



Features

- 3" x 2" foot print
- Height 1" above PCB
- 120 Watts with Forced Air Cooling
- Approval to EN60601 3rd Edition, Dual fusing
- Efficiencies upto 93%
- -40 to 70°C operating temperature, Thermal Shut-Down (85°C operational available on request)
- Suitable for BF applications
- Means of Protection : 2xMOPP
- >3.00m Hours, Telcordia -SR332-issue 3
- No Load Power < 0.3W
- Class II option available
- Meets standard IEC60601-1-2 : 2014 (4th Edition)

Electrical Specifications

| | | |
|------------------------------------|--|----------------------|
| Input Voltage | 85-264 VAC/390 VDC ⁵ , Universal (see derating under output power) | |
| Input Frequency | 47-63 Hz | |
| Input Current | 115 VAC: 1.2 A max. | 230 VAC: 0.65 A max. |
| No Load Power | less than 0.3W typical | |
| Inrush Current | 115 VAC – 25 A, 230 VAC – 45 A, 264 VAC – 75 A | |
| Leakage Current | 300 uA Typical, (N.A. For Class II Option) | Touch current <100uA |
| Efficiency | 93%(48V,58V), 91%(24V,30V), 90%(12V,15V) | |
| Hold-up Time | >10 ms typical | |
| Power Factor | exceeds 0.95 with Full Load, Active PFC | |
| Output Power | Forced cooling : 120W with 300LFM (refer mechanical drawing) Convection cooling : 100W (for input 100-264 VAC) (de-rate linearly to 80W @ 85VAC) | |
| Output Voltage Adjustability | +/-3% | |
| Line Regulation | +/-0.5% | |
| Load Regulation | +/-1% | |
| Transient Response | 25% step load change, at 0.1A/uS slew rate, 50% duty cycle, 50Hz=4% , recovery time < 5 ms | |
| Rise Time | 55ms typical | |
| Set Point Tolerance | +/-1% | |
| Over Current Protection | Typ 110% | |
| Over Voltage Protection | 110 to 140%, Latch type (AC recycling required) | |
| Short Circuit Protection | Hiccup mode | |
| Switching Frequency | 60 KHz typical | |
| Operating Temperature ⁴ | - 40 to +70°C, * -40 to 0°C startup is guaranteed with spec deviation (85°C operational available on request) | |
| Storage Temperature | -40 to +85°C | |
| Relative Humidity | 5% to 95%, noncondensing | |
| Altitude | Operating: 16,000 ft.; Nonoperating: 40,000 ft. | |
| MTBF | >3.00m Hours, Telcordia -SR332-issue 3 | |
| Isolation Voltage | Input to Output – 4000 VAC medical applications. Input to GND - 1500 VAC (Not Applicable For Class II Option) Output to GND- 1500VAC for type BF , 500 VAC for type B (Not Applicable For Class II Option) | |
| Protection Level | Primary to Secondary: 2 MOPP, Primary to Earth: 1 MOPP, Secondary to Earth: 1 MOPP | |

