

## LPQ250 Series

250 Watts

**Total Power:** 250 Watts  
**Input Voltage:** 85-264 Vac  
120 - 300 Vdc  
**# of Outputs:** Quad



Rev. 2.16.09\_157  
LPQ250 Series  
1 of 3



### Special Features

- Active power factor correction
- IEC EN61000-3-2 compliance
- Remote sense on main output
- Power fail and remote inhibit
- Single wire current sharing
- Built-in EMI filter
- Adjustable floating 4th output
- 2 Supervisory outputs 5 V and 12 V
- Overvoltage protection
- Overload protection
- Thermal overload protection
- DC power good
- 120 KHz switching frequency
- Cover -C
- Optional with fan cover -CF
- Optional end fan cover -CEF

### Safety

- **VDE** 0805/EN60950 (IEC950)  
11774-3336-1262
- **UL** UL1950 EI32002
- **CSA** CSA 22.2-234 Level 5  
LR53982C
- **NEMKO** EN 60950/EMKO-TUE  
P95102999 (74-sec) 203
- **CB** Certificate & report 2186
- **CE** Mark (LVD)

## Electrical Specifications

### Input

|                                |                                                                                                                                                                        |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input range:                   | 85-264 Vac; 120 - 300 Vdc                                                                                                                                              |
| Frequency:                     | 47-440 Hz                                                                                                                                                              |
| Inrush current:                | 20 A max, cold start @ 25 °C                                                                                                                                           |
| Efficiency:                    | 75% typical at full load                                                                                                                                               |
| EMI filter:                    | FCC Class B conducted and radiated<br>CISPR 22 Class B conducted and radiated<br>EN55022 Class B conducted and radiated<br>VDE 0878 PT3 Class B conducted and radiated |
| Safety ground leakage current: | < 0.5 mA @ 50/60 Hz, 264 VAC input                                                                                                                                     |

### Output

|                         |                                                                                                  |
|-------------------------|--------------------------------------------------------------------------------------------------|
| Maximum power:          | With cover: 250 W with 30 CFM forced air.<br>(-C) (-CF) (CEF)                                    |
| Adjustment range:       | ± 5% min. on main: 5-25 V on 4th output                                                          |
| Supervisory outputs:    | 5 V @ 100 mA regulated, 12 V @ 500 mA                                                            |
| Hold-up time:           | 16 ms @ 250 W load, 115 VAC nominal line                                                         |
| Overload protection:    | Short circuit protection on all outputs. Case overload protected @<br>110-145% above peak rating |
| Overvoltage protection: | 5 V output: 5.7 to 6.7 VDC.<br>Other models 10% to 25% above nominal output                      |



## Logic Control

|                |                                                                                                                    |
|----------------|--------------------------------------------------------------------------------------------------------------------|
| Power fail:    | TTL Logic signal goes high 50-150 msec after 5 V output. It goes low at least 4 ms before loss of regulation       |
| Remote on/off: | Requires an external contact (N.O or N.C) to inhibit outputs                                                       |
| DC-OK:         | TTL logic goes high 50-150 msec after the output. It goes low when there is loss of regulation.                    |
| Remote sense:  | Compensates for 0.5 V lead drop minimum, will operate without remote sense connected. Reverse connection protected |

## Environmental Specifications

|                                 |                                                                                                                         |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Operating temperature:          | 0° to 50 °C ambient;<br>derate each output at 2.5% per degree from 50° to 70 °C                                         |
| 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 0.7 G peak 5 Hz to 500 Hz, 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 30CFM Forced Air | Peak Load <sup>1</sup> | Regulation <sup>2</sup> | Ripple P/P (PARD) <sup>3</sup> |
|--------------|----------------|--------------|------------------------------------|------------------------|-------------------------|--------------------------------|
| LPQ252-C     | +5 V           | 3 A          | 35 A                               | 40 A                   | ±2%                     | 50 mV                          |
|              | +12 V          | 0 A          | 10 A                               | 12 A                   | ±3%                     | 120 mV                         |
|              | -12 V          | 0 A          | 6 A                                | 8 A                    | ±3%                     | 120 mV                         |
|              | ± 5 - 25 V     | 0 A          | 6 A                                | 8 A                    | ±3%                     | 240 mV max.                    |
| LPQ253-C     | +5 V           | 3 A          | 35 A                               | 40 A                   | ±2%                     | 50 mV                          |
|              | +15 V          | 0 A          | 10 A                               | 12 A                   | ±3%                     | 150 mV                         |
|              | -15 V          | 0 A          | 6 A                                | 8 A                    | ±3%                     | 150 mV                         |
|              | ± 5 - 25 V     | 0 A          | 6 A                                | 8 A                    | ±3%                     | 240 mV max.                    |

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.

