

400 WATT POWER FACTOR CORRECTED SUPPLIES

DESCRIPTION

The PFC400 series of AC/DC switching power supplies are capable of delivering 400 watts of continuous power and incorporate active power factor correction. Three outputs in each unit are equipped with current sharing and oring diode for redundant applications. 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 for use in medium-power data networking, telecom, industrial, test and office equipment.

FEATURES

- Power Factor 0.98 typical**
- 90 VAC to 264 VAC universal input**
- Current sharing, oring diodes and remote sense**
- In compliance with EN 61000-3-2/-3 and EN 55024 (EN 61000-4-2/-3/-4/-5/-6/-8/-11)**
- Tightly regulated DC outputs**
- Overvoltage and thermal protection**
- Short-circuit protection**
- Power Fail Detect (PFD) signal**

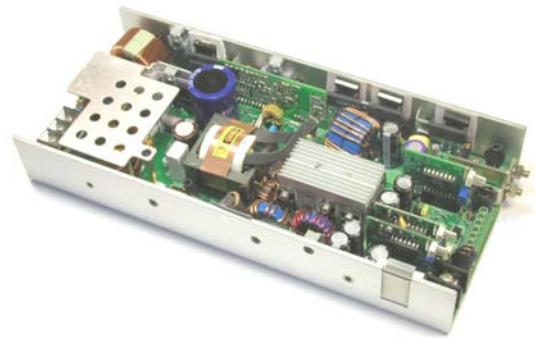
INPUT SPECIFICATIONS

- Input voltage :** 90 to 264 VAC
- Input frequency:** 47 to 63 Hz
- Input current :** 7.1A (rms) for 115 VAC
3.2A (rms) for 230 VAC
- Leakage current :** 0.46mA max. @115VAC, 60Hz
0.8mA max. @230VAC, 50Hz

OUTPUT SPECIFICATIONS

- Output voltage/current :** See rating chart
- Total output power :** 400 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 ± 0.04 % / 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 1 ms prior to +5.1V output dropping 5% below its nominal value. This signal also provides a minimum delay of 100 ms after +5.1V is within regulation.

PFC400 SERIES



Safety Standard Approvals :



TÜV EN60950-1
Certificate No. R3-50006876

ENVIRONMENTAL SPECIFICATIONS

- Operating temperature :** 0 to +70
- Storage temperature :** -40 to +85
- Relative humidity :** 5 % to 95 % non-condensing
- Derating :** Derate from 100 % at +50 linearly to 50 % at +70
- Cooling :** 45.2 CFM forced air, provided by user

GENERAL SPECIFICATIONS

- Switching frequency :** 94KHz ± 5 KHz
- Power factor :** 0.98 typical
- Efficiency :** 70% typical
- Hold-up time :** 12 msec min. at 115VAC
- Line regulation :** ± 0.5 % max. at full load
- Inrush current :** 43A @ 115VAC, or 86A @ 230VAC, at 25 cold start
- Withstand voltage :** 3000VAC from input to output 1500VAC from input to ground
500VAC from output to ground
- MTBF :** 250,000 hours minimum at full load at 25 ambient, calculated per MIL-HDBK-217F
- EMC performance (EN55024)**
 - EN55022: Class B conducted, Class A radiated
 - FCC: Class B conducted, Class A radiated
 - VCCI: Class B conducted, Class A radiated
 - EN61000-3-2: Harmonic distortion, Class A and D
 - EN61000-3-3: Line flicker
 - EN61000-4-2: ESD, ± 8 KV air and ± 4 KV contact
 - EN61000-4-3: Radiated immunity, 3V/m
 - EN61000-4-4: Fast transient/burst, ± 1 KV
 - EN61000-4-5: Surge, ± 1 KV diff., ± 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

