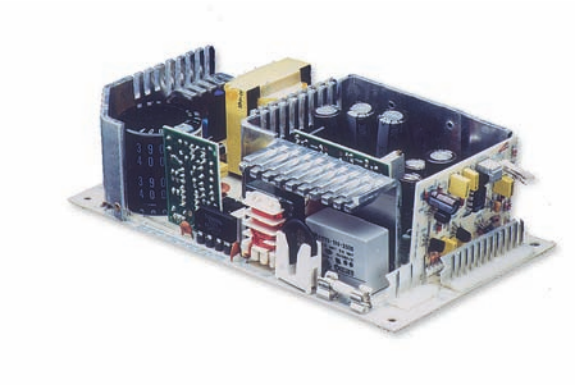
LPQ110 Series

110 Watts

Total Power: **80 - 110 Watts**
Input Voltage: **85-264 VAC**
120-300 VDC
# of Outputs: **Quad**



RoHS 2002/95/EC

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 floating 4th output (On LPQ112 and LPQ113)
- Power fail
- Optional L bracket (-B suffix)
- Cover kit available LPX110-C

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)

Electrical Specifications

Input	
Input range	85 - 264 Vac; 120 - 300 Vdc
Frequency	47 - 440 Hz
Inrush current	< 18 A peak @ 115 Vac; < 36 A peak @ 230 Vac, cold start @ 25 °C
Efficiency	70% typical at full load
EMI filter	Meets 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 convection 110 W with 30 CFM forced air
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

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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	Compensates for 0.5 V lead drop min. Will operate without remote sense connected. Reverse connection protected.

Environmental Specifications

Operating temperature:	0° to 50 °C ambient. Derate each output 2.5% per degree from 50° to 70 °C (except for -C version).
Storage temperature:	-40 °C to +85 °C
Temperature coefficient:	± 0.4% per °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 0.75G peak 5Hz to 500Hz, operational
MTBF demonstrated:	> 550,000 hours at full load and 25 °C ambient conditions

Ordering Information

Model Number	Output Voltage	Minimum Load	Maximum Load with Convection Cooling	Maximum Load with 30CFM Forced Air	Peak Load [1]	Regulation [2]	Ripple P/P (PARD) [3]
LPQ112	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%	240mV, max
LPQ113	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%	240mV, max
LPQ114	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
	-12 V	0.5 A	3.5 A	4.5 A	5 A	+10 / -5%	240mV

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 output adjustable 5 to 25 V, factory set at 5 V.
5. Minimum loads are required.

Note: -B suffix added to the model number indicates L bracket option.

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	+sense	+sense	+sense
SK201-2	-sense	-sense	-sense
SK202-1	POK	POK	POK
SK202-2	GND	GND	GND

