

Installation Notes

LPQ250-CF Series 250 Watts Quad Outputs



Input Specifications

Input range	85 VAC to 264VAC 120 VDC to 370 VDC
Frequency	47 - 440 Hz
Inrush current	<38 A peak
Efficiency	75% typical at full load
Power factor	0.99 typical, meets EN61000-3-2
EMI filter	Meets FCC Class B CISPR 22 Class B (includes EN55022 class B and VDE 0878 PT3 class B)
Electromagnetic compatibility	Meets IEC801-2 level 3, IEC801-4 level 3 and IEC801-5 level 3
Safety ground leakage current	< 0.5mA @50/60Hz, 264VAC input

Output Specifications

Maximum wattage	250W
Adjustment range	± 5% on main 5 - 25V on output 4
Cross regulation	±2% on output 1 ±3% on outputs 2, 3 & 4
Hold-up time	20 ms at 250W load and 115 VAC nominal line
Overload protection	Short circuit protection on all outputs. Auto recovery. Over current limit on each output 5 to 45% above peak rated output.
Overvoltage protection	5V output: 6.0 to 6.7 Vdc. Output 4: 10% to 25% above output voltage setting. Recycle AC to reset.
Supervisory output	5V / 100mA regulated; output maintained when main outputs inhibited. (for use with inhibit and power good function)
Fan supply output	12V / 200mA; output maintained when power supply inhibited.

Environmental

Operating temperature: 0°C to 50°C ambient;
derate at 2.5% / °C from 50°C to 70°C

Storage temperature: -40°C to 85°C

Thermal regulation: ± 0.04% / °C

MTBF: > 100,000 hours at full load and 25°C
ambient conditions

Notes (refer to table)

1. Peak current lasting < 30 seconds with a maximum 10% duty cycle.
2. At 25°C including initial tolerance, line voltage, load currents and output voltages adjusted to factory settings.
3. Peak-to-peak with 20 MHz bandwidth and 10 µF in parallel with a 0.1 µF capacitor.
4. Output 4 is fully floating. It can be referenced positive or negative. It is also fully user adjustable between 5 and 25V, factory set at 5V.
5. Minimum load required for correct operation of power supply. Do not use without minimum load connected.
6. Continuous maximum power drawn must not exceed 250W with fan cooling. Not to be used without cooling fan.

Mating Connectors

SK1 AC Input:	Screw terminals M3.5 spade
TB1 Main DC O/p:	Screw terminals M3.5 spade
SK2 Aux DC O/p:	Screw terminals M3.5 spade
SK3 Auxiliary:	Housing Molex 22-01-1082 (or 22-01-2085)
SK5, 7 Fan/Aux:	Housing Molex 22-01-1022 (or 22-01-2025) Crimps: 22/30 AWG Molex 08-50-0032 (or 08-50-0114)

Notes

- 1 Specifications subject to change without notice.
- 2 All dimensions are in mm and (inches).
- 3 Output Common capacitively coupled to chassis earth.
- 4 This power supply must be earthed for safe operation via SK1-3 connector.
- 5 Unit supplied with fan and cover fitted.
- 6 Fan supply maintained when power supply inhibited.
- 7 Weight 1.41 kg / 3.1 lb.



Warning: Hazardous mains voltages present within this unit. Please see enclosed 'Astec Installation and Operating Instructions'.

Safety

VDE	0805/EN60950 (IEC950)
UL	UL1950
CSA	CSA 22-2-234 Level 3
NEMKO	EN 60950/EMKO-TUE (74-sec) 203
BABT	EN60950/BS7002
CB	Certificate and report



This product is CE marked following the provisions of the Low Voltage Directive 73/23/EEC

