**Features:**
- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High efficiency up to 94%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potential meter
- IP67 / IP65 design for indoor or outdoor installations
- Three in one dimming function (1~10Vdc or PWM signal or resistor)
- Suitable for LED lighting and street lighting applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 5 years warranty (Note.10)

**HLG-150H-12**
- Blank : IP67 rated. Cable for I/O connection.
- A : IP65 rated. Output voltage and constant current level can be adjusted through internal potential meter.
- B : IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistor.

**SPECIFICATION**

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<tr>
<td>DC VOLTAGE</td>
<td>12V</td>
<td>15V</td>
<td>20V</td>
<td>24V</td>
<td>30V</td>
<td>36V</td>
<td>42V</td>
<td>48V</td>
<td>54V</td>
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<tr>
<td>CONSTANT CURRENT REGION</td>
<td>6~12V</td>
<td>7.5~15V</td>
<td>10~20V</td>
<td>12~24V</td>
<td>15~30V</td>
<td>18~36V</td>
<td>21~42V</td>
<td>24~48V</td>
<td>27~54V</td>
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<td>RATED CURRENT</td>
<td>12.5A</td>
<td>10A</td>
<td>7.5A</td>
<td>6.3A</td>
<td>5A</td>
<td>4.2A</td>
<td>3.6A</td>
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<td>2.8A</td>
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<td>RATED POWER</td>
<td>150W</td>
<td>150W</td>
<td>150W</td>
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<tr>
<td>RIPPLE &amp; NOISE (max.)</td>
<td>150mVp-p</td>
<td>150mVp-p</td>
<td>150mVp-p</td>
<td>150mVp-p</td>
<td>150mVp-p</td>
<td>150mVp-p</td>
<td>150mVp-p</td>
<td>150mVp-p</td>
<td>150mVp-p</td>
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<td>VOLTAGE ADJ. RANGE</td>
<td>10.8~13.5V</td>
<td>13.5~17V</td>
<td>17~22V</td>
<td>22~27V</td>
<td>27~33V</td>
<td>33~40V</td>
<td>38~46V</td>
<td>43~53V</td>
<td>49~59V</td>
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<tr>
<td>OUTPUT</td>
<td>Can be adjusted by internal potential meter or through output cable</td>
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<td>CURRENT ADJ. RANGE</td>
<td>7.5~12.5A</td>
<td>6~10A</td>
<td>4.5~7.5A</td>
<td>3.8~6.3A</td>
<td>3~5A</td>
<td>2.5~4.2A</td>
<td>2.16~3.6A</td>
<td>1.92~3.2A</td>
<td>1.68~2.8A</td>
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<td>VOLTAGE TOLERANCE</td>
<td>±2.5%</td>
<td>±2%</td>
<td>±1%</td>
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<tr>
<td>LINE REGULATION</td>
<td>±0.5%</td>
<td>±0.5%</td>
<td>±0.5%</td>
<td>±0.5%</td>
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<td>LOAD REGULATION</td>
<td>±2%</td>
<td>±1.5%</td>
<td>±1%</td>
<td>±1%</td>
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<tr>
<td>SETUP, RISE TIME</td>
<td>250ms, 80ms at full load</td>
<td>230VAC / 115VAC</td>
<td>250ms, 80ms at full load</td>
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<td>HOLD UP TIME (Typ.)</td>
<td>16ms at full load</td>
<td>230VAC / 115VAC</td>
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<td>INPUT</td>
<td>90~305VAC</td>
<td>127~431VDC</td>
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<td>VOLTAGE RANGE</td>
<td>47~63Hz</td>
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<tr>
<td>FREQUENCY RANGE</td>
<td>PF ≥0.95/230VAC</td>
<td>PF ≥0.98/115VAC at full load and rated output voltage</td>
<td>PF ≥0.9 at 60% load</td>
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<td>POWER FACTOR</td>
<td>91.5%</td>
<td>92%</td>
<td>93%</td>
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<td>94%</td>
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<tr>
<td>EFFICIENCY (Typ.)</td>
<td>AC CURRENT</td>
<td>1.7A</td>
<td>115VAC</td>
<td>0.75A</td>
<td>230VAC</td>
<td>0.7A</td>
<td>277VAC</td>
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<td>INRUSH CURRENT (Typ.)</td>
<td>COLD START 75A/230VAC</td>
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<td>LEAKAGE CURRENT</td>
<td>&lt;0.75mA/277VAC</td>
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<td>PROTECTION</td>
<td>Protection type : Constant current limiting, recovers automatically after fault condition is removed</td>
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<tr>
<td>SHORT CIRCUIT</td>
<td>Constant current limiting, recovers automatically after fault condition is removed</td>
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<tr>
<td>OVER VOLTAGE</td>
<td>Protection type : Shut down o/p voltage with auto-recovery or re-power on to recovery</td>
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<tr>
<td>OVER TEMPERATURE</td>
<td>100°C, 10°C (RH2)</td>
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<td>ENVIRONMENT</td>
<td>95%</td>
<td>108%</td>
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<tr>
<td>WORKING TEMP.</td>
<td>-40~+60°C</td>
<td>Full load : +70°C @ 60% load (Refer to derating curve)</td>
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<td>WORKING HUMIDITY</td>
<td>20~95% RH non-condensing</td>
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<tr>
<td>STORAGE TEMP. HUMIDITY</td>
<td>40~+80°C, 10~95% RH</td>
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<td>TEMPERATURE COEFFICIENT</td>
<td>±0.03%/°C (0~50°C)</td>
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<td>VIBRATION</td>
<td>10~500Hz, 5G 12min./cycle, for 72min. each along X, Y, Z axes</td>
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<td>SAFETY AND EMC</td>
<td>UL60950-1, EN61347-1, EN61347-2-13 independent IP85 or IP67 approved; Design refer to UL60950-1, TUV EN60950-1</td>
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<td>SAFETY STANDARDS Note.7</td>
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<tr>
<td>WITHOUT VOLTAGE</td>
<td>IP:O/P:3.75kVAC</td>
<td>I/P:FG:1.88kVAC</td>
<td>O/P:FG:0.5kVAC</td>
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<td>ISOLATION RESISTANCE</td>
<td>IP:O/P:IP:FG, O/P:FG:100kOhm / 500VDC / 25°C / 70% RH</td>
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<tr>
<td>EMI CONDUCTION &amp; RADIATION</td>
<td>Compliance to EN55021, EN55022 (CISPR22) Class B</td>
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<tr>
<td>HARMONIC CURRENT</td>
<td>Compliance to EN61000-3-2; Class C (≥60% load) ; EN61000-3-3</td>
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<tr>
<td>EMI IMMUNITY</td>
<td>Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11; EN550204, EN61547, EN55024, heavy industry level (surge 4KV), criteria A</td>
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<tr>
<td>OTHERS</td>
<td>MTBF</td>
<td>192.2khrs min.</td>
<td>MIL-HDBK-217F (25°C)</td>
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<tr>
<td>DIMENSION</td>
<td>228x68x38.8mm</td>
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<tr>
<td>PACKING</td>
<td>1.15Kg, 12pcs/14.8Kg/0.76CUFT</td>
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</tbody>
</table>

