



**DESCRIPTION**

The PFC160 series of AC/DC switching power supplies are capable of delivering 163/165/180 watts of continuous power and incorporate active power factor correction. Two outputs in each unit are equipped with current sharing. Other features include remote sense, Power Fail Detect signal and isolated outputs. The units are constructed on a printed circuit board with a U-bracket for mechanical support and heat sinking. The series is designed to meet the requirements of data networking, computing and telecommunication systems.

**FEATURES**

- EN6100-3-2 class A and D compliant
- Power Factor 0.98 typical
- Overvoltage protection
- Short-circuit protection
- Power Fail Detect (PFD) and remote inhibit
- 100% burn-in at full rated load
- Remote sense on output #1 and output #2
- DC power good
- 5V stand by output
- Compliant with RoHS requirements

**INPUT SPECIFICATIONS**

**Input voltage :** 85 to 264VAC  
**Input frequency :** 47 to 63Hz  
**Input current :** 2.9A ( rms ) for 115VAC  
 1.4A ( rms ) for 230VAC  
**Earth leakage current (Touch current) :** 0.4mA max. @ 115VAC, 60Hz  
 0.8mA max. @ 230VAC, 50Hz

**OUTPUT SPECIFICATIONS**

**Output voltage/current :** See rating chart  
**Total output power :** See rating chart  
**Ripple and Noise :** 1% or 50mV 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 500 $\mu\text{s}$  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 master output dropping 5% below its nominal value. This signal also provides a minimum delay of 100ms after master output is within regulation.  
**Remote inhibit :** Requires an external TTL high level signal to inhibit outputs for standard models.

**PFC160 SERIES**



**Safety Standard Approvals :**



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



TÜV EN60950-1  
 Certificate No. R 50057011

**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 :** 163/165/180 watts continuous output power at 30CFM forced air cooling or 80 watts at convection cooling

**GENERAL SPECIFICATIONS**

**Switching frequency :** 94KHz  $\pm 10\text{KHz}$   
**Power factor :** 0.98 typical  
**Efficiency :** 70% minimum on all models  
**Hold-up time :** 20 msec minimum at 110VAC  
**Line regulation :**  $\pm 0.5\%$  maximum at full load  
**Inrush current :** 18 amps @ 115VAC or 36 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 minimum at full load at 25°C ambient, calculated per MIL-HDBK- 217F  
**EMC Performance (EN55024)**  
**EN55022:** Class B conducted, Class B radiated  
**FCC Part 15:** 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,  $\pm 8\text{KV}$  air and  $\pm 4\text{KV}$  contact  
**EN61000-4-3:** Radiated immunity, 3V/m  
**EN61000-4-4:** Fast transient/burst,  $\pm 1\text{KV}$   
**EN61000-4-5:** Surge,  $\pm 1\text{KV}$  diff.,  $\pm 2\text{KV}$  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

# PFC160 SERIES

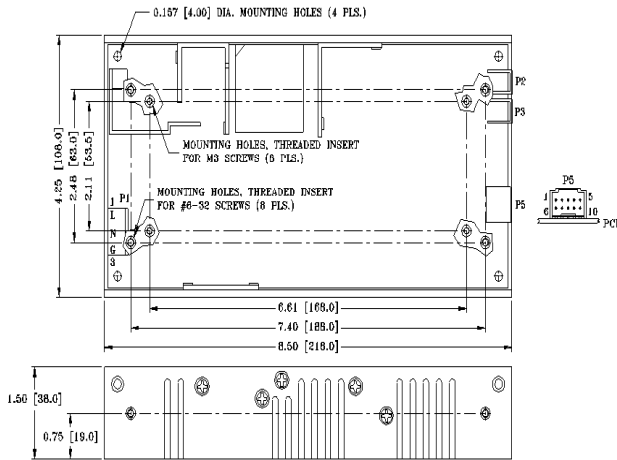
## OUTPUT VOLTAGE/CURRENT RATING CHART

(1)(2)(3)(6) MODEL	Output #1 (4)					Output #2 (4)					Output #3 (5)				Output #4 (5)				Max. Output Power		
	I <sub>max.</sub> No		I <sub>max.</sub> 30			I <sub>max.</sub> No		I <sub>max.</sub> 30			I <sub>max.</sub> No		I <sub>max.</sub> 30		I <sub>max.</sub> No		I <sub>max.</sub> 30				
	V <sub>nom.</sub>	Fan	CFM	I <sub>peak</sub>	Tol.	V <sub>nom.</sub>	Fan	CFM	I <sub>peak</sub>	Tol.	V <sub>nom.</sub>	Fan	CFM	I <sub>peak</sub>	Tol.	V <sub>nom.</sub>	Fan	CFM		I <sub>peak</sub>	Tol.
PFC160-10B	5.1V	16A	32A	40A	2%	(N/A)					(N/A)					(N/A)					163W
PFC160-12B	12V	6.7A	15A	20A	2%	(N/A)					(N/A)					(N/A)					180W
PFC160-14B	24V	3.4A	7.5A	10A	2%	(N/A)					(N/A)					(N/A)					180W
PFC160-18B	48V	1.7A	3.75A	5A	2%	(N/A)					(N/A)					(N/A)					180W
PFC160-31-3B	+3.3V	15A	30A	38A	2%	+5.1V	10A	20A	22A	3%	12V	2A	4.5A	5A	3%						165W
PFC160-36B	+5.1V	15A	30A	32A	2%	+5.1V	10A	20A	11A	3%	24V	2A	3A	4A	3%						165W
PFC160-40B	+5.1V	15A	30A	32A	2%	+12V	5A	10A	11A	3%	12V	2A	4A	5A	3%	5V	2A	4A	5A	3%	165W
PFC160-40-2B	+2.5V	15A	30A	38A	2%	+3.3V	10A	20A	22A	3%	12V	2A	4A	5A	3%	5V	2A	4A	5A	3%	165W
PFC160-40-3B	+5.1V	15A	30A	32A	2%	+3.3V	10A	20A	22A	3%	12V	2A	4A	5A	3%	12V	2A	4A	5A	3%	165W
PFC160-42-2B	+3.3V	15A	30A	38A	2%	+2.5V	10A	20A	22A	3%	5V	2A	4A	5A	3%	12V	2A	4A	5A	3%	165W
PFC160-42-3B	+3.3V	15A	30A	38A	2%	+5.1V	10A	20A	22A	3%	12V	2A	4A	5A	3%	12V	2A	4A	5A	3%	165W

