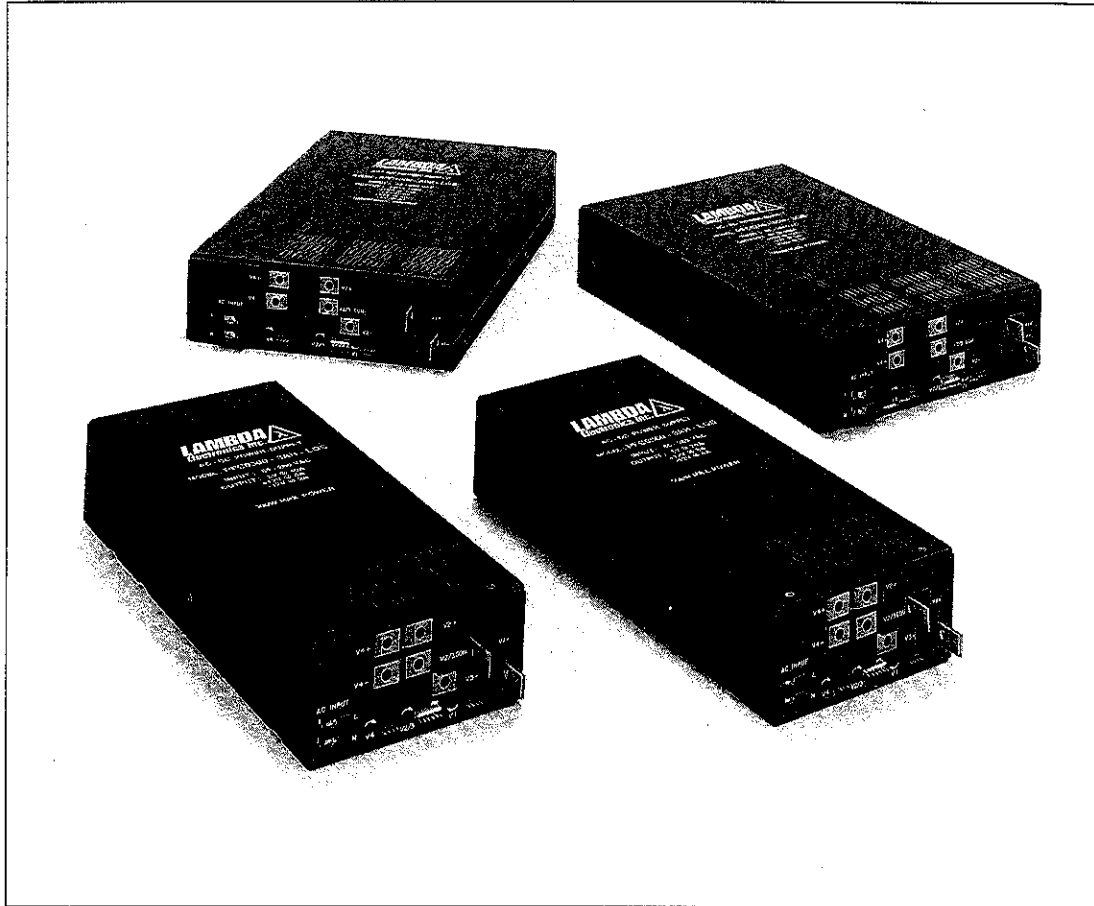


Part I – AC-to-DC Power Supplies

LAMBDA'S PFC SERIES



Multiple Output, Power Factor Corrected Supplies, up to 1000W.

Lambda's new PFC Series multiple output, power factor corrected power supplies are IEC 555-2 compliant. They are available in 300W, 500W, 750W, and 1000W packages, with configurable options for 3, 4, or 5 outputs.

To simplify the design engineer's task during program integration and qualification, the PFC Series incorporates independently regulated outputs with no preload requirements. In addition, most outputs have wide range output voltage adjustment with high current capability to allow for instantaneous adaptation to changes in system design parameters.

Utilizing proprietary and patented technology, the PFC Series achieves the performance and functionality required for the global marketplace at the lowest industry price.

