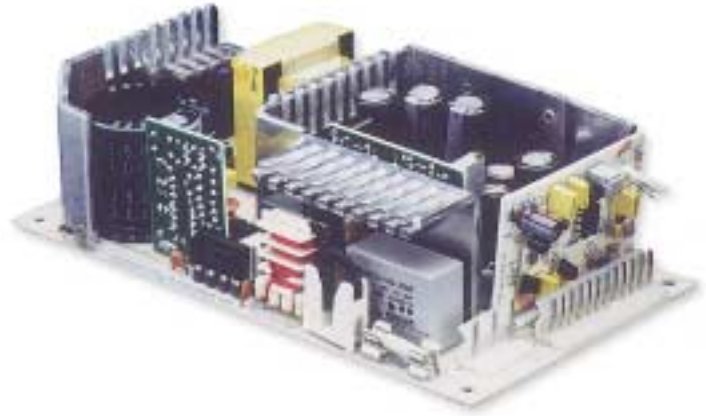


LPQ 110

110 Watts

LPQ 110 Series

Total Power	80 - 110 Watts
Input Voltages	85 - 264 VAC 120 - 370 VDC
# of Outputs	Quad



SPECIAL FEATURES

- Universal input
- High efficiency
- Remote sense on main output
- Built-in EMI filter
- Low output ripple
- Adjustable 5 V output
- Overvoltage protection
- Overload protection
- Adjustable isolated 4th output (On LPQ112 and LPQ113)
- Power fail
- Optional L bracket (-B suffix)
- Cover kit available (See page 63)

ENVIRONMENTAL

Operating temperature: 0° to 50°C ambient derate each output at 2.5% per degree from 50° to 70°C

Electromagnetic susceptibility: Designed to meet IEC 801, -2, -3, -4, -5, -6, Level 3

Humidity: Operating; non-condensing 5% to 95%

Vibration: Three orthogonal axes, sweep at 1 oct/min, 5 min. dwell at four major resonances 0.75 G peak 5 Hz to 500 Hz, operational

Storage temperature: -40° to 85°C

Temperature coefficient: ±.04% per °C

MTBF demonstrated: >550,000 hours at full load and 25°C ambient conditions

ELECTRICAL SPECIFICATIONS

Input

Input range	85-264 VAC 120-370 VDC
Frequency	47-440 Hz
Inrush current	<18 A peak @ 115 VAC; <36 A peak @ 230 VAC, cold start @ 25°C
Input current	2.5 A max. (RMS) @ 115 VAC
Efficiency	70% typical at full load
EMI filter	FCC Class B conducted CISPR 22 Class B conducted EN55022 Class B conducted VDE 0878 PT3 Class B conducted
Safety ground leakage current	<0.5 mA @ 50/60 Hz, 264 VAC input

Output

Maximum power	80 W for convection; 110 W with 30 CFM forced air
Minimum load	minimum load required, see table
Adjustment range	±5% min. on main; 5-25 V on 4th output on LPQ112 and LPQ113
Cross regulation	±2% on output 1; ±3% on outputs 2, 3 & 4
Hold-up time	20 ms @ 80 W load, 115 VAC nominal line
Overload protection	Short circuit protection on all outputs. Case overload protected @ 110-145% above peak rating
Overvoltage protection	5.7-6.7 VDC on main output. Latching type, recycle AC to reset.

Logic Control

Power Failure	TTL logic signal goes high 50-150 msec after 5 V output. It goes low at least 4 msec before loss of regulation.
Remote sense	5V output compensates for 0.5 V lead drop min. Will operate without remote sense connected. Reverse connection protected.

SAFETY

VDE	0805/EN60950 (IEC950) 11774-3336-1245 (LC #84997)
UL	UL1950 E132002
CSA	CSA 22.2-234 Level 3 LR53982C
NEMKO	EN 60950/EMKO-TUE P94102464 (74-sec) 203
BABT	EN60950/BS7002 PS/605823
CB	Certificate and report 1423, 1424, 1425
CE	Mark (LVD)