Auxiliary Connections

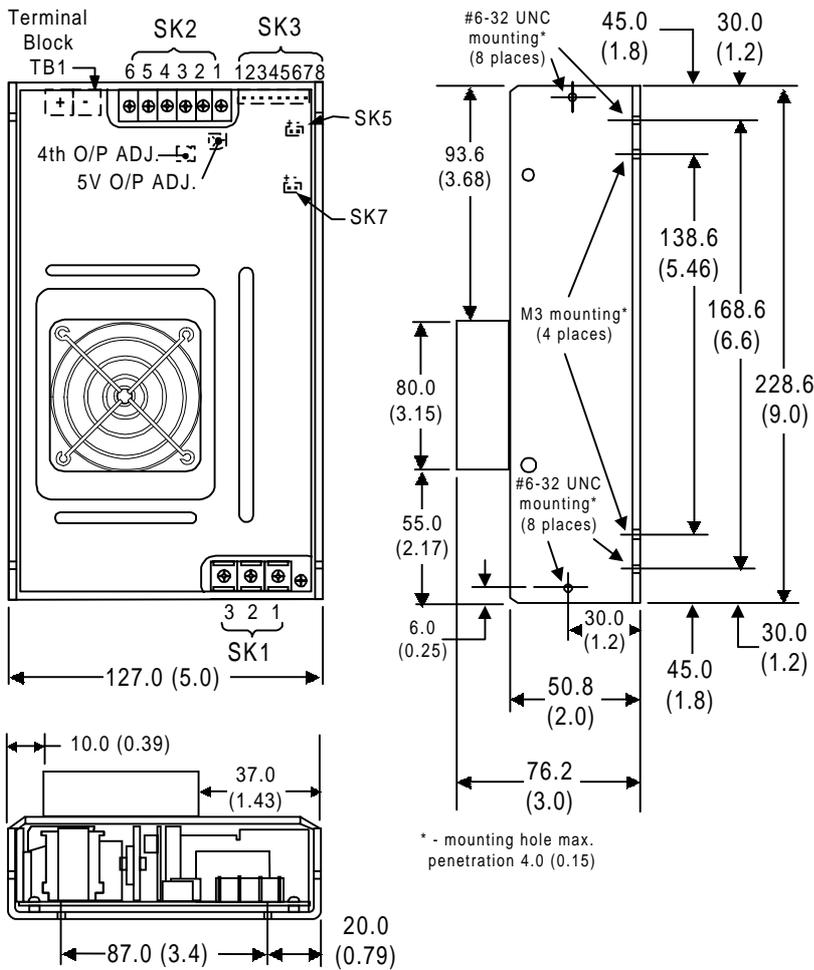
- 1 Remote sense - optional connection- can compensate for up to 0.5V drop; internal local sense connected if not used. Protected against reverse connection.
- 2 AC Power Fail signal;-TTL compatible signal goes high 50-150ms after switch on. Goes low >4 ms before 5V drops to 4.75V.
- 3 DC Power OK;- TTL compatible signal goes high at same time as AC Power Fail. Goes low when 5V drops to 4.75V.
- 4 Remote Inhibit. Connecting pin 3 to pin 5 (common) will inhibit the outputs.
- 5 Remote Enable. To convert to enable, cut jumper J1; connecting pin 4 to pin 5 will enable outputs.
- 6 Paralleling power supplies - when the 'C share' signal is connected between two power supplies the main 5V outputs will current share.

Fusing

Input fuse 6.3A 20mm Quick Acting HBC mains fuse - only replace with same type and rating to maintain safety standards.

Model Number	Output Voltage	Minimum Load ⁵	Maximum Load w/ 30CFM Air ⁶	Peak Load ¹	Regulation ²	Ripple P/P (PAR) ³
LPQ252-CF	5 V	3 A	35A	40A	± 2%	50 mV
	12 V	0 A	10A	12A	± 3%	120 mV
	-12 V	0 A	6 A	8 A	± 3%	120 mV
	±5-25 V ⁴	0 A	6 A	8 A	± 3%	240 mV max
LPQ253-CF	5 V	3 A	35 A	40A	± 2%	50mV
	15 V	0 A	10 A	12A	± 3%	150 mV
	-15 V	0 A	6 A	8 A	± 3%	150 mV
	±5-25 V ⁴	0 A	6A	8A	± 3%	240 mV max

Drawings



Pin Assignments

Connector		
SK1	-1	Neutral
	-2	Line
	-3	Ground
TB1	+	+5V
	-	Common
SK2	-1	+12 / 15 V
	-2	Common
	-3	Common
	-4	-12 / 15 V
	-5	-5-25 V RETURN Floating
	-6	+5-25 V Floating
SK3	-1	+ Remote sense
	-2	- Remote sense
	-3	Remote Inhibit
	-4	Remote Enable
	-5	Common
	-6	Current share
	-7	AC Power Fail
	-8	DC Power OK
SK7	-1	+12V fan supply
	-2	Common
SK5	-1	+5V supervisory supply
	-2	Common