A)				(N/A)				200W
PFC200-30	+5V	3.0A	30A	2%	+12V	0A	8A	4%	-5V	0A	6A	4%	(N/A)				200W
PFC200-31	+5V	3.0A	30A	2%	+12V	0A	8A	4%	-12V	0A	4A	4%	(N/A)				200W
PFC200-32	+5V	3.0A	30A	2%	+15V	0A	6A	4%	-15V	0A	4A	4%	(N/A)				200W
PFC200-33	+5V	3.0A	30A	2%	+15V	0A	6A	4%	-12V	0A	4A	4%	(N/A)				200W
PFC200-40	+5V	3.0A	30A	2%	+12V	0A	8A	4%	-12V	0A	4A	4%	5V	0A	6A	4%	200W
PFC200-41	+5V	3.0A	30A	2%	+15V	0A	6A	4%	-15V	0A	4A	4%	24V	0A	4A	4%	200W
PFC200-42	+5V	3.0A	30A	2%	+12V	0A	8A	4%	-12V	0A	4A	4%	12V	0A	4A	4%	200W
PFC200-44	+5V	3.0A	30A	2%	+12V	0A	8A	4%	-15V	0A	4A	4%	15V	0A	4A	4%	200W
PFC200-45	+5V	3.0A	30A	2%	+12V	0A	8A	4%	-12V	0A	4A	4%	24V	0A	4A	4%	200W

- Notes:
- (1) Add suffix "B" for U-bracket format and "C" for enclosed format, e.g. PFC200-45C.
  - (2) Peak current is 12A on +12V, 9A on +15V and 6A on +24V.
  - (3) Output #4 is floating. It can be connected externally for positive or negative output.
  - (4) 200 watts for "C" version with a cover-and-fan assembly. 150 watts for "B" version without moving air (maximum current of output #1 & #2 derated to 70%), or 200 watts with 25 CFM forced air provided by user.
  - (5) All models may be operated at no-load. At no-load, output voltage tolerance increases to 10%. The output #1 of multiple Output models requires 3A to support other outputs at their maximum rated loads.

## MECHANICAL SPECIFICATIONS



### NOTES:

1. Dimensions shown in inch [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector P1 is Beau Inc. P/N 72-5-03C, output connector P2 is Beau Inc. P/N 72-5-09C, Screws are #6-32 on 0.375 inch centers.
4. Connector P3 mates with Molex housing 22-01-1043 and Molex 40445 series crimp terminal.
5. Connector P4 mates with Molex housing 22-01-1023 and Molex 40445 series crimp terminal.
6. P4 is for DC fan rated 24V/0.12A (models PFC200-14, -16, -25), or 12V/0.2A (other models).
7. Weight:  
1.30 Kgs (2.86 Lbs.) approx. for "B" version  
1.50 Kgs (3.30 Lbs.) approx. for "C" version

## PIN CHART

MODEL	CONN PIN	P1			P2						P3			
		1	2	3	1, 2	3, 4, 5	6	7	8	9	1	2	3	4
PFC200-10	PM200-12	AC LIVE	AC NEUTRAL	AC GROUND	-SENSE	RET.	OUTPUT #1	OUTPUT #1	OUTPUT #1	+SENSE	FAN	COM. RET.	COM. RET.	PFD
PFC200-13	PM200-14	AC LIVE	AC NEUTRAL	AC GROUND	OUTPUT #1	COM. RET.	OUTPUT #2	N.C.	N.C.	N.C.	FAN	COM. RET.	COM. RET.	PFD
PFC200-16	PM200-18	AC LIVE	AC NEUTRAL	AC GROUND	OUTPUT #1	COM. RET.	OUTPUT #2	OUTPUT #3	N.C.	N.C.	FAN	COM. RET.	COM. RET.	PFD
PFC200-23	PM200-24	AC LIVE	AC NEUTRAL	AC GROUND	OUTPUT #1	COM. RET.	OUTPUT #2	OUTPUT #3	OUTPUT #4 RETURN	OUTPUT #4	FAN	COM. RET.	COM. RET.	PFD
PFC200-25	PM200-25	AC LIVE	AC NEUTRAL	AC GROUND	OUTPUT #1	COM. RET.	OUTPUT #2	OUTPUT #3	OUTPUT #4 RETURN	OUTPUT #4	FAN	COM. RET.	COM. RET.	PFD
PFC200-30	PM200-31	AC LIVE	AC NEUTRAL	AC GROUND	OUTPUT #1	COM. RET.	OUTPUT #2	OUTPUT #3	OUTPUT #4 RETURN	OUTPUT #4	FAN	COM. RET.	COM. RET.	PFD
PFC200-32	PM200-33	AC LIVE	AC NEUTRAL	AC GROUND	OUTPUT #1	COM. RET.	OUTPUT #2	OUTPUT #3	OUTPUT #4 RETURN	OUTPUT #4	FAN	COM. RET.	COM. RET.	PFD
PFC200-40	PM200-41	AC LIVE	AC NEUTRAL	AC GROUND	OUTPUT #1	COM. RET.	OUTPUT #2	OUTPUT #3	OUTPUT #4 RETURN	OUTPUT #4	FAN	COM. RET.	COM. RET.	PFD
PFC200-42	PM200-44	AC LIVE	AC NEUTRAL	AC GROUND	OUTPUT #1	COM. RET.	OUTPUT #2	OUTPUT #3	OUTPUT #4 RETURN	OUTPUT #4	FAN	COM. RET.	COM. RET.	PFD
PFC200-45	PM200-45	AC LIVE	AC NEUTRAL	AC GROUND	OUTPUT #1	COM. RET.	OUTPUT #2	OUTPUT #3	OUTPUT #4 RETURN	OUTPUT #4	FAN	COM. RET.	COM. RET.	PFD