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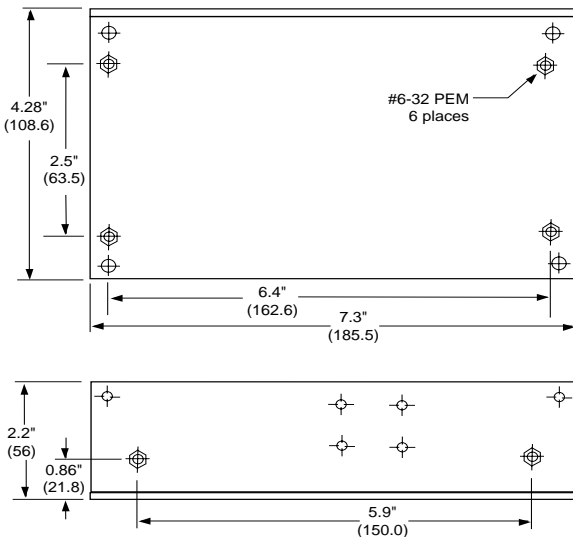
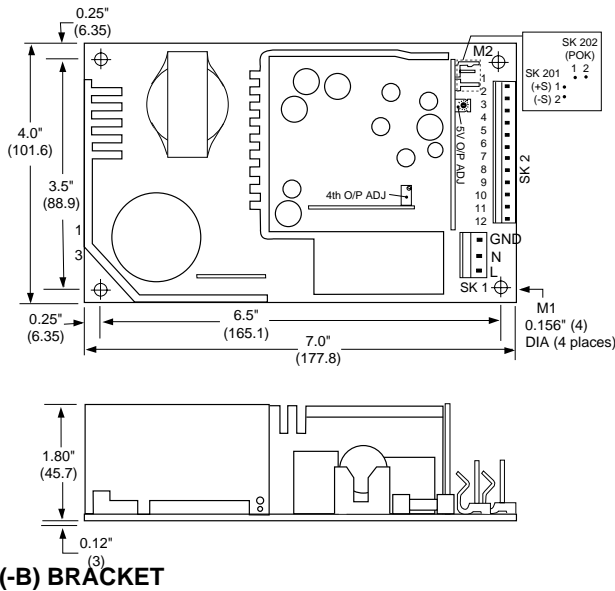
LOW
POWER

ORDERING INFORMATION

Model Number	Output Voltage	Minimum Load	Maximum Load with Convection Cooling	Maximum Load with 30 CFM Forced Air	Peak Load ¹	Regulation ²	Ripple P/P (PARD) ³
LPQ112-B	5 V	2 A	9 A	11 A	15 A	±2%	50 mV
	12 V	0 A	4.5 A	5 A	9 A	±3%	120 mV
	-12 V	0 A	0.7 A	1.0 A	1.5 A	±5%	120 mV
	±5-25 V	0 A	2.5 A	3 A	3.5 A	±3%	240 mV, max.
LPQ113-B	5 V	2 A	9 A	11 A	15 A	±2%	50 mV
	15 V	0 A	4.5 A	5 A	9 A	±3%	150 mV
	-15 V	0 A	0.7 A	1.0 A	1.5 A	±5%	150 mV
	±5-25 V	0 A	2.5 A	3 A	3.5 A	±3%	240 mV, max.
LPQ114-B	5 V	2A	9 A	11 A	15 A	±2%	50 mV
	12 V	0 A	4.5 A	5 A	9 A	±3%	120 mV
	-12 V	0 A	0.7 A	1.0 A	1.5 A	±5%	120 mV
	24 V	0.5 A	3.5 A	4.5 A	5 A	+10 / -5%	240 mV

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 at rated line voltage and load ranges.
 4. 4th O/P adjustable 5 to 25 V, factory set at 5 V. Output is isolated from other outputs, can be referenced positive or negative
 5. Minimum loads are required for correct operation, unit will self protect if not connected
- Note: -B suffix added to model number indicates L bracket option.

DRAWINGS



PIN ASSIGNMENTS

Connector	LPQ112	LPQ113	LPQ114
SK1-1	GND	GND	GND
SK1-3	Neutral	Neutral	Neutral
SK1-5	Line	Line	Line
SK2-1	+5 V	+5 V	+5 V
SK2-2	+5 V	+5 V	+5 V
SK2-3	+5 V	+5 V	+5 V
SK2-4	Common	Common	Common
SK2-5	Common	Common	Common
SK2-6	Common	Common	Common
SK2-7	Common	Common	Common
SK2-8	+12 V	+15 V	+12 V
SK2-9	+12 V	+15 V	+12 V
SK2-10	-12 V	-15 V	-12 V
SK2-11	+5-25 V	+5-25 V	+24 V
SK2-12	-5-25 V	-5-25 V	Common
SK201-1	+5V sense	+5V sense	+5V sense
SK201-2	-5V sense	-5V sense	-5V sense
SK202-1	POK	POK	POK
SK202-2	GND	GND	GND

MATING CONNECTORS

- AC Input: Molex 09-50-8051 (USA)
26-03-4050 (UK)
PINS: 08-58-0189
- DC Outputs: Molex 09-50-8121 (USA)
26-03-4121 (UK)
PINS: 05-58-0189
- Remote sense/Power fail:
Molex 22-01-1022 (USA)
22-01-1023 (UK)
PINS: 08-50-0114
- Astec Connector Kit #70-841-008

NOTES

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is ± 0.02"
3. Specifications are for convection rating at factory settings unless otherwise stated.
4. Mounting holes M1 and M2 should be grounded for EMI purposes.
5. Mounting hole M1 is safety ground connection.
6. L bracket mounting (6-32) maximum insertion depth is .20" (5).
7. Warranty: 1 year
8. Weight: 1.25 lb./0.57 kg
9. LPQ112 and LPQ113; 4th output; connect pin 12 to 4-7 for positive output on pin 11; connect pin 11 to 4-7 for negative output on pin 12.

REV 10.5.99

LPQ110