

## LPQ170 Series

175 Watts

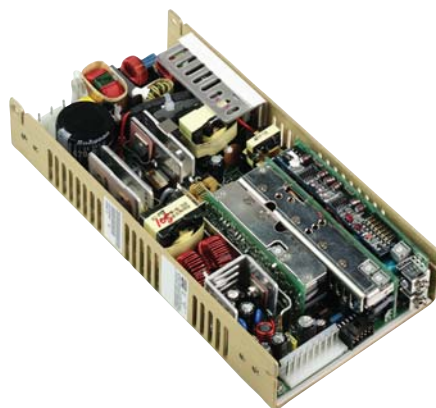
**Total Power:** 110 - 175 Watts  
**Input Voltage:** 85-264 Vac  
120-300 Vdc  
**# of Outputs:** Quad

### Special Features

- Active power factor correction
- IEC EN61000-3-2 compliance
- Adjustable outputs on 1, 3 & 4
- Remote sense on main output
- Single wire current sharing
- Power fail and remote inhibit
- Built-in EMI filter
- Low output ripple
- Overvoltage protection
- Overload protection
- Thermal overload protection
- DC power good
- 5 V standby output
- Adjustable floating 4th output
- Optional cover (-C suffix)

### Safety

**VDE** 0805/EN60950  
(IEC950)  
**UL** UL60950  
**CB** Certificate and report  
**CSA** CSA 22.2-234 Level 3  
**CE** Mark (LVD)  
**NEMKO** EN 60950/EMKO-TUE



Rev. 07.01.08  
LPQ170 Series  
1 of 4

## Electrical Specifications

### Input

Input range: 85-264 VAC; 120-300 VDC  
Frequency: 47-67 Hz  
Inrush current: 38 A max, cold start @ 25°C  
Efficiency: 75% 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  
Power Factor: 0.99 typical  
Safety ground leakage current: 1.0 mA @ 50/60 Hz, 264 VAC input

### Output

Maximum power: 110 W convection (75 W with cover)  
85 W convection - LPQ173  
175 W with 30 CFM forced air  
(130 W with cover - LPQ172)  
Adjustment range: 3.3 - 5.5V on main; -12 - 15V on 3rd output  
3.3 - 25 V on 4th output - LPQ172  
3.3 - 5.5 V on 4th output - LPQ173  
Hold-up time: 20 ms @175 W load at nominal line  
Overload protection: Short circuit protection on all outputs. Case overload protected  
@ 110-145% above peak rating  
Overvoltage protection: Tracks outputs 1, 3 & 4; 15 to 35%  
Standby output: 5 V @ 200 mA regulated  $\pm 5\%$



## Logic Control

AC power failure	TTL logic signal goes high 100 - 500 msec after V1 output; It goes low at least 4 msec before loss of regulation
Remote inhibit	Requires contact closure to inhibit outputs
Remote sense	Compensates for 0.5 V lead drop min. Will operate without remote sense connected. Reverse connection protected.
DC - OK	TTL logic signal goes high after main output is in regulation. It goes low when there is a loss of regulation.

## 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 IE61000-4, -2, -3, -4, -5, -6, -8, -11, 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 <sup>1</sup>	Regulation <sup>2</sup>	Ripple P/P (PARD) <sup>3</sup>
LPQ172	5 V (3.3 - 5.5 V)	0 A	15 A	30 A	32 A	±2%	50 mV
	12 V	0 A	6 A	8 A	10 A	±3%	120 mV
	-12 V (-12 -15 V)	0 A	1.5 A	3 A	3.5 A	±3%	<1%
	±3.3-25 V	0.5 A *	2 A	5 A	5.5 A	±3%	<50mV or 1%
LPQ173	5 V (3.3 - 5.5 V)	0 A	10 A	24 A	26 A	±2%	50 mV
	12 V	0 A	6 A	8 A	10 A	±3%	120 mV
	-12V (-12 -15 V)	0 A	.2 A	3 A	3.5 A	±3%	<1%
	5 V (3.3 - 5.5 V)	0 A	10 A	24 A	26 A	±2%	50 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 output adjustable 3.3-25 V factory set at 5 V.
5. \* Minimum loads are required when output set below 5 Volts
6. Remote inhibit resets OVP latch
7. LPQ173-C has no convection rating.

Note: -C suffix added to the model number indicates cover option and is limited to 50 °C operation.