PFC SERIES FEATURES

Power Factor Correction	Active power factor correction circuitry ensures compliance to IEC 555-2 while improving input power quality, line regulation, AC noise immunity and holdup time. These key features ensure greater system performance and reliability worldwide.
No Preload	All outputs operate from no load to full load, without degradation to output cross regulation.
Output Surge Current Capability	Ensures reliable operation for applications with highly capacitive or inductive loads.
Performance Flexibility	Wide-range adjustable output voltages each with high current capability, reduce qualification cost and design cycle time, since a single unit can be used throughout the design verification process.
Lowest Cost	Proprietary technology allows for a fully featured design at the lowest industry cost.
VME Compliant	Integral circuitry meets the VME output ripple, system reset and system fail specifications.
Low Profile	2.65" height provides optimal space allocation, resulting in higher reliability and enhanced system performance.
85-265VAC Wide Range Input	Provides the ideal turn-key solution for worldwide use.
Worldwide Safety Agency Approvals	Safety agency approvals to UL1950, CSA 234M90, EN60950, BS6301, and EN41003 (BABT) ensure compliance throughout the world.
Meets Worldwide EMI Requirements	Conducted EMI to VDE 0871 Curve B and FCC Class B ensures reliable system performance.
Remote Sensing	All high-powered outputs have remote sensing capability to offset voltage drops in output due to isolation diodes or load lead losses.
System Interface Signals	AC Power Fail and DC Output Good signals provide system capability for real-time monitoring and response.
3.3V Outputs	These standard solutions will address the upcoming demand for 3.3V logic.

Part I – AC-to-DC Power Supplies

PFC SERIES SPECIFICATIONS

AC Input

line	85-265VAC, 47-63Hz on all models.				
Input Power Model	Efficiency		Inrush Current	Power Factor	
	110VAC	220VAC		110VAC	220VAC
PFC0300	67%	70%	40A	0.98	0.96
PFC0500	67%	70%	40A	0.98	0.96
PFC0750	67%	70%	40A	0.98	0.96
PFC1000	67%	70%	40A	0.98	0.96

(specified values are typical)

EMI

Conducted EMI conforms to FCC Part 15, Subpart J, Class B; VDE 0871 Curve B.

Input Harmonic Current

All models are compliant with IEC 555-2 and EN60555-2.

Input Transient Protection

IEEE C62.41, Category A3. Consult Factory for Category B3. IEC-801-2, -3, -4, -5 (Level 3).

DC Output

Voltage ranges are shown in tables. Outputs are adjustable over the ranges shown.

Regulated Voltage

regulation, line	0.2% for line variations from 85-265VAC on all outputs of all models.
regulation, load	1.0% for load variations from no load to full load and full load to no load on all outputs of all models.
ripple and noise	15mV RMS, 50mV pk-pk for 5V outputs. 20mV RMS, 150mV pk-pk for 12V, 15V outputs. 20mV RMS, 250mV pk-pk for 24V, 28V outputs. 35mV RMS, 500mV pk-pk for 48V outputs.
temperature coefficient	0.03%/°C.
remote programming resistance	1000Ω/volt on outputs 1, 2, and 4 only. Output 3 tracks output 2.
remote programming voltage	Volt per volt on outputs 1, 2, and 4 only. Output 3 tracks output 2.

Thermal Protection

Internal circuitry protects the power supply against excessive temperature.

Overcurrent Protection

Internal circuitry limits all output currents to safe preset levels in the event of an overload or short-circuit condition (consult factory for low power 5V and 12V output protection). Upon removal of the overload condition, normal operation resumes automatically.

Overvoltage Protection

Internal circuitry latches off the power supply in the event of an overvoltage condition (except on the low-power 5V and 12V outputs).

Preload

External preload is not required on any output.

Output Surge Current

Outputs 2 and 4 (24V models only) provide surge current capability equal to three times rated output current for up to ten seconds. Maximum total output power must not be exceeded.

Holdup Time

Output voltage will remain within regulation limits for 16msec upon loss of AC input on output 1 only, when operating over the entire AC line, full load and output voltage set at 5.25VDC. Consult the factory for other outputs.

Remote Sensing

Internal circuitry allows for remote sensing on all outputs (except low power 5V and 12V outputs).

Redundant Operation

Redundant operation achieved through external diodes on all outputs (except low-power 5V and 12V outputs).

Remote On/Off

TTL-compatible, active high.

Remote Monitoring Signals

(TTL-compatible – conductance)
Output Good signal and AC Fail signal are standard on all models.