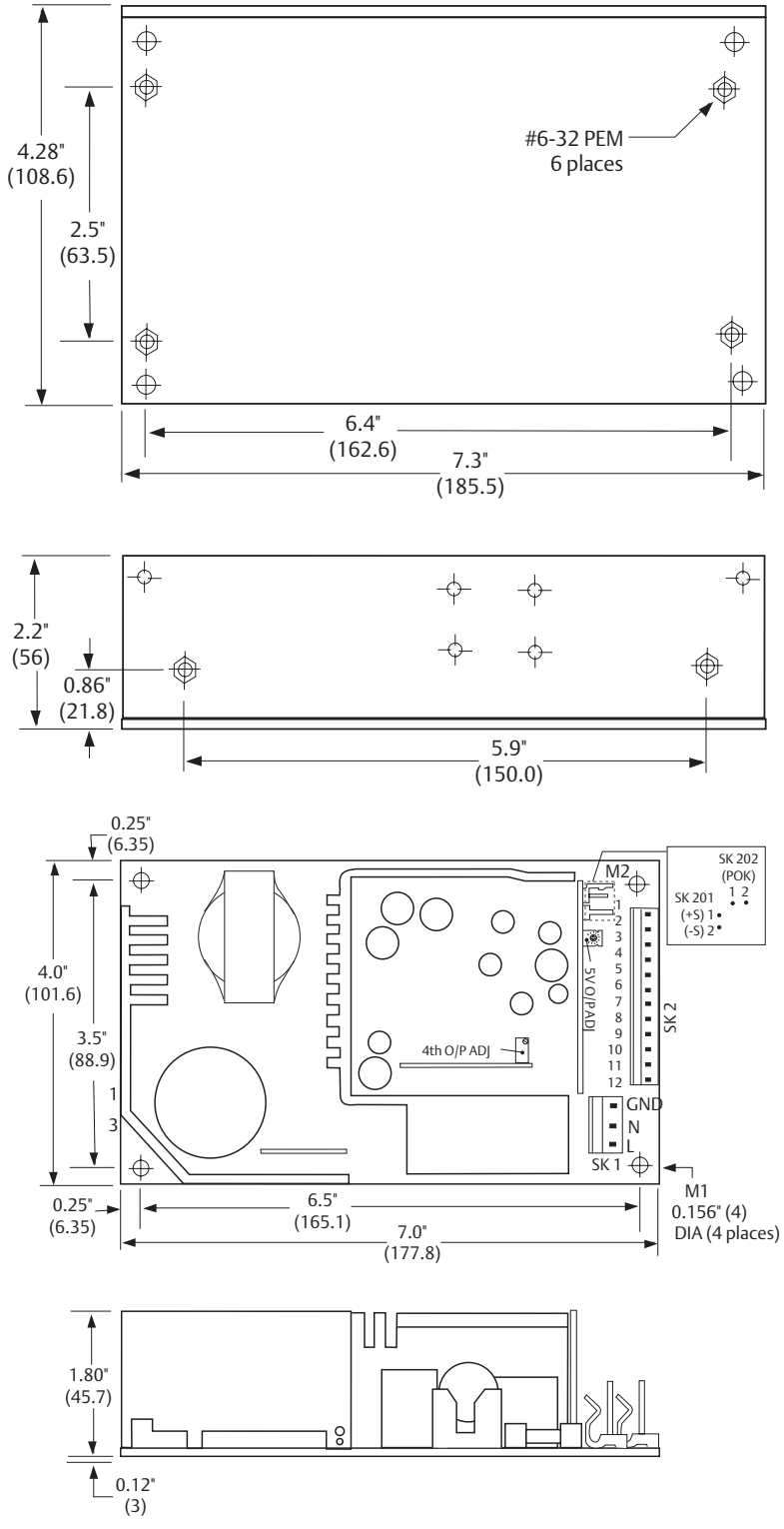
Mating Connectors

AC Input:	Molex 09-50-8051 (USA) 09-91-0500 (UK) PINS: 08-58-0111
DC Outputs:	Molex 09-50-8121 (USA) 09-91-1200 (UK) PINS: 08-58-0111
Remote Sense Power Fail:	Molex 22-01-1022 (USA) 22-01-1023 (UK) PINS: 08-50-0114
Astec Connector Kit #70-841-006, includes all of the above	

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is ± 0.02" (± 0.5mm)
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: 2 year
8. Weight: 1.25 lb./0.57 kg

Mechanical Drawing

-B Bracket



Americas
5810 Van Allen Way
Carlsbad, CA 92008
USA
Telephone: +1 760 930 4600
Facsimile: +1 760 930 0698

Europe (UK)
Waterfront Business Park
Merry Hill, Dudley
West Midlands, DY5 1LX
United Kingdom
Telephone: +44 (0) 1384 842 211
Facsimile: +44 (0) 1384 843 355

Asia (HK)
14/F, Lu Plaza
2 Wing Yip Street
Kwun Tong, Kowloon
Hong Kong
Telephone: +852 2176 3333
Facsimile: +852 2176 3888

For global contact, visit:

www.Emerson.com/EmbeddedPower

techsupport.embeddedpower@emerson.com

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