### 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 screw maximum insertion depth is 0.12".
5. Warranty: 2 year
6. Weight: 2 lb / 0.91 kg

## Mechanical Drawing

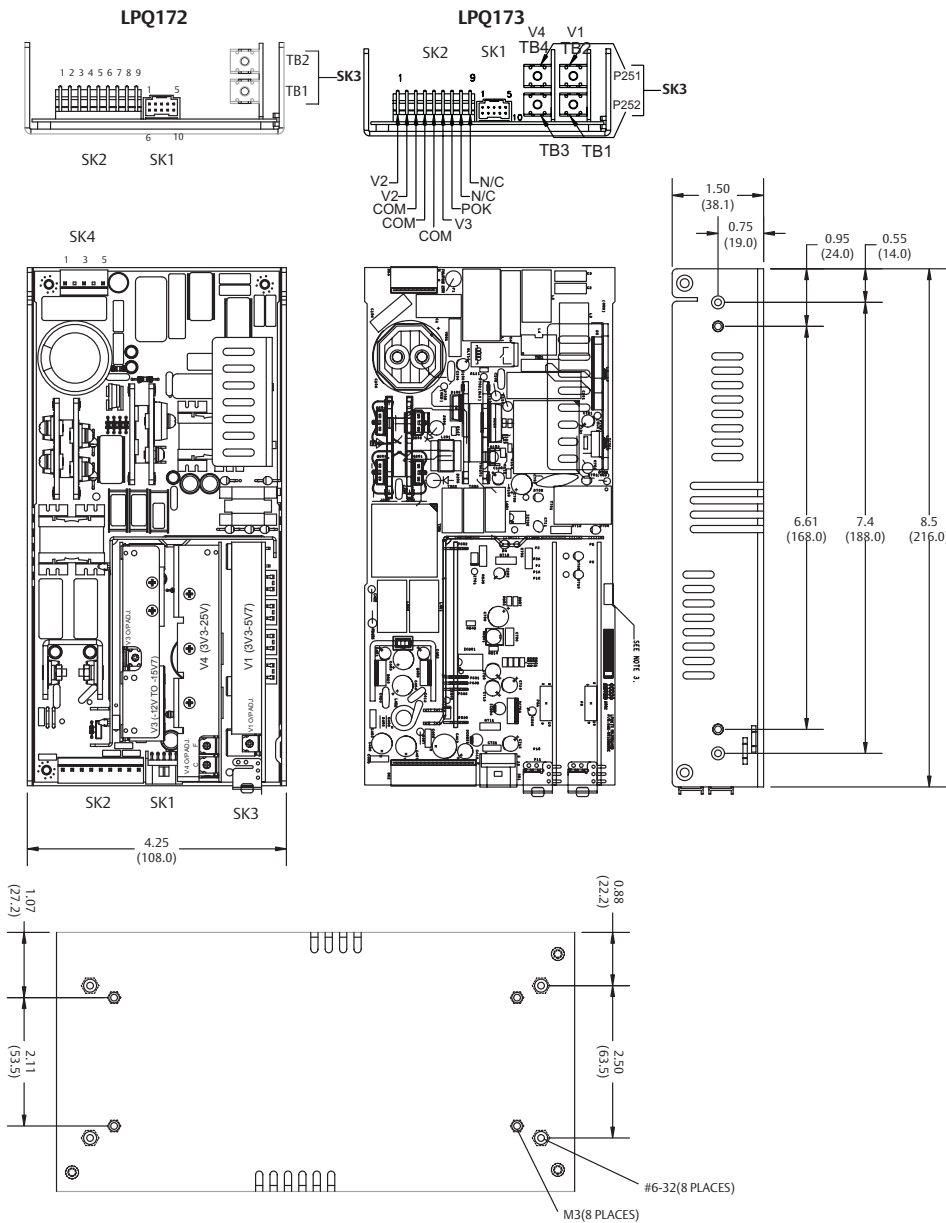
## Pin Assignments

Connector	LPQ172	LPQ173
<b>SK1</b>	PIN 1	N/C
	PIN 2	5V Standby
	PIN 3	N/C
	PIN 4	V1 SWP
	PIN 5	Common
	PIN 6	+V1 sense
	PIN 7	Sense common
	PIN 8	Remote inhibit
	PIN 9	DC power good
	PIN 10	POK
<b>SK2</b>	PIN 1,2	+12 V
	PIN 3,4,5	Common
	PIN 6	-12 V
	PIN 7	POK
	PIN 8	+3.3 V to +25 V (Float)
<b>SK3</b>	TB-1, 3	COMMON
	TB-2	+5 V (3.3V to 5.5V)
<b>SK4</b>	PIN 1	GROUND
	PIN 3	LINE
	PIN 5	NEUTRAL

### Mating Connectors

- (SK4) AC Input: Molex 09-50-8051 (USA)  
Molex 09-91-0500 (UK)  
PINS: 08-58-0111
- (SK3) Main output: Molex series 19141-0058/0063
- (SK2) Aux DC Output/Power fail: Molex 09-50-8091 (USA)  
Molex 09-91-0900 (UK)  
PINS: 08-58-0111
- (SK1) Control Signals: Molex 90142-0010 (USA)  
PINS: 90119-2110 or  
Amp: 87977-3  
PINS: 87309-8

Astec connector kit #70-841-015, includes all of above



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