Isolation Rating

Input to Output:	3000V RMS
Output to Chassis:	500V RMS
Input to Chassis:	1500V RMS

Overshoot

No overshoot at turn-on, turn-off or input power failure.

Cooling

All models are forced-air cooled via internal fans.

Operating Temperature Range

Operation from 0°C to +70°C. Current ratings in Tables apply up to 50°C. Derate current by 50% at 70°C.

Storage Temperature Range

-40°C to +85°C.

DC Output Controls

A single-turn potentiometer is provided for adjustment over the entire voltage range for outputs 1, 2 and 4 (except on low-power 5V and 12V outputs). Output 3 tracks output 2.

Input, Output and Signal Connections

AC Input: heavy-duty barrier strip.
DC Output: heavy-duty buss bars.
Aux. Signals: plug-in connector.

Mounting

One mounting surface on all models.

Physical Data

Package Model	Lbs. Net	Lbs. Ship	Dimensions (inches) (L X H X W)
PFC0300	6.0	7.5	12.0 × 2.65 × 5.0
PFC0500	6.0	7.5	12.0 × 2.65 × 5.0
PFC0750	9.0	10.5	12.0 × 2.65 × 8.0
PFC1000	9.0	10.5	12.0 × 2.65 × 8.0

Safety Agency Approvals

The PFC Series is presently under evaluation for UL1950, CSA 234M90, IEC 950, EN60950, EN41003 (BAPT), BS6301, and SELV on all models below 48VDC output.

Guarantee

One-year guarantee includes labor as well as parts. Guarantee applies to operation within published specifications and recommended application data at the end of one year.

Commercial Ratings Table – PFC Multiple Output

MAX POWER (WATTS)	OUTPUT 1 ^A	OUTPUT 2 ^{B,F}	OUTPUT 3 ^C	COMPLETE ELEC. SPEC. PG.	UNIT PRICE PER DELIVERED QUANTITY ^G				MODEL
					1	10	25	100	
TRIPLE OUTPUT									
300	5V @ 40A	12V @ 8A	12V @ 3A	50	\$365	\$345	\$325	\$280	PFC0300-3AH-M
500	5V @ 75A	12V @ 12A	12V @ 4A	50	570	540	515	365	PFC0500-3AH-M
750	5V @ 110A	12V @ 18A	12V @ 7A	50	810	770	730	530	PFC0750-3AH-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	50	865	820	780	565	PFC1000-3AH-M

MAX POWER (WATTS)	OUTPUT 1 ^A	OUTPUT 2 ^{B,F}	OUTPUT 3 ^C	OUTPUT 4 ^{D,E,F}	COMPLETE ELEC. SPEC. PG.	UNIT PRICE PER DELIVERED QUANTITY				MODEL
						1	10	25	100	
QUAD OUTPUT										
300	5V @ 40A	12V @ 8A	12V @ 3A	5V @ 10A	50	\$399	\$380	\$360	\$299	PFC0300-4BH-M
300	5V @ 40A	12V @ 8A	12V @ 3A	12V @ 4A	50	399	380	360	299	PFC0300-4CH-M
300	5V @ 40A	12V @ 8A	12V @ 3A	24V @ 2A	50	399	380	360	299	PFC0300-4DH-M
300	5V @ 40A	12V @ 8A	12V @ 3A	48V @ 1A	50	399	380	360	299	PFC0300-4EH-M
300	5V @ 40A	12V @ 8A	12V @ 3A	5V @ 2A	50	379	360	340	269	PFC0300-4FH-M
300	5V @ 40A	12V @ 8A	12V @ 3A	12V @ 1A	50	379	360	340	269	PFC0300-4GH-M
500	5V @ 75A	12V @ 12A	12V @ 4A	5V @ 20A	50	610	580	550	399	PFC0500-4BH-M
500	5V @ 75A	12V @ 12A	12V @ 4A	12V @ 8A	50	610	580	550	399	PFC0500-4CH-M
500	5V @ 75A	12V @ 12A	12V @ 4A	24V @ 4A	50	610	580	550	399	PFC0500-4DH-M
500	5V @ 75A	12V @ 12A	12V @ 4A	48V @ 2A	50	610	580	550	399	PFC0500-4EH-M
500	5V @ 75A	12V @ 12A	12V @ 4A	5V @ 2A	50	590	560	530	379	PFC0500-4FH-M
500	5V @ 75A	12V @ 12A	12V @ 4A	12V @ 1A	50	590	560	530	379	PFC0500-4GH-M
750	5V @ 110A	12V @ 18A	12V @ 7A	5V @ 20A	50	850	805	760	555	PFC0750-4BH-M
750	5V @ 110A	12V @ 18A	12V @ 7A	12V @ 10A	50	850	805	760	555	PFC0750-4CH-M
750	5V @ 110A	12V @ 18A	12V @ 7A	24V @ 6A	50	850	805	760	555	PFC0750-4DH-M
750	5V @ 110A	12V @ 18A	12V @ 7A	48V @ 3A	50	850	805	760	555	PFC0750-4EH-M
750	5V @ 110A	12V @ 18A	12V @ 7A	5V @ 2A	50	830	785	740	535	PFC0750-4FH-M
750	5V @ 110A	12V @ 18A	12V @ 7A	12V @ 1A	50	830	785	740	535	PFC0750-4GH-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	5V @ 20A	50	900	855	810	590	PFC1000-4BH-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	12V @ 12A	50	900	855	810	590	PFC1000-4CH-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	24V @ 6A	50	900	855	810	590	PFC1000-4DH-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	48V @ 3A	50	900	855	810	590	PFC1000-4EH-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	5V @ 2A	50	880	835	790	570	PFC1000-4FH-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	12V @ 1A	50	880	835	790	570	PFC1000-4GH-M