- NOTES:
1. Peak output current with 10% maximum duty cycle for less than 30 seconds.
  2. 165 watts at 30 CFM forced air cooling or 90 watts maximum at convection cooling, except single output models which are 180 watts at 30 CFM forced air cooling or 90 watts at convection cooling
  3. Total output current of Vo1 & Vo2 is 40A maximum, except single output models.
  4. Output #1 and Output #2 are built for current sharing
  5. Output #3 and Output #4 are isolated from others and have individual return.
  6. Standby output is rated 5V/0.25A for single output models or 5V/2A for multiple output models.

## MECHANICAL SPECIFICATIONS

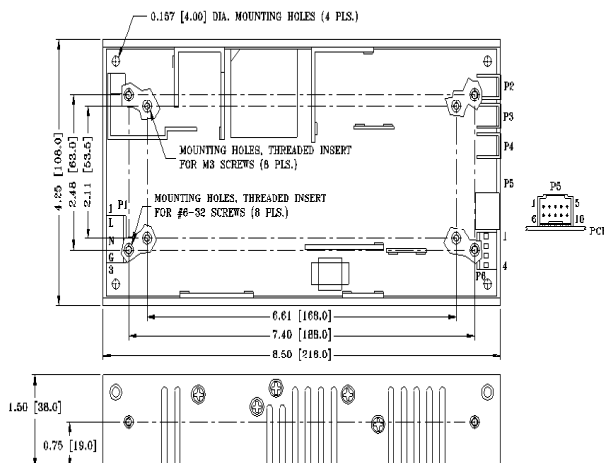
### Single Output Models



NOTES:

1. Dimensions shown in inch [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector P1 mates with Molex housing 09-50-8051 and Molex 2878 series crimp terminal.
4. Connector P5 mates with Molex housing 90142-0010 and pins 90119-2110.
5. Connectors P2, P3 mates with Molex housing BB-124-08.
6. Weight: 1.05 kgs (2.32 lbs.) approx.

### Multiple Output Models



NOTES:

1. Dimensions shown in inch [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector P1 mates with Molex housing 09-50-8051 and Molex 2878 series crimp terminal.
4. Output connector P6 mates with Molex housing 09-50-8041 and Molex 2878 series crimp terminal.
5. Connector P5 mates with Molex housing 90142-0010 and pins 90119-2110.
6. Connectors P2, P3, P4 mates with Molex housing BB-124-08
7. Weight: 1.05 kgs (2.32 lbs.) approx.

# UNIVERSAL INPUT

# PFC160 SERIES

## PIN CHART

### Single Output Models

MODEL	CONN	P1			P2	P3	P5		
	PIN	1	2	3			1	2	3
PFC160-10B		LIVE	NEUTRAL	GROUND	OUTPUT # 1	COM.	N.C.	5V STAND BY	N.C.
PFC160-12B PFC160-18B	PFC160-14B	LIVE	NEUTRAL	GROUND	OUTPUT # 1	COM.	N.C.	5V STAND BY	N.C.

MODEL	CONN	P5							
	PIN	4	5	6	7	8	9	10	
PFC160-10B		VO1 CURRENT SHARE	COMMON	+VO1 SENSE	SENSE COMMON	REMOTE INHIBIT	DC POWER GOOD	PFD	
PFC160-12B PFC160-18B	PFC160-14B	VO1 CURRENT SHARE	COMMON	+VO1 SENSE	SENSE COMMON	REMOTE INHIBIT	DC POWER GOOD	N.C.	

### Multiple Output Models

MODEL	CONN	P1			P2	P3	P4	P5				
	PIN	1	2	3				1	2	3	4	5
PFC160-31-3B PFC160-36B		LIVE	NEUTRAL	GROUND	OUTPUT # 1	COM3	OUTPUT # 2	VO2 CURRENT SHARE	5V STANDBY	+ V02 SENSE	VO1 CURRENT SHARE	COMMON
PFC160-40B PFC160-40-2B PFC160-40-3B PFC160-42-2B PFC160-42-3B		LIVE	NEUTRAL	GROUND	OUTPUT # 1	COM3	OUTPUT # 2	VO2 CURRENT SHARE	5V STANDBY	+ V02 SENSE	VO1 CURRENT SHARE	COMMON

MODEL	CONN	P5					P6			
	PIN	6	7	8	9	10	1	2	3	4
PFC160-31-3B PFC160-36B		+VO1 SENSE	SENSE COMMON	REMOTE INHIBIT	DC POWER GOOD	PFD	OUTPUT # 3	OUTPUT # 3 RET.	N.C.	N.C.
PFC160-40B PFC160-40-2B PFC160-40-3B PFC160-42-2B PFC160-42-3B		+VO1 SENSE	SENSE COMMON	REMOTE INHIBIT	DC POWER GOOD	PFD	OUTPUT # 3	OUTPUT # 3 RET.	OUTPUT # 4	OUTPUT # 4 RET.