| Model Number | Description | Voltage | Max. Load (Convection) | Max. Load (300 LFM) | Min. Load | Ripple ¹ |
|---------------------------------------|---------------------|---------|---------------------------|------------------------|-----------|---------------------|
| LFMWLP120-1001 | with Screw Terminal | 12 V | 8.33A | 10.0A | 0.0 A | 1% |
| LFMWLP120-1001-II | with Screw Terminal | 12 V | 8.33A | 10.0A | 0.0 A | 1% |
| LFMWLP120-1301 | with Molex Header | 12 V | 8.33A | 10.0A | 0.0 A | 1% |
| LFMWLP120-1301-II | with Molex Header | 12 V | 8.33A | 10.0A | 0.0 A | 1% |
| LFMWLP120-1002 | with Screw Terminal | 15 V | 6.66A | 8.0A | 0.0 A | 1% |
| LFMWLP120-1002-II | with Screw Terminal | 15 V | 6.66A | 8.0A | 0.0 A | 1% |
| LFMWLP120-1302 | with Molex Header | 15 V | 6.66A | 8.0A | 0.0 A | 1% |
| LFMWLP120-1302-II | with Molex Header | 15 V | 6.66A | 8.0A | 0.0 A | 1% |
| LFMWLP120-1003 | with Screw Terminal | 24 V | 4.16A | 5.0A | 0.0 A | 1% |
| LFMWLP120-1003-II | with Screw Terminal | 24 V | 4.16A | 5.0A | 0.0 A | 1% |
| LFMWLP120-1303 | with Molex Header | 24 V | 4.16A | 5.0A | 0.0 A | 1% |
| LFMWLP120-1303-II | with Molex Header | 24 V | 4.16A | 5.0A | 0.0 A | 1% |
| LFMWLP120-1004 | with Screw Terminal | 48 V | 2.08A | 2.5A | 0.0 A | 1% |
| LFMWLP120-1004-II | with Screw Terminal | 48 V | 2.08A | 2.5A | 0.0 A | 1% |
| LFMWLP120-1304 | with Molex Header | 48 V | 2.08A | 2.5A | 0.0 A | 1% |
| LFMWLP120-1304-II | with Molex Header | 48 V | 2.08A | 2.5A | 0.0 A | 1% |
| LFMWLP120-1005 | with Screw Terminal | 30 V | 3.33A | 4.0A | 0.0 A | 1% |
| LFMWLP120-1005-II | with Screw Terminal | 30 V | 3.33A | 4.0A | 0.0 A | 1% |
| LFMWLP120-1305 | with Molex Header | 30 V | 3.33A | 4.0A | 0.0 A | 1% |
| LFMWLP120-1305-II | with Molex Header | 30 V | 3.33A | 4.0A | 0.0 A | 1% |
| LFMWLP120-1006 | with Screw Terminal | 58 V | 1.72A | 2.07A | 0.0 A | 1% |
| LFMWLP120-1006-II | with Screw Terminal | 58 V | 1.72A | 2.07A | 0.0 A | 1% |
| LFMWLP120-1306 | with Molex Header | 58 V | 1.72A | 2.07A | 0.0 A | 1% |
| LFMWLP120-1306-II | with Molex Header | 58 V | 1.72A | 2.07A | 0.0 A | 1% |
| LFWLP120-CK metal cover kit accessory | | | | | | |

| Connectors | | |
|------------|---------|------------|
| J1 | Pin 1 | AC LINE |
| | Pin 2 | NOT FITTED |
| | Pin 3 | AC NEUTRAL |
| J2 | Pin 1,2 | -VE |
| | Pin 3,4 | +VE |

Notes

1. Ripple is peak to peak with 20 MHz bandwidth and 10 μ F (Electrolytic capacitor) in parallel with a 0.1 μ F capacitor at rated line voltage and load ranges.
2. Class II version available, Add "-II" suffix at the end of the Model Number.
3. Specifications are for nominal input voltage, 25°C unless otherwise stated.
4. Output ripple can be more than 10% of the output voltage.
5. Functional, not approved.
6. When used in Cover Kit, de-rate output power to 70 % under all operating conditions



Innovations in Power

Mechanical Specifications

| | | | |
|-----------------------------------|---|----------|--|
| AC Input Connector (J1) Option 1 | Molex: 39357-0003 Tyco-2-1776112-3 | Option 2 | Molex: 1722861103 (Mating conn: Molex 1722561003) |
| DC Output Connector (J2) Option 1 | Molex: 39357-0004 Tyco-2-1776112-4 | Option 2 | Molex: 1722861104 (Mating conn: Molex 1722561004) |
| Dimensions | 3 x 2 x 1.18 inches (76.2 x 50.8 x 30.1mm) | | |
| Weight | 200gm Max. | | |

