



# 200 WATT POWER 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
- Compliant with RoHS requirements

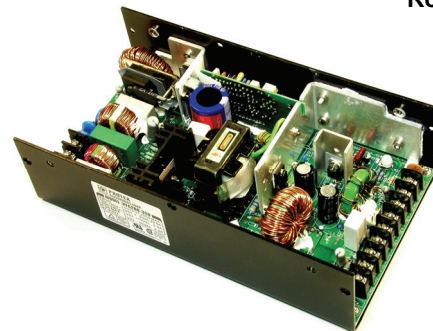
## INPUT SPECIFICATIONS

Input voltage : 90 to 264VAC  
 Input frequency : 47 to 63Hz  
 Input current : 3.6A ( rms ) for 115VAC  
 1.8A ( rms ) for 230VAC  
 Earth leakage current: 0.4mA max. @115VAC, 60Hz  
 (Touch current) 0.8mA max. @230VAC, 50Hz

## OUTPUT SPECIFICATIONS

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

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

## GENERAL SPECIFICATIONS

Switching frequency: 94KHz  $\pm 10$ KHz  
 Power factor: 0.98 typical  
 Efficiency: 70% minimum on all models  
 Hold-up time : 12 msec minimum at 110VAC  
 Line regulation:  $\pm 0.5\%$  maximum at full load  
 Inrush current: 20 amps @ 115VAC or 40 amps @ 230VAC, at 25°C cold start  
 Withstand voltage: 3000VAC from input to output  
 1500VAC from input to ground  
 500VAC from output to ground  
 MTBF: 300,000 hours at full load at 25°C ambient , calculated per MIL-HDBK-217F  
 EMC Performance (EN55024)  
 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% reduction for 500ms and >95% reduction for 10ms

# UNIVERSAL INPUT

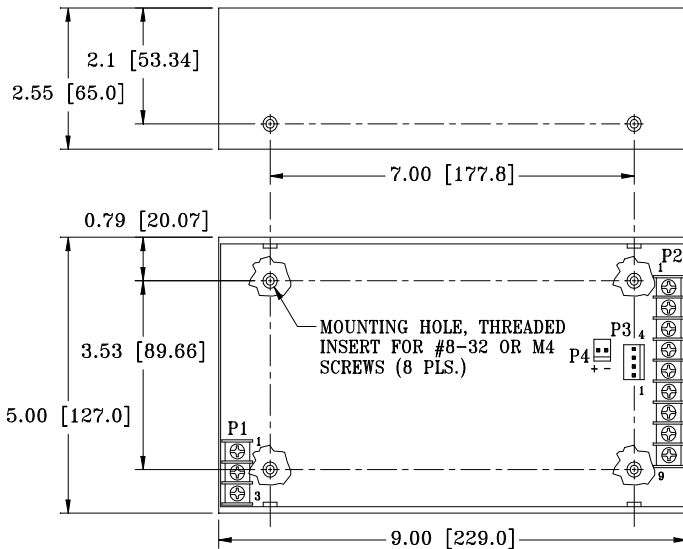
# PFC200 SERIES

## 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. Dimension 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 in 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	PFC200-12	AC LIVE	AC NEUTRAL	AC GROUND	-SENSE	RET.	OUTPUT #1	OUTPUT #1	OUTPUT #1	+SENSE	FAN	COM. RET.	COM. RET.	PFD
PFC200-13	PFC200-14	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	PFC200-18	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	PFC200-24	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
PFC200-30	PFC200-31	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	PFC200-33	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	PFC200-41	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	PFC200-44	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		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