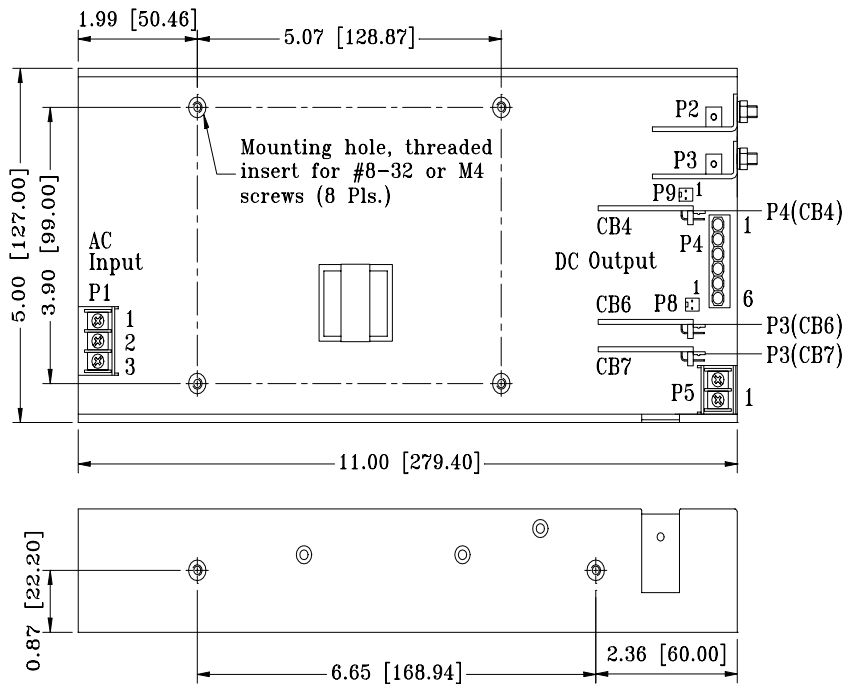
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OUTPUT VOLTAGE/CURRENT RATING CHART

(1) Model (1)	Output #1 (2)(3)			Output #2 (2)(4)			Output #3 (2)(5)			Output #4			Output #5			Maximum Output Power(6)
	Vnom.	Imax.	Tol.	Vnom.	Imax.	Tol.	Vnom.	Imax.	Tol.	Vnom.	Imax.	Tol.	Vnom.	Imax.	Tol.	
PFC400-50B	+5.1V	40A	2%	3.3V	20A	2%	12V	9A	3%	12V	6A	4%	5V	6A	4%	400W
PFC400-51B	+5.1V	40A	2%	3.3V	20A	2%	15V	8A	3%	15V	5A	4%	24V	4A	4%	400W
PFC400-55B	+5.1V	40A	2%	3.3V	20A	2%	12V	9A	3%	12V	6A	4%	24V	4A	4%	400W
PFC400-56B	+5.1V	40A	2%	3.3V	20A	2%	15V	8A	3%	15V	5A	4%	5V	6A	4%	400W

- Notes: (1) Each output is isolated from the others and has individual return.
 (2) Output #1, #2, and #3 are built with one-wire current sharing and oring diode for redundant connections.
 (3) Output #1 requires a minimum load of 5A to support other outputs at their maximum rated loads.
 (4) Output #2 requires a minimum load of 1A to be in regulation.
 (5) The peak current of output #3 is limited to 12A on 12V, 9.6A on 15V.
 (6) Forced air cooling of 45.2 CFM minimum is required. Suggested airflow is from the input section to the output section.

MECHANICAL SPECIFICATIONS



NOTES:

- Dimensions shown in inch [mm]
- Tolerance 0.02 [0.5] maximum
- P1 input connector is Beau Inc. P/N 72-5-03C. Screws are #6-32 on 0.375 inch (9.53mm) centers.
- P4 output connector is Dinkle P/N 166-06P.
- P8 is for DC fan rated 12V/0.25A
- P8 & P9 Connector mates with Molex housing. 22-01-1023 and Molex 40445 series crimp terminal.
- Main output studs P2/P3 are with M5*0.8 screws.
- Weight: 1.70Kgs (3.74 Lbs.) approx.

PIN CHART

CONN PIN	P1			P2	P3	P4						P5		P8		P9	
	1	2	3			1	2	3	4	5	6	1	2	1	2	1	2
PFC400-50B	LIVE	NEUTRAL	GROUND	OUTPUT #1	OUTPUT #1 RET.	OUTPUT #5	OUTPUT #5 RET.	OUTPUT #4	OUTPUT #4 RET.	OUTPUT #3	OUTPUT #3 RET.	OUTPUT #2	OUTPUT #2 ret.	FAN (+12V)	OUTPUT#1 ret.	OUTPUT #1 ret.	PFD
PFC400-51B																	
PFC400-55B																	
PFC400-56B	CB4 SUB-BOARD (for output #1)					CB6 SUB-BOARD (for output #3)					CB7 SUB-BOARD (for output #2)						
	P4-1		+SENSE			P3-1		+SENSE			P3-1		+SENSE				
	P4-2		-SENSE			P3-2		-SENSE			P3-2		-SENSE				
	P4-3		CURRENT SHARE			P3-3		CURRENT SHARE			P3-3		CURRENT SHARE				