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LPQ110 Series

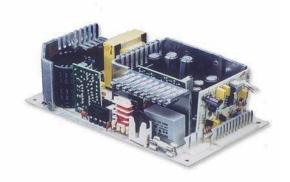
Total Power:

110 Watts

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)

UL1950 E132002 UL **CSA**

CSA 22.2-234 Level 3

LR53982C

NEMKOEN 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 0.5 mA @ 50/60 Hz, 264 Vac input

leakage current

Output

80 W convection 110 W with 30 CFM forced air Maximum power

± 5% min. on main; 5 - 25 V on 4th output on LPQ112 and LPQ113 Adjustment range

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 ControlPower failureTTL logic signal goes high 50 - 150 msec after 5 V output. It goes low at least 4 msec before loss of regulationRemote senseCompensates 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: $-40 \,^{\circ}\text{C}$ to $+85 \,^{\circ}\text{C}$ Temperature coefficient: $\pm 0.4\%$ per $^{\circ}\text{C}$

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

susceptibility:

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

| _ | | | | | | |
|--------|-----|------------|--------|------|---------|--------|
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| \cup | I U | | II I Y | 1111 | ,,,,,,, | 111011 |

| 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 $^{\circ}$ 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 s: Molex 09-50-8121 (US

DC Outputs: Molex 09-50-8121 (USA) 09-91-1200 (UK)

PINS: 08-58-0111 Molex 22-01-1022 (USA)

Remote Molex 22-01-1022 (U Sense 22-01-1023 (UK) Power Fail: PINS: 08-50-0114

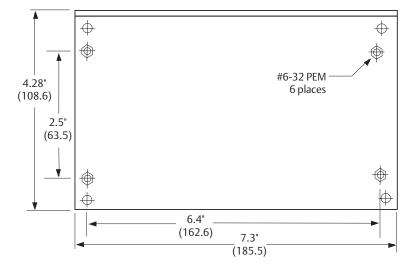
Astec Connector Kit #70-841-006, includes all of the above

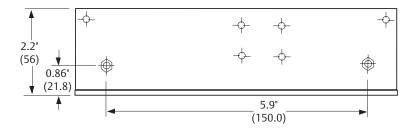
- 1. Specifications subject to change without notice.
- 2. All dimensions in inches (mm), tolerance is ± 0.02" (± 0.5mm)
- 3. Specifications are for convection rating at factory settings unless otherwise stated.
- 4. Mounting holes M1 and M2 should be grounded for EMI purposes.
- 5. Mounting hole M1 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

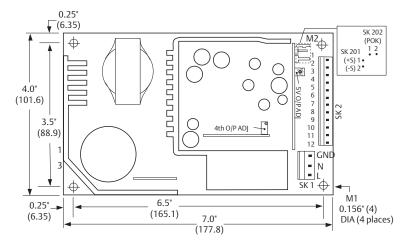
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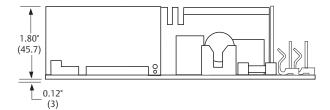
Mechanical Drawing

-B Bracket









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