MAX POWER (WATTS)	OUTPUT 1 ^A	OUTPUT 2 ^{B,F}	OUTPUT 3 ^C	OUTPUT 4 ^{D,F}	OUTPUT 5 ^E	COMPLETE ELEC. SPEC. PG.	UNIT PRICE PER DELIVERED QUANTITY ^G				MODEL
							1	10	25	100	
PENT OUTPUT											
300	5V @ 40A	12V @ 8A	12V @ 3A	5V @ 10A	5V @ 2A	50	\$430	\$410	\$390	\$290	PFC0300-5BJ-M
300	5V @ 40A	12V @ 8A	12V @ 3A	5V @ 10A	12V @ 1A	50	430	410	390	290	PFC0300-5BK-M
300	5V @ 40A	12V @ 8A	12V @ 3A	12V @ 4A	5V @ 2A	50	430	410	390	290	PFC0300-5CJ-M
300	5V @ 40A	12V @ 8A	12V @ 3A	12V @ 4A	12V @ 1A	50	430	410	390	290	PFC0300-5CK-M
300	5V @ 40A	12V @ 8A	12V @ 3A	24V @ 2A	5V @ 2A	50	430	410	390	290	PFC0300-5DJ-M
300	5V @ 40A	12V @ 8A	12V @ 3A	24V @ 2A	12V @ 1A	50	430	410	390	290	PFC0300-5DK-M
300	5V @ 40A	12V @ 8A	12V @ 3A	48V @ 1A	5V @ 2A	50	430	410	390	290	PFC0300-5EJ-M
300	5V @ 40A	12V @ 8A	12V @ 3A	48V @ 1A	12V @ 1A	50	430	410	390	290	PFC0300-5EK-M
500	5V @ 75A	12V @ 12A	12V @ 4A	5V @ 20A	5V @ 2A	50	640	610	580	425	PFC0500-5BJ-M
500	5V @ 75A	12V @ 12A	12V @ 4A	5V @ 20A	12V @ 1A	50	640	610	580	425	PFC0500-5BK-M
500	5V @ 75A	12V @ 12A	12V @ 4A	12V @ 8A	5V @ 2A	50	640	610	580	425	PFC0500-5CJ-M
500	5V @ 75A	12V @ 12A	12V @ 4A	12V @ 8A	12V @ 1A	50	640	610	580	425	PFC0500-5CK-M
500	5V @ 75A	12V @ 12A	12V @ 4A	24V @ 4A	5V @ 2A	50	640	610	580	425	PFC0500-5DJ-M
500	5V @ 75A	12V @ 12A	12V @ 4A	24V @ 4A	12V @ 1A	50	640	610	580	425	PFC0500-5DK-M
500	5V @ 75A	12V @ 12A	12V @ 4A	48V @ 2A	5V @ 2A	50	640	610	580	425	PFC0500-5EJ-M
500	5V @ 75A	12V @ 12A	12V @ 4A	48V @ 2A	12V @ 1A	50	640	610	580	425	PFC0500-5EK-M

Notes: See page 47.

