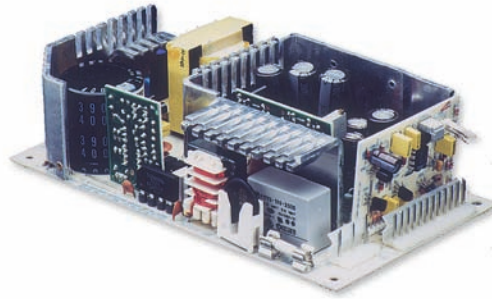


LPQ110 Series

110 Watts

Total Power: 80 - 110 Watts
Input Voltage: 85-264 VAC
120-300 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 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 |



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 |

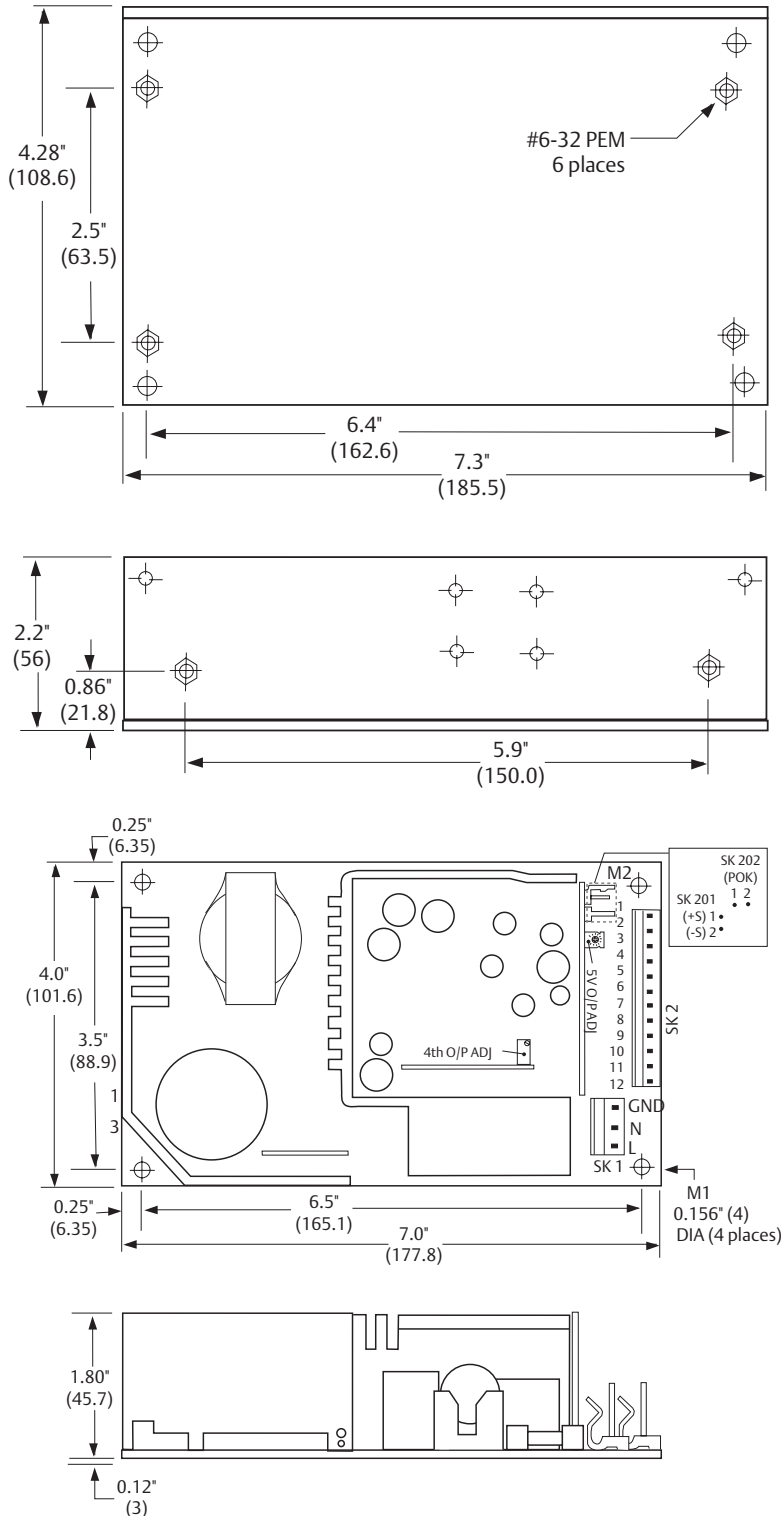
Mating Connectors

| | |
|--|---|
| 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 | Molex 22-01-1022 (USA) 22-01-1023 (UK) |
| Power Fail: | 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)

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