**Features**
- Constant Voltage + Constant Current mode output
- Metal housing design with functional Ground
- Built-in active PFC function
- No load / Standby power consumption <0.5W
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming (dim-to-off); Smart timer dimming; DALI; Auxiliary DC output
- Typical lifetime>50000 hours
- 5 years warranty

**Description**
ELG-150 series is a 150W AC/DC LED driver featuring the dual mode constant voltage and constant current output. ELG-150 operates from 100~305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the high efficiency up to 91%, with the fanless design, the entire series is able to operate for -40°C ~ +90°C case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. ELG-150 is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

**Model Encoding**

<table>
<thead>
<tr>
<th>Type</th>
<th>IP Level</th>
<th>Function</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank</td>
<td>IP67</td>
<td>Io and Vo fixed.</td>
<td>In Stock</td>
</tr>
<tr>
<td>A</td>
<td>IP65</td>
<td>Io and Vo adjustable through built-in potentiometer.</td>
<td>In Stock</td>
</tr>
<tr>
<td>B</td>
<td>IP67</td>
<td>3 in 1 dimming function (0~10Vdc, 10V PWM signal and resistance)</td>
<td>In Stock</td>
</tr>
<tr>
<td>AB</td>
<td>IP65</td>
<td>Io and Vo adjustable through built-in potentiometer &amp; 3 in 1 dimming function (0~10Vdc, 10V PWM signal and resistance)</td>
<td>In Stock</td>
</tr>
<tr>
<td>DA</td>
<td>IP67</td>
<td>DALI control technology</td>
<td>In Stock</td>
</tr>
<tr>
<td>Dx</td>
<td>IP67</td>
<td>Built-in Smart timer dimming function by user request.</td>
<td>By request</td>
</tr>
<tr>
<td>D2</td>
<td>IP67</td>
<td>Built-in Smart timer dimming and programmable function.</td>
<td>In Stock</td>
</tr>
<tr>
<td>BE</td>
<td>IP67</td>
<td>3 in 1 dimming function and Auxiliary DC output</td>
<td>In Stock</td>
</tr>
</tbody>
</table>
## Specification

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Voltage</td>
<td>12V</td>
<td>24V</td>
<td>36V</td>
<td>42V</td>
<td>48V</td>
<td>54V</td>
</tr>
<tr>
<td>Constant Current Region not noted</td>
<td>6 ~ 12V</td>
<td>12 ~ 24V</td>
<td>16 ~ 36V</td>
<td>21 ~ 42V</td>
<td>24 ~ 48V</td>
<td>27 ~ 54V</td>
</tr>
<tr>
<td>Rated Current</td>
<td>10A</td>
<td>6.25A</td>
<td>4.17A</td>
<td>3.57A</td>
<td>3.13A</td>
<td>2.8A</td>
</tr>
<tr>
<td>Rated Current (for BE Type only)</td>
<td>5A</td>
<td>5.6A</td>
<td>3.73A</td>
<td>3.2A</td>
<td>2.8A</td>
<td>2.5A</td>
</tr>
</tbody>
</table>

### Output
- **RIPPLE & NOISE (max.)**
  - Adjustable for A/B-Type only (via the built-in potentiometer)
  - Adjustable for A/B-Type only (via the built-in potentiometer)
- **VOLTAGE ADJ RANGE**
  - 10.8 ~ 13.2V
  - 21.6 ~ 26.4V
- **CURRENT ADJ RANGE**
  - 5 ~ 10A
  - 1.2 ~ 6.25A
- **VOLTAGE TOLERANCE**
  - ±3.0%
  - ±3.0%
- **LINE REGULATION**
  - ±0.5%
  - ±0.5%
- **LOAD REGULATION**
  - ±2.0%
  - ±1.0%

### Safety & EMC
- **UL8750 (type II)** (except for BE-Type, CSA 22.2 No. 250.13-12; IEC/EN/AS/NZS 61347-1, IEC/EN/AS/NZS 61347-2-13 independent, EN62368:BS I51858 (for 12/12B/12DA/24/24B/24DB/36/36A/42/42A/48A/54 only), EAC TP TC 004, GB18510.1, GB18510.14, IP65 or IP67, KC/KEI1347-KX/KE1347-2-13 approved
- **EMC**
  - Compliance to IEC61347-1, IEC61347-1, IEC61347-2-13 approved
- **ISOLATION RESISTANCE**
  - I/P-O/P: 1000M Ohms / 500VDC / 25°C / 75% RH
- **EMC EMISSION**
  - Compliance to EN55015, EN1000-3-2 Class C (≤20dB), EN1000-3-3, GB17143, GB17625.1, EAC TP TC 020, KC KN51, KN5157
  - Compliance to EN55015, EN1000-3-2, 4.3, 5.6, 8.11, EN5147, light industry level (surge immunity Lin-Earth 8KV, Lin-Line 4KV, EAC TP TC 020, KC KN5157