Continued on page 47.

Commercial Ratings Table – PFC Multiple Output

MAX POWER (WATTS)	OUTPUT 1 ^A	OUTPUT 2 ^{B,F}	OUTPUT 3 ^C	OUTPUT 4 ^{D,F}	OUTPUT 5 ^E	COMPLETE ELEC. SPEC. PG.	UNIT PRICE PER DELIVERED QUANTITY ^G				MODEL
							1	10	25	100	
PENT OUTPUT Cont'd.											
750	5V @ 110A	12V @ 18A	12V @ 7A	5V @ 20A	5V @ 2A	50	\$690	\$656	\$621	\$587	PFC0750-5BJ-M
750	5V @ 110A	12V @ 18A	12V @ 7A	5V @ 20A	12V @ 1A	50	690	656	621	587	PFC0750-5BK-M
750	5V @ 110A	12V @ 18A	12V @ 7A	12V @ 10A	5V @ 2A	50	690	656	621	587	PFC0750-5CJ-M
750	5V @ 110A	12V @ 18A	12V @ 7A	12V @ 10A	12V @ 1A	50	690	656	621	587	PFC0750-5CK-M
750	5V @ 110A	12V @ 18A	12V @ 7A	24V @ 6A	5V @ 2A	50	690	656	621	587	PFC0750-5DJ-M
750	5V @ 110A	12V @ 18A	12V @ 7A	24V @ 6A	12V @ 1A	50	690	656	621	587	PFC0750-5DK-M
750	5V @ 110A	12V @ 18A	12V @ 7A	48V @ 3A	5V @ 2A	50	690	656	621	587	PFC0750-5EJ-M
750	5V @ 110A	12V @ 18A	12V @ 7A	48V @ 3A	12V @ 1A	50	690	656	621	587	PFC0750-5EK-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	5V @ 20A	5V @ 2A	50	915	869	824	778	PFC1000-5BJ-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	5V @ 20A	12V @ 1A	50	915	869	824	778	PFC1000-5BK-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	12V @ 12A	5V @ 2A	50	915	869	824	778	PFC1000-5CJ-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	12V @ 12A	12V @ 1A	50	915	869	824	778	PFC1000-5CK-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	24V @ 6A	5V @ 2A	50	915	869	824	778	PFC1000-5DJ-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	24V @ 6A	12V @ 1A	50	915	869	824	778	PFC1000-5DK-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	48V @ 3A	5V @ 2A	50	915	869	824	778	PFC1000-5EJ-M
1000	5V @ 150A	12V @ 24A	12V @ 10A	48V @ 3A	12V @ 1A	50	915	869	824	778	PFC1000-5EK-M

Notes:

- (A) Output 1 voltage adjustable from 3.0V to 5.50V.
 (B) Output 2 voltage adjustable from 10.8V to 15.75V.
 (C) Output 3 voltage tracks output 2 and is adjustable from 18.0V to 28.50V.
 (D) Output 4: 5V adjustable from 3.0V to 5.50V, 12V adjustable from 10.8V to 15.75V.
 24V adjustable from 18.0V to 28.50V, 48V adjustable from 44.0V to 56.00V.
 (E) 5V @ 2A and 12V @ 1A output voltages are not adjustable.
 (F) Surge current of 3 times the steady state value for a maximum of 10 seconds on high powered 12V and 24V outputs.
 (G) Consult the factory for OEM quantity prices.

Consult the factory for additional information on the following options:

Options	Description
L	No Auxiliary Signals
N	VME Compatible Performance
M	IEEE-C62.41 (Category A3)
P	50mV Output Ripple on Outputs 1, 2, 3
R	UL544 Leakage Current
S	IEEE C62.41 (Category B3)

Please note that options N through S provide an AC Fail signal, DC Good signal, and an inhibit signal as standard features.