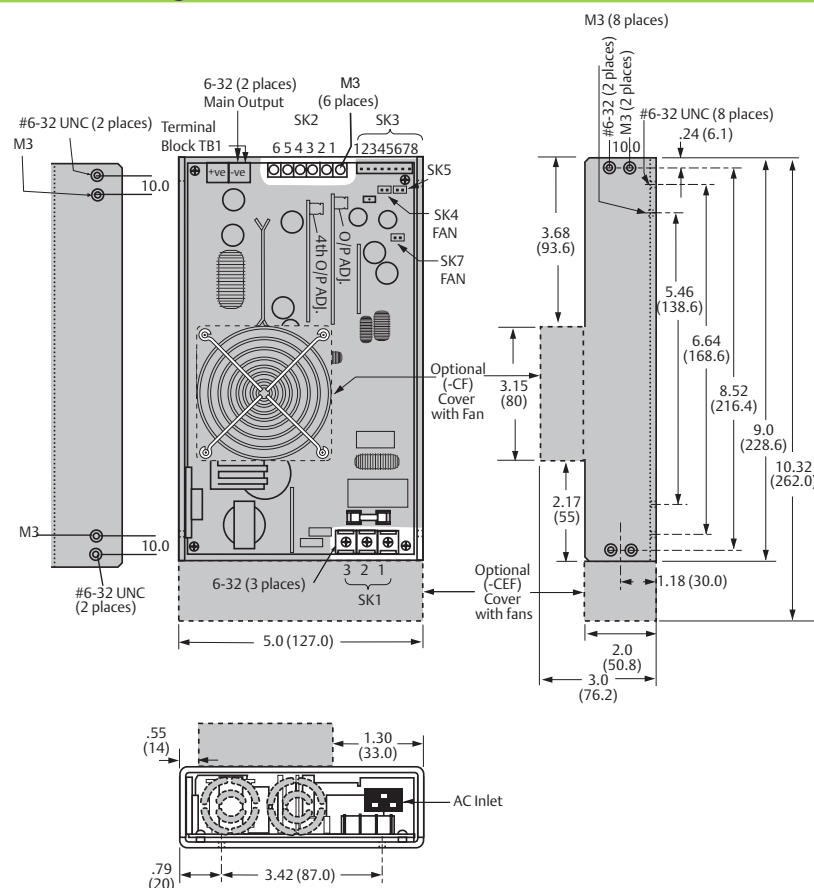
4. 4th output 5 - 25 V factory set at 5 V.

5. Minimum Load is required.

6. If optional CF or CEF fans are not used, 30CFM forced air cooling needs to be provided and is required through the length of the power supply. Not convection rated.

Note: -CF suffix added to the model number indicates cover with top fan. -CEF suffix added to the model number indicates cover with dual end mounted fan cover and AC inlet.

## Mechanical Drawing



## Pin Assignments

| Connector |       |                                            |
|-----------|-------|--------------------------------------------|
| SK1       | PIN 1 | Neutral                                    |
|           | PIN 2 | Line                                       |
|           | PIN 3 | Ground                                     |
| SK2       | PIN 1 | + 12 / 15V                                 |
|           | PIN 2 | Common                                     |
|           | PIN 3 | Common                                     |
|           | PIN 4 | - 12 / 15 V                                |
|           | PIN 5 | 5-25 V RET Float                           |
| SK3       | PIN 6 | 5-25 V Float                               |
|           | PIN 1 | + Remote sense                             |
|           | PIN 2 | - Remote sense                             |
|           | PIN 3 | Remote inhibit (N.O.)                      |
|           | PIN 4 | Remote inhibit (N.C.)                      |
|           | PIN 5 | Common                                     |
|           | PIN 6 | Current sharing                            |
| SK4       | PIN 7 | Power Fail                                 |
|           | PIN 8 | DC Power Good                              |
|           | PIN 1 | + Fan's power source (12 V @ 500 mA)       |
|           | PIN 2 | - Fan's power source (12 V @ 500 mA)       |
| SK5       | PIN 1 | + Supervisory output supply (5 V @ 100 mA) |
|           | PIN 2 | - Supervisory output supply (5 V @ 100 mA) |
| SK7       | PIN 1 | + Fan's power source (12 V @ 500 mA)       |
|           | PIN 2 | - Fan's power source (12 V @ 500 mA)       |

## Mating Connectors

|     |                                      |
|-----|--------------------------------------|
| SK3 | Molex 22-01-1084<br>PINS:08-70-0057  |
| SK4 | Molex 22-01-3027<br>PINS: 08-50-0114 |
| SK5 | Molex 22-01-3027<br>PINS: 08-50-0114 |
| SK7 | Molex 22-01-3027<br>PINS: 08-50-0114 |

Emerson Network Power Connector Kit #70-841-005, includes all of the above.

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02"$  ( $\pm 0.5\text{mm}$ )
3. Specifications are at factory settings.
4. To enable normally closed remote inhibit, cut jumper J1.
5. Mounting maximum insertion depth is  $0.12"$ .
6. Warranty: 2 years
7. Weight: 3.1 lb / 1.41 kg

## 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.PowerConversion.com](http://www.PowerConversion.com)

techsupport.embeddedpower  
@emerson.com

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