EMC

| Parameter | Conditions/Description | Criteria |
|------------------------------------|-------------------------------------|---|
| Conducted Emissions | EN 55011-B, CISPR22-B, FCC PART15-B | Pass |
| Radiated Emissions | EN 55011 A | Pass Level B with external core (King core K5B RC 25x12x15-M in input cable) |
| Input Current Harmonics | EN 61000-3-2 | Class D |
| Voltage Fluctuation and Flicker | EN 61000-3-3 | Pass |
| ESD Immunity | EN 61000-4-2 | Level 4, Criterion A |
| Radiated Field Immunity | EN 61000-4-3 | Level 3, Criterion A |
| Electrical Fast Transient Immunity | EN 61000-4-4 | Level 3, Criterion A |
| Surge Immunity | EN 61000-4-5 | Level 3, Criterion A |
| Conducted Immunity | EN 61000-4-6 | Level 3, Criterion A |
| Magnetic Field Immunity | EN 61000-4-8 | Level 4, Criterion A |
| Voltage dips, interruptions | EN 61000-4-11 | Criterion B |

Safety

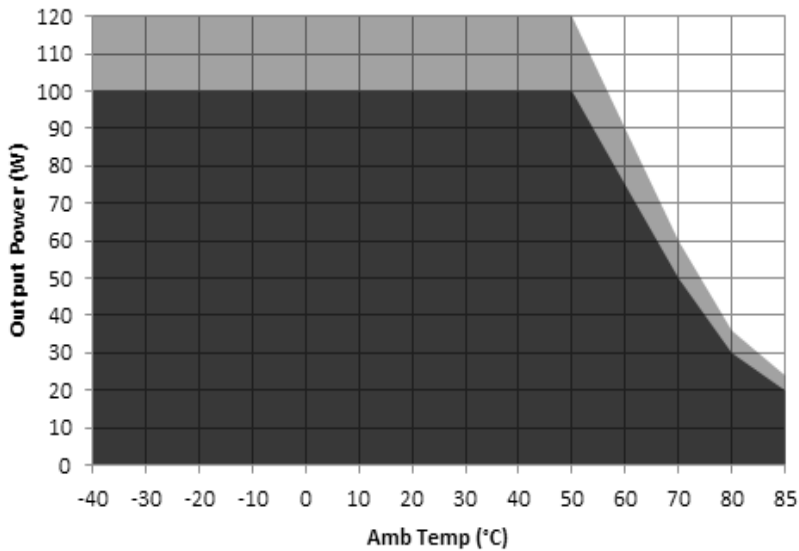
| | |
|-----------------------|---|
| CE Mark | Complies with LVD Directive |
| Approval Agency | Nemko, UL, C-UL |
| Safety Standard(s) | IEC/EN 60601-1 Edition 3.0 + AM1, ANSI/AAMI ES60601-1 and CAN/CSA -C22.2 No. 60601-1 |
| Safety File Number(s) | Class-I : UL: Certificate No. 20151106-E173812, CB: Certificate No. N089047, NEMKO: Certificate No. P15220391 Class-II : UL: Certificate No. 20151106-E173812, CB: Certificate No. N089061, NEMKO: Certificate No. P15220387 |

Environmental

| | |
|--------------|--|
| RoHS Version | LFMWLP120 series meet RoHS compliance as per european RoHS directive (Directive 2011 / 65 / EU) |
|--------------|--|

