

# 100 Watt Industrial



## Features

- 100 W convection cooled rating
- Small 5.0 x 3.04 x 1.073 inches form factor
- 6.7 W/in<sup>3</sup> power density
- High efficiency > 85%
- Low conducted and radiated noise
- Power good and power fail signal
- Cover kit accessory available

## Electrical Specifications

|                              |                                                                                              |                         |
|------------------------------|----------------------------------------------------------------------------------------------|-------------------------|
| AC Input                     | 90–264 V, Universal                                                                          |                         |
| Input Frequency              | 47–63 Hz                                                                                     |                         |
| Input Current                | 120 VAC: 2.0 A max.                                                                          | 230 VAC: 1.0 A max.     |
| Inrush Current               | 120 VAC: 18 A max.                                                                           | 230 VAC: 35 A max.      |
| Leakage Current              | 120 VAC: < 500 $\mu$ A                                                                       | 230 VAC: < 1000 $\mu$ A |
| Efficiency                   | 120 VAC: 83% typical                                                                         | 230 VAC: 85% typical    |
| Hold-up Time                 | 120 VAC: 10 ms                                                                               | 230 VAC: 16 ms          |
| Output Power                 | 100 W                                                                                        |                         |
| Line Regulation              | +/-0.3%                                                                                      |                         |
| Load Regulation <sup>1</sup> | V1: +/-1%; V2, V3 and V4: +/-5%                                                              |                         |
| Transient Response           | 10%, 50% to 100% load change, 50/60 Hz, 50% duty cycle, 0.1 A/ $\mu$ s, recovery time < 5 ms |                         |
| Rise Time                    | < 50 ms                                                                                      |                         |
| Set Point Tolerance          | V1: +/-2%; V2, V3, V4: +/-5%                                                                 |                         |
| Over Current Protection      | 110 to 170%                                                                                  |                         |
| Over Voltage Protection      | 6.2 V +/-0.4 V for 5 V                                                                       |                         |
| Short Circuit Protection     | Short term, auto recovery                                                                    |                         |
| Switching Frequency          | Boost converter: 45 kHz typical<br>Resonant converter: 45 kHz typical                        |                         |
| Operating Temperature        | 0 to 70°C, refer derating curve                                                              |                         |
| Storage Temperature          | -40 to +85°C                                                                                 |                         |
| Relative Humidity            | 95% Rh, non condensing                                                                       |                         |
| Altitude                     | Operating: 10,000 ft.;Non-operating: 40,000 ft.                                              |                         |
| MTBF                         | > 200 kh, MIL-HDBK-217F                                                                      |                         |
| Isolation Voltage            | Min. 4242 VDC between input to output                                                        |                         |
| Cooling                      | Convection                                                                                   |                         |

| Model Number                         | Voltage                                     | Max. Load <sup>2</sup>                     | Min. Load                                 | Ripple <sup>3</sup>    |
|--------------------------------------|---------------------------------------------|--------------------------------------------|-------------------------------------------|------------------------|
| LFVLT100-1001                        | V1=12 V                                     | 7.5 A                                      | 1.0 A                                     | 3%                     |
| LFVLT100-1002                        | V1=15 V                                     | 6.67 A                                     | 0.5 A                                     | 3%                     |
| LFVLT100-1003                        | V1=24 V                                     | 4.2 A                                      | 0.1 A                                     | 3%                     |
| LFVLT100-1004                        | V1=48 V                                     | 2.1 A                                      | 0.2 A                                     | 3%                     |
| LFVLT100-4000                        | V1=5.1 V, V2=12.25 V,<br>V3=-5 V, V4=-12 V  | V1=12.0 A, V2=4.0 A,<br>V3=0.8 A, V4=0.8 A | V1=3.0 A, V2=0.1 A,<br>V3=0.0 A, V4=0.0 A | V1, V3=1%<br>V2, V4=3% |
| LFVLT100-4001                        | V1=5.1 V, V2=24.5 V,<br>V3=12 V, V4=-12 V   | V1=12.0 A, V2=2.0 A,<br>V3=0.8 A, V4=0.8 A | V1=3.0 A, V2=0.1 A,<br>V3=0.0 A, V4=0.0 A | V1=1%<br>V2, V3, V4=3% |
| LFVLT100-4002                        | V1=5.1 V, V2=16 V,<br>V3=-4.8 V, V4=-15.5 V | V1=12.0 A, V2=3.0 A,<br>V3=0.8 A, V4=0.8 A | V1=3.0 A, V2=0.1 A,<br>V3=0.0 A, V4=0.0 A | V1, V3=1%<br>V2, V4=3% |
| LFVLT100-4003                        | V1=5.1 V, V2=12 V,<br>V3=24 V, V4=-12 V     | V1=12.0 A, V2=4.0 A,<br>V3=0.8 A, V4=0.8 A | V1=3.0 A, V2=0.1 A,<br>V3=0.0 A, V4=0.0 A | V1=1%<br>V2, V3, V4=3% |
| LFVLT80-CK metal cover kit accessory |                                             |                                            |                                           |                        |