To order options, insert the appropriate option code letter as shown: PFC0300-3AH-

↑
Insert here

PFC SERIES MECHANICAL DRAWINGS

PFC-300 PFC-500

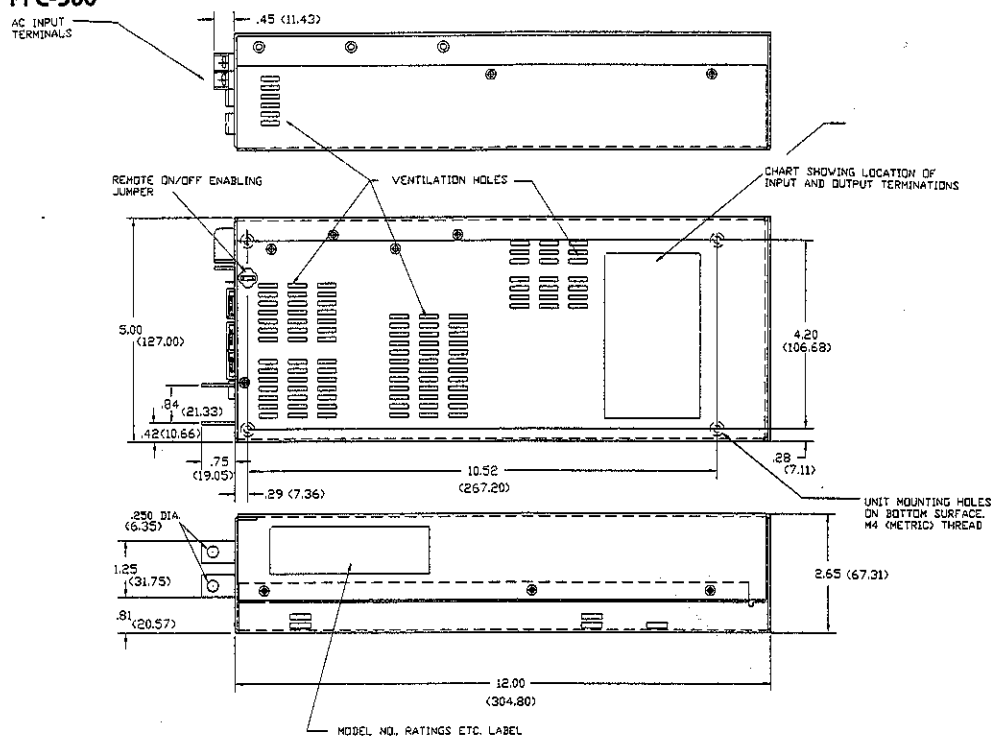
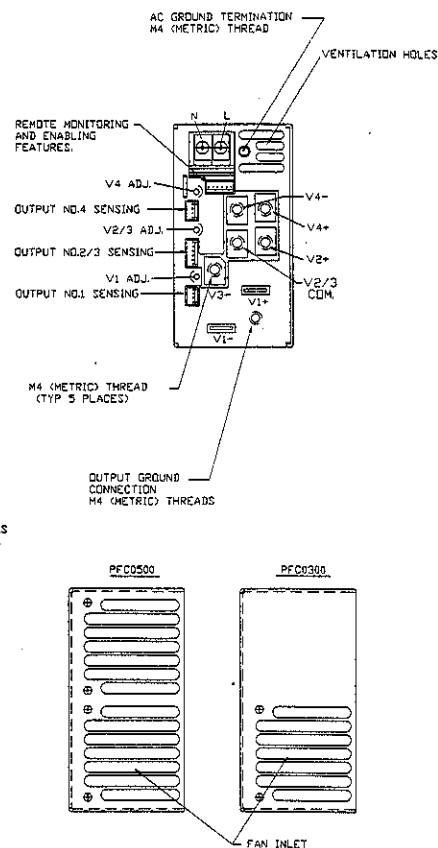