### Others
- **MTBF**
  - 899.8k hrs min. Telscord SR-332 (Bellecore) 313.6khrs min. MIL-HDBK-217F (25°C)
- **DIMENSION**
  - 219*53*35.5mm (L*W*H)
- **PACKING**
  - 0.95kg + 16% / 0.05 / 1.07CUFT

### Note
- 1. All parameters NOT specially noted are measured at 230V inlet, rated current, and 25°C of ambient temperature.
- 2. Please refer to "DRIVING METHODS OF LED MODULE". For DA-Type, Constant Current region is 60%~100% of maximum current under rated power delivery.
- 3. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
- 4. Compliance to "STATIC CHARACTERISTICS" sections for details.
- 5. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
- 6. The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
- 8. For any application note and IP water proof function installation caution, please refer to our manual before using.
84~150W Constant Voltage + Constant Current LED Driver **ELG-150 series**

### Block Diagram

- **EMI FILTER & RECTIFIERS**
- **PFC CIRCUIT**
- **POWER SWITCHING**
- **RECTIFIERS & FILTER**
- **PWM & PFC CONTROL**
- **DETECTION CIRCUIT**

**CASE: Protective Earth**

**PWM & PFC CIRCUIT**

**O.L.P.**

**O.V.P.**

**Vo+**

**Vo-**

PFC fosc: 50~120KHz
PWM fosc: 60~130KHz

### DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems. Should there be any compatibility issues, please contact MEAN WELL.

Typical output current normalized by rated current (%)

- **(A) Constant Voltage area**
- **(B) Constant Current area**
- **(C) Hiccup Protection**

- This characteristic applies to Blank/A/B/AB/DX/D2/BE-Type.
- For DA-Type, the Constant Current area is 60%~100% Vo.
**DIMMING OPERATION**

3 in 1 dimming function for B/AB-Type:

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-:
  - 0 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

1. Applying additive 0 ~ 10VDC:

```
Vo+ o
Vo- o
DIM+ o
DIM- o
```

*DO NOT connect "DIM- to Vo-"

2. Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):

```
Vo+ o
Vo- o
DIM+ o
DIM- o
```

*DO NOT connect "DIM- to Vo-"

3. Applying additive resistance:

```
Vo+ o
Vo- o
DIM+ o
DIM- o
```

*DO NOT connect "DIM- to Vo-"

**Note:**

1. Min. dimming level is about 8% and the output current is not defined when 0% < Iout < 8%.
2. The output current could drop down to 0% when dimming input is about 0kΩ or 0Vdc, or 10V PWM signal with 0% duty cycle.
**DALI Interface (primary side; for DA-Type)**
- Apply DALI signal between DA+ and DA-.
- DALI protocol comprises 16 groups and 64 addresses.
- First step is fixed at 8% of output.

**Smart timer dimming function (for Dxx-Type by User definition)**
MEAN WELL Smart timer dimming primarily provides the adaptive proportion dimming profile for the output constant current level to perform up to 14 consecutive hours. 3 dimming profiles hereunder are defined accounting for the most frequently seen applications. If other options may be needed, please contact MEAN WELL for details.

Ex: ◎ D01-Type: the profile recommended for residential lighting

<table>
<thead>
<tr>
<th>Dimming Level (%)</th>
<th>Operating Time (HH:MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>06:00</td>
</tr>
<tr>
<td>70%</td>
<td>07:00</td>
</tr>
<tr>
<td>50%</td>
<td>11:00</td>
</tr>
<tr>
<td>70%</td>
<td>00:00</td>
</tr>
</tbody>
</table>

Set up for D01-Type in Smart timer dimming software program:

<table>
<thead>
<tr>
<th>TIME**</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
</tr>
</thead>
<tbody>
<tr>
<td>06:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**LEVEL** 100% 70% 50% 70%

****: TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a residential lighting application adopts D01-Type, when turning on the power supply at 6:00pm, for instance:

[1] The power supply will switch to the constant current level at 100% starting from 6:00pm.
[2] The power supply will switch to the constant current level at 70% in turn, starting from 0:00am, which is 06:00 after the power supply turns on.
[3] The power supply will switch to the constant current level at 50% in turn, starting from 1:00am, which is 07:00 after the power supply turns on.
[4] The power supply will switch to the constant current level at 70% in turn, starting from 5:00am, which is 11:00 after the power supply turns on.

The constant current level remains till 8:00am, which is 14:00 after the power supply turns on.