| Connectors      |                |                 |
|-----------------|----------------|-----------------|
| J1              | Pin 1          | AC NEUTRAL      |
|                 | Pin 2          | AC LINE         |
| Spade Connector |                | EARTH           |
| J2              | Pin 1, 2, 3, 4 | V1              |
|                 | Pin 5, 6, 7, 8 | RTN             |
|                 | Pin 9, 10      | V2              |
|                 | Pin 11         | V3              |
|                 | Pin 12         | V4              |
| J3              | Pin 1          | RTN             |
|                 | Pin 2          | POWER FAIL/GOOD |

## Notes

1. Single output models: +/-2.5% for 12 V, +/-3% for 15 and 24 V, +/-2% for 48 V.  
Quad output models : +/-1% for V1; +/-5% for V2, V3, V4.
2. Maximum current per output channel. Do not exceed total output power rating.
3. Ripple is peak to peak with 20 MHz bandwidth and 10  $\mu$ F (Tantalum capacitor) in parallel with a 0.1  $\mu$ F capacitor at rated line voltage and load ranges.
4. Power fail and power good signal on quad output models only.
5. Specifications are for nominal input voltage, 25°C and max. load unless otherwise stated.
6. Derate output power linearly to 80% from 90 VAC to 80 VAC input.

| Mechanical Specifications           |                                                                                                                                                                                  |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AC Input Connector (J1)             | Molex: 26-60-4030 or equivalent<br>Mating: 09-50-3031; Pins: 08-50-0106                                                                                                          |
| EARTH                               | Molex: 19705-4301<br>Mating: 190030001                                                                                                                                           |
| DC Output Connector (J2)            | Tyco: 1-640445-2 or equivalent<br>Mating: 1-647402-2; Pins: 647485                                                                                                               |
| Signal Connector (J3)               | Molex: 22-23-2021 or equivalent<br>Mating: 22-01-2021                                                                                                                            |
| Dimensions                          | 5.0 x 3.04 x 1.07 inches<br>(127.0 x 77.22 x 27.18 mm)                                                                                                                           |
| Weight                              | 250 g                                                                                                                                                                            |
| EMC                                 |                                                                                                                                                                                  |
| CE Mark                             | Complies with LVD Directive                                                                                                                                                      |
| Conducted Emissions                 | EN55022-B, CISPR22-B, FCC PART15-B, EN50082-1                                                                                                                                    |
| Static Discharge                    | EN61000-4-2, Level-3                                                                                                                                                             |
| RF Field Susceptibility             | EN61000-4-3, Level-3                                                                                                                                                             |
| Fast Transients/Bursts              | EN61000-4-4, Level-3                                                                                                                                                             |
| Radiated Emissions                  | EN55022-B, CISPR22-B, FCC PART15-B<br>To be controlled in end system                                                                                                             |
| Surge Susceptibility                | EN61000-4-5, Level-3                                                                                                                                                             |
| Harmonic current                    | EN61000-3-2, Class A                                                                                                                                                             |
| Safety                              |                                                                                                                                                                                  |
| Safety Standard(s)                  | IEC60950-1 (ed.2), EN60950-1, UL60950-1 (2nd Edition),<br>CSA C22.2 No. 60950-1 (2nd Edition), Class 1 SELV                                                                      |
| Approval Agency                     | Nemko, UL, C-UL                                                                                                                                                                  |
| Safety File Number(s)               | Nemko: P09210934<br>UL: E150565                                                                                                                                                  |
| Signal                              |                                                                                                                                                                                  |
| Power Fail/Good Signal <sup>4</sup> | Signal goes high after a delay of 100 ms once main output is within regulation band.<br>Signal goes low 1.5 ms advance before output goes out of regulation due to mains failure |