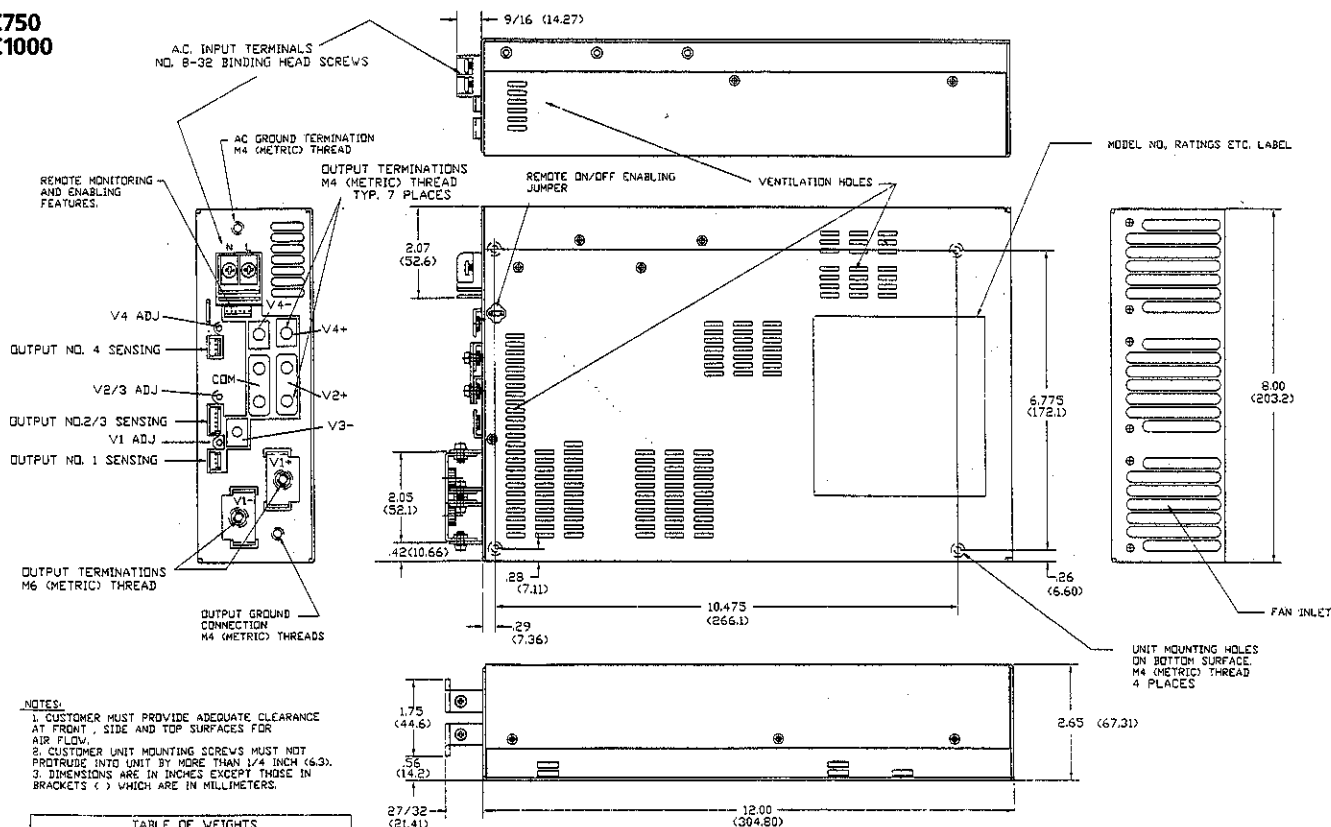
TABLE OF WEIGHTS		
MODEL	NET (LBS)	SHIPPING (LBS)
PFC0500	6	7.5
PFC0300	6	7.5

NOTES:

1. CUSTOMER MUST PROVIDE ADEQUATE CLEARANCE AT FRONT, SIDE AND TOP SURFACES FOR AIR FLOW.
2. CUSTOMER UNIT MOUNTING SCREWS MUST NOT PROTRUDE INTO UNIT BY MORE THAN 1/4 INCH (6.3).
3. DIMENSIONS ARE IN INCHES EXCEPT THOSE IN BRACKETS () WHICH ARE IN MILLIMETERS.



PFC750 PFC1000



NOTES:

1. CUSTOMER MUST PROVIDE ADEQUATE CLEARANCE AT FRONT, SIDE AND TOP SURFACES FOR AIR FLOW.
2. CUSTOMER UNIT MOUNTING SCREWS MUST NOT PROTRUDE INTO UNIT BY MORE THAN 1/4 INCH (6.3).
3. DIMENSIONS ARE IN INCHES EXCEPT THOSE IN BRACKETS () WHICH ARE IN MILLIMETERS.

TABLE OF WEIGHTS		
MODEL	NET (LBS)	SHIPPING (LBS)
PFC1000	9.0	10.5
PFC0750	9.0	10.5