Ex: ◎ D02-Type: the profile recommended for street lighting

<table>
<thead>
<tr>
<th>Dimming Level (%)</th>
<th>Operating Time (HH:MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50%</td>
<td>00:00</td>
</tr>
<tr>
<td>80%</td>
<td>03:00</td>
</tr>
<tr>
<td>100%</td>
<td>08:00</td>
</tr>
<tr>
<td>60%</td>
<td>11:00</td>
</tr>
<tr>
<td>80%</td>
<td>00:00</td>
</tr>
</tbody>
</table>

Set up for D02-Type in Smart timer dimming software program:

<table>
<thead>
<tr>
<th>TIME**</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
</tr>
</thead>
<tbody>
<tr>
<td>01:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00</td>
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<td>---</td>
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</tbody>
</table>

**LEVEL** 50% 80% 100% 60% 80%

****: TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a street lighting application adopts D02-Type, when turning on the power supply at 5:00pm, for instance:

[1] The power supply will switch to the constant current level at 50% starting from 5:00pm.
[2] The power supply will switch to the constant current level at 80% in turn, starting from 6:00pm, which is 01:00 after the power supply turns on.
[3] The power supply will switch to the constant current level at 100% in turn, starting from 8:00pm, which is 03:00 after the power supply turns on.
[4] The power supply will switch to the constant current level at 60% in turn, starting from 1:00am, which is 08:00 after the power supply turns on.
[5] The power supply will switch to the constant current level at 80% in turn, starting from 4:00am, which is 11:00 after the power supply turns on. The constant current level remains till 6:30am, which is 14:00 after the power supply turns on.
Ex: D03-Type: the profile recommended for tunnel lighting

Set up for D03-Type in Smart timer dimming software program:

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIME**</td>
<td>01:30</td>
<td>11:00</td>
<td>---</td>
</tr>
<tr>
<td>LEVEL**</td>
<td>70%</td>
<td>100%</td>
<td>70%</td>
</tr>
</tbody>
</table>

**: TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a tunnel lighting application adopts D03-Type, when turning on the power supply at 4:30pm, for instance:

1. The power supply will switch to the constant current level at 70% starting from 4:30pm.
2. The power supply will switch to the constant current level at 100% in turn, starting from 6:00pm, which is 01:30 after the power supply turns on.
3. The power supply will switch to the constant current level at 70% in turn, starting from 5:00am, which is 11:00 after the power supply turns on.

The constant current level remains till 6:30am, which is 14:00 after the power supply turns on.
**OUTPUT LOAD vs TEMPERATURE** (Note 9)

![Graph showing the relationship between output load and temperature.]

**STATIC CHARACTERISTIC**

![Graph showing static characteristic with input voltage and load percentage.]

※ De-rating is needed under low input voltage.

**TOTAL HARMONIC DISTORTION (THD)**

![Graph showing total harmonic distortion with load percentage.]

※ 54V Model, Tcase at 80°C

**POWER FACTOR (PF) CHARACTERISTIC**

![Graph showing power factor with load percentage.]

※ Tcase at 80°C

**EFFICIENCY vs LOAD**

![Graph showing efficiency with load percentage.]

ELG-150 series possess superior working efficiency that up to 91% can be reached in field applications.

※ 54V Model, Tcase at 80°C
LIFE TIME

![Graph showing lifespan (Kh) vs. case temperature (°C).](image-url)
84~150W Constant Voltage + Constant Current LED Driver

ELG-150 series

**Mechanical Specification**

**Blank-Type**

CASE NO.: 237A  Unit:mm

- **Max. Case Temperature**: 35.535°C

**A-Type**

- **Max. Case Temperature**: 36.215°C

File Name: ELG-150-SPEC  2018-09-30
84~150W Constant Voltage + Constant Current LED Driver

ELG-150 series

※ AB-Type

- UL2517 20AWGx2C
- SJOW 17AWGx2C
- H05RN-F 1.0mm²
- 4 x 4.5
- AC/L (Brown)
- AC/N (Blue)
- 105
- 20
- 4-4.5
- DIM+ (Blue)
- DIM- (White)
- Vo+(Red)
- Vo-(Black)
- DIM+ (Blue)
- DIM- (White)
- Vo+(Red)
- Vo-(Black)

※ B/DA/D2-Type

- UL2517 20AWGx2C
- SJOW 17AWGx2C
- H05RN-F 1.0mm²
- 4 x 4.5
- AC/N (Blue)
- AC/L (Brown)
- 105
- 20
- 4-4.5
- DIM+ (Blue)
- DIM- (White)
- Vo+(Red)
- Vo-(Black)

Max. Case Temperature

File Name: ELG-150-SPEC 2018-09-30
ELG-150 series
84~150W Constant Voltage + Constant Current LED Driver

**BE-Type**

![Diagram of BE-Type](image)

- AC/L (Brown)
- AC/N (Blue)
- FG (Green/Yellow)
- SJOW 17AWGx3C & H05RN-F 1.0mm²
- 4-φ4.5

**3Y Model (3-wire input)**

![Diagram of 3Y Model](image)

- AC/N (Blue)
- PE (Green/Yellow)
- SJOW 17AWGx3C & H05RN-F 1.0mm²
- 4-φ4.5

* **Max. Case Temperature**

---

**Note1:** Please connect the case to PE for the complete EMC deliverance and safety use.

**Note2:** Please contact MEAN WELL for input wiring option with PE.

---

**INSTALLATION MANUAL**