

DLG Series



- AC Input LED Driver
- Constant Voltage & Current Operation
- High Power Factor
- High Efficiency
- Water Proof to IP67
- 90-305 VAC Input Voltage Range
- 3 Year Warranty

Specification

Input

| | |
|-----------------------|---|
| Input Voltage | • 90-305 VAC, see derating curve |
| Input Frequency | • 47-63 Hz |
| Input Current | • 50 W: 1.0 A at 115 VAC, 0.5 A at 230 VAC, 75 W: 1.2 A at 115 VAC, 0.6 A at 230 VAC, 100 W: 1.4 A at 115 VAC, 0.7 A at 230 VAC, 150 W: 2.0 A at 115 VAC, 1.0 A at 230 VAC |
| Inrush Current | • 65 A at 230 VAC, cold start +25 °C |
| Power Factor | • >0.94 at 230 VAC, full load |
| Earth Leakage Current | • DLG50/75: 500 µA max at 230 VAC DLG100/150: 750 µA max at 230 VAC |
| No Load Input Power | • DLG100: 0.5 W max at 230 VAC Other models: 0.6 W max at 230 VAC |
| Input Protection | • DLG50/75 T2.5A/300V fuse fitted in line, DLG100 T3.15A/300V fuse fitted in line, DLG150 T4A/300V fuse fitted in line |

Output

| | |
|----------------------------|---|
| Output Voltage | • See table |
| Minimum Load | • No minimum load required |
| Start Up Delay | • 1.5 s max at 115 VAC |
| Hold Up Time | • DLG50/75: No hold up DLG100/150: 16 ms minimum |
| Line Regulation | • ±0.5% |
| Load Regulation | • ±1.0% in constant voltage mode, ±5.0% in constant current mode |
| Turn On Overshoot | • 5% max |
| Transient Response | • 5% maximum deviation, recovery to within 1% in 10 ms for a 50% load change |
| Ripple & Noise | • DLG50/75 ⁽¹⁾ DLG100/150: 150 mV pk-pk up to 36 V output, 200 mV for 48 V output, 240 mV for ≥54 V output (see note 2) |
| Oversvoltage Protection | • 110-142%, recycle mains to reset, only on DLG100 & DLG150 versions |
| Overtemperature Protection | • Unit shuts down, recycle mains to reset |
| Overload Protection | • 105% maximum, auto recovery |
| Short Circuit Protection | • Trip and restart (hiccup mode) |
| Temp. Coefficient | • 0.04%/°C |

Notes

1. DLG50/75 use a topology which results in increased levels of mains frequency related ripple. Contact technical sales for details.

General

| | |
|---------------------|--|
| Efficiency | • See table |
| Isolation | • 3750 VAC Input to Output 1880 VAC Input to Ground 500 VAC Output to Ground |
| Switching Frequency | • DLG50/75: 40-80 kHz DLG100/150: PWM 60-80 kHz, PFC 55-133 kHz |
| MTBF | • >200 kHrs to MIL-HDBK-217F at 25 °C, GB |

Environmental

| | |
|-----------------------|---|
| Operating Temperature | • DLG50/75: -40 °C to +60 °C (see derating curve), DLG100/150: -30 °C to +70 °C (see derating curve) |
| Operating Humidity | • 5-100% RH, non-condensing |
| Storage Temperature | • -40 °C to +80 °C |
| Operating Altitude | • 3000 m |
| Vibration | • 10-500 Hz, 2 g, 10 mins/cycle, 6 cycles in each of 3 axes |

EMC & Safety

| | |
|----------------------|--|
| Emissions | • EN55015, class B conducted and radiated |
| Harmonic Currents | • EN61000-3-2, class A EN61000-3-2, class C for loads >80% |
| Voltage Flicker | • EN61000-3-3 |
| ESD Immunity | • EN61000-4-2, 8 kV air and 4 kV contact, Perf Criteria A |
| Radiated Immunity | • EN61000-4-3, level 2 Perf Criteria A |
| EFT/Burst | • EN61000-4-4, level 2 Perf Criteria A |
| Surge | • EN61000-4-5, installation class 3, Perf Criteria A |
| Conducted Immunity | • EN61000-4-6, level 2 Perf Criteria A |
| Dips & Interruptions | • EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B |
| Safety Approvals | • EN61347, UL8750, CE Mark |