Derating Curve

Power De-rating



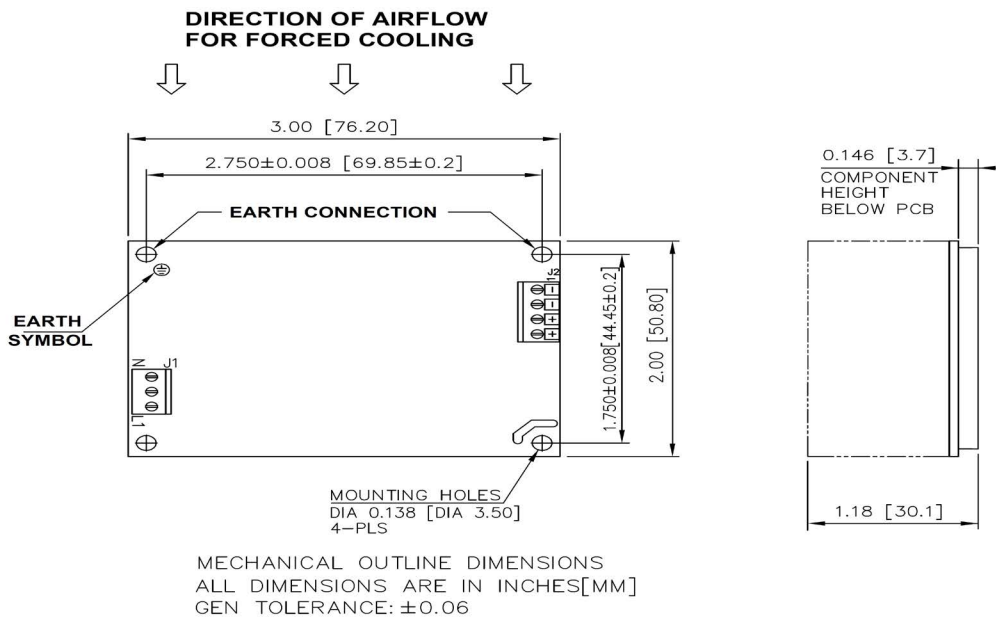
Forced Air Cooled
 Convection cooled

Convection load: 100W up to 50 °C
 De-rate above 50 °C @ 2.5% per °C
 De-rate between 70 °C to 85°C @ 4% per °C

Forced air cooled load : 120W up to 50°C
 De-rate above 50 °C @ 2.5% per °C
 De-rate between 70 °C to 85°C @ 4% per °C

Mechanical Drawing

Option -1



Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

1. Stand off, used to mount PCB has OD of 5.4 mm max.
2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
3. Washer, if used, to have dia of 6.5 mm max.

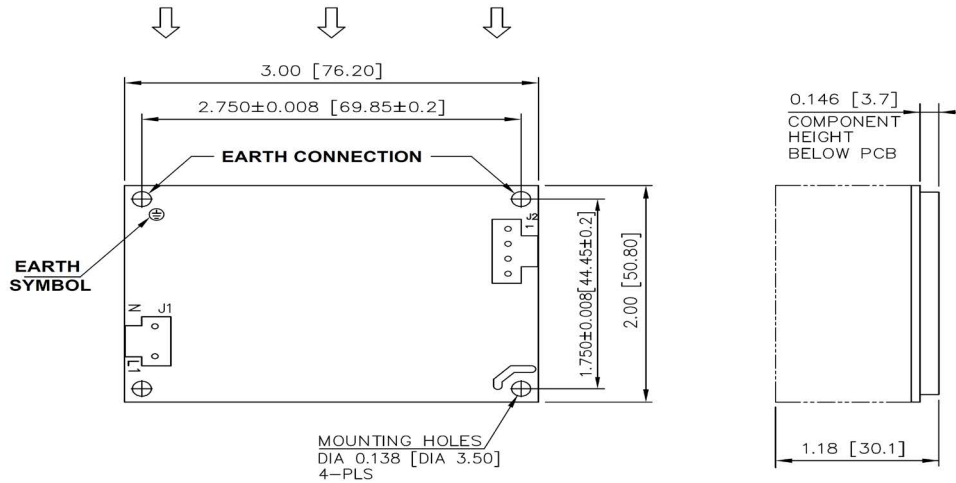


Innovations in Power

Mechanical Drawing

Option -2

DIRECTION OF AIRFLOW
FOR FORCED COOLING



Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

1. Stand off, used to mount PCB has OD of 5.4 mm max.
2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
3. Washer, if used, to have dia of 6.5 mm max.