

## 50-150 Watts

## 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<br>DLG100/150: 750 µA max at 230 VAC                                                                                                     |
| No Load Input Power   | • DLG100: 0.5 W max at 230 VAC<br>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<br>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 <sup>(1)</sup><br>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) |
| Overvoltage 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                                                                                                                            |

## General

|                     |                                                                                    |
|---------------------|------------------------------------------------------------------------------------|
| Efficiency          | • See table                                                                        |
| Isolation           | • 3750 VAC Input to Output<br>1880 VAC Input to Ground<br>500 VAC Output to Ground |
| Switching Frequency | • DLG50/75: 40-80 kHz<br>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),<br>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 &amp; Safety

|                      |                                                                            |
|----------------------|----------------------------------------------------------------------------|
| Emissions            | • EN55015, class B conducted and radiated                                  |
| Harmonic Currents    | • EN61000-3-2, class A<br>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                                                 |

## Notes

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

## Models and Ratings

DLG50-150 **XP**

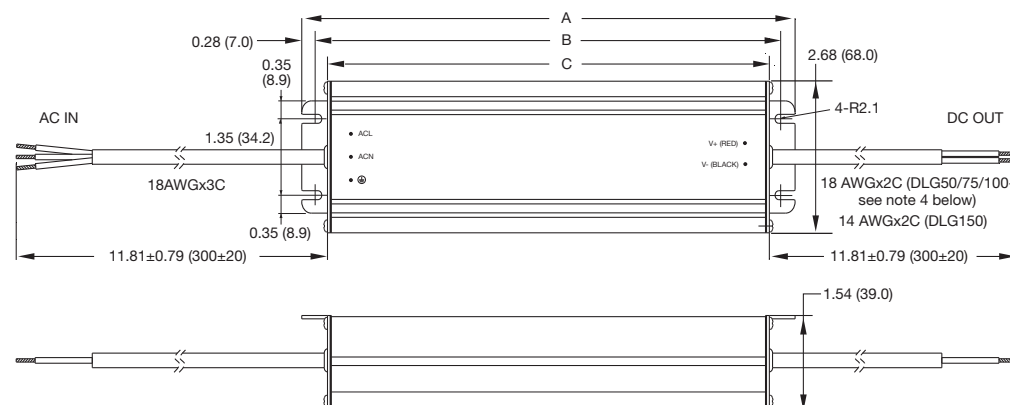
| Output Power | Output Voltage | Output Current | Output Voltage Range in Constant Current Mode | Efficiency <sup>(1)</sup> | Model Number              |
|--------------|----------------|----------------|-----------------------------------------------|---------------------------|---------------------------|
| 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 <sup>(3)</sup> |
| 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 <sup>(3)</sup> |
| 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 <sup>(3)</sup> |
| 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 <sup>(3)</sup> |

## Notes

1. Typical efficiency at full load and 230 VAC input.
2. Measured using 12" twisted pair with 0.1  $\mu$ F and 47  $\mu$ F capacitors in parallel at 20 MHz bandwidth.

3. Not UL8750 approved.

## Mechanical Details



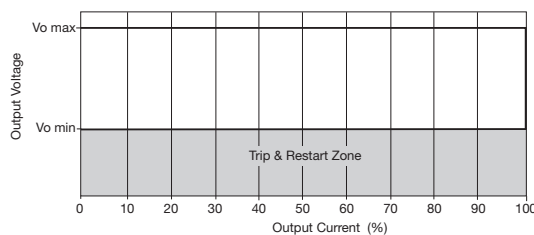
|   | DLG50/75     | DLG100/150   |
|---|--------------|--------------|
| A | 6.93 (176.0) | 8.74 (222.0) |
| B | 6.38 (162.0) | 8.19 (208.0) |
| C | 6.03 (153.2) | 7.83 (199.0) |

## 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