Models and Ratings

DLG50-150 XP

| Output Power | Output Voltage | Output Current | Output Voltage Range in Constant Current Mode | Efficiency ⁽¹⁾ | Model Number |
|--------------|----------------|----------------|---|---------------------------|---------------------------|
| 50 W | 12.0 V | 4.20 A | 8.5-12.0 V | 84.0% | DLG50PS12 |
| 50 W | 24.0 V | 2.10 A | 19.0-24.0 V | 86.0% | DLG50PS24 |
| 50 W | 36.0 V | 1.40 A | 26.0-36.0 V | 88.0% | DLG50PS36 |
| 50 W | 48.0 V | 1.05 A | 35.0-48.0 V | 88.0% | DLG50PS48 |
| 59 W | 12.0 V | 4.90 A | 8.5-12.0 V | 84.0% | DLG75PS12 |
| 75 W | 24.0 V | 3.15 A | 19.0-24.0 V | 86.0% | DLG75PS24 |
| 74 W | 30.0 V | 2.45 A | 22.0-30.0 V | 87.0% | DLG75PS30 |
| 75 W | 36.0 V | 2.10 A | 26.0-36.0 V | 88.0% | DLG75PS36 |
| 67 W | 48.0 V | 1.40 A | 35.0-48.0 V | 88.0% | DLG75PS48 |
| 75 W | 54.0 V | 1.40 A | 37.0-54.0 V | 88.0% | DLG75PS54 |
| 100 W | 12.0 V | 8.30 A | 9.0-12.0 V | 88.0% | DLG100PS12 |
| 100 W | 15.0 V | 6.60 A | 10.0-15.0 V | 88.0% | DLG100PS15 ⁽³⁾ |
| 100 W | 24.0 V | 4.20 A | 14.0-24.0 V | 90.0% | DLG100PS24 |
| 100 W | 30.0 V | 3.30 A | 22.0-30.0 V | 90.0% | DLG100PS30 |
| 100 W | 36.0 V | 2.80 A | 26.0-36.0 V | 90.0% | DLG100PS36 |
| 100 W | 48.0 V | 2.10 A | 34.0-48.0 V | 90.5% | DLG100PS48 |
| 100 W | 57.0 V | 1.75 A | 43.0-57.0 V | 90.5% | DLG100PS57 ⁽³⁾ |
| 132 W | 12.0 V | 11.00 A | 9.0-12.0 V | 88.0% | DLG150PS12 |
| 150 W | 15.0 V | 10.00 A | 11.0-15.0 V | 88.0% | DLG150PS15 ⁽³⁾ |
| 150 W | 24.0 V | 6.30 A | 14.0-24.0 V | 90.0% | DLG150PS24 |
| 150 W | 30.0 V | 5.00 A | 22.0-30.0 V | 90.0% | DLG150PS30 |
| 150 W | 36.0 V | 4.20 A | 26.0-36.0 V | 90.0% | DLG150PS36 |
| 150 W | 48.0 V | 3.20 A | 33.0-48.0 V | 90.0% | DLG150PS48 |
| 150 W | 54.0 V | 2.80 A | 38.0-54.0 V | 90.0% | DLG150PS54 ⁽³⁾ |

Notes

1. Typical efficiency at full load and 230 VAC input.
2. Measured using 12" twisted pair with 0.1 μ F and 47 μ F capacitors in parallel at 20 MHz bandwidth.
3. Not UL8750 approved.

Mechanical Details



| | DLG50/75 | DLG100/150 |
|---|--------------|--------------|
| A | 6.93 (176.0) | 8.74 (222.0) |
| B | 6.38 (162.0) | 8.19 (208.0) |
| C | 6.03 (153.2) | 7.83 (199.0) |

Notes

1. All dimensions shown in inches (mm).
2. Weight: DLG50/75: 1.98 lbs (900 g)
DLG100/150 2.29 lbs (1040 g)
3. Tolerance: ± 0.02 (0.5)
4. DLG100PS12 and DLG100PS15 output cable is 14 AWG.

Application Notes

Constant Voltage / Constant Current Curve



Derating Curve