**Note:**
1. All parameters NOT specially mentioned are measured at 230VAC Input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20kHz of bandwidth by using a 12” twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Constant current operation region is within 60%~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.
5. Derating may be needed by lower input voltages. Please check the static characteristics for more details.
6. Type A and type B only.
7. References and EMC design refer to EN60958-1, subject 8750U(UL), CNS15233, GB70000.1, FCC part18.
8. Length of set up time is measured at cold start first. Turning ON/OFF the power supply may lead to increase of the set up time.
9. The power supply 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.
10. Refer to warranty statement.
### Mechanical Specification

**Blank:** (HLG-150H)

- **Case No.** 954D  
- **Unit:** mm

---

**IP67 rated. Cable for I/O connection.**

---

**A Type:** (HLG-150H-\_A)

---

**IP65 rated. Output voltage and constant current level can be adjusted through internal potential meter.**  
*(Can access by removing the rubber stopper on the case.)*
**B Type: (HLG-150H--B)**

- **FG** (Green/Yellow)
- **AC/L (Brown)**
- **AC/N (Blue)**

**Rectifiers & Filter**

- **PWM Control**
- **O.L.P.**
- **O.T.P.**
- **O.V.P.**

**Detection Circuit**

- **DIM+ (Blue)**
- **DIM- (White)**
- **-V (Black)**
- **+V (Red)**

**PWM**

- 20K
- 50K
- 70K
- 90K
- 100K

**Resistance Value**

- 10K
- 20K
- 30K
- 40K
- 50K
- 60K
- 70K
- 80K
- 90K
- 100K

**Percentage of Rated Current**

- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%
- OPEN

**Dimming Function**

- 1V
- 2V
- 3V
- 4V
- 5V
- 6V
- 7V
- 8V
- 9V
- 10V

**Percentage of Rated Current**

- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%
- OPEN

**Reference Resistance Value for Output Current Adjustment (Typical)**

- **Resistance Value**
  - 10KΩ
  - 20KΩ
  - 30KΩ
  - 40KΩ
  - 50KΩ
  - 60KΩ
  - 70KΩ
  - 80KΩ
  - 90KΩ
  - 100KΩ
  - OPEN

- **Percentage of Rated Current**
  - 10%
  - 20%
  - 30%
  - 40%
  - 50%
  - 60%
  - 70%
  - 80%
  - 90%
  - 100%
  - OPEN

**10V PWM Signal for Output Current Adjustment (Typical): Frequency Range: 100Hz ~ 3KHz**

- **Duty Value**
  - 10%
  - 20%
  - 30%
  - 40%
  - 50%
  - 60%
  - 70%
  - 80%
  - 90%
  - 100%
  - OPEN

**1 ~ 10V Dimming Function for Output Current Adjustment (Typical)**

- **Dimming Value**
  - 1V
  - 2V
  - 3V
  - 4V
  - 5V
  - 6V
  - 7V
  - 8V
  - 9V
  - 10V

- **Percentage of Rated Current**
  - 10%
  - 20%
  - 30%
  - 40%
  - 50%
  - 60%
  - 70%
  - 80%
  - 90%
  - 100%

**IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistor or a 1 ~ 10Vdc or 10V PWM signal between DIM+ and DIM-**.

**Please DO NOT connect "DIM-" to "-V"**.

**Reference resistance value for output current adjustment (Typical)**

- **Resistance Value**
  - 10KΩ
  - 20KΩ
  - 30KΩ
  - 40KΩ
  - 50KΩ
  - 60KΩ
  - 70KΩ
  - 80KΩ
  - 90KΩ
  - 100KΩ
  - OPEN

- **Percentage of Rated Current**
  - 10%
  - 20%
  - 30%
  - 40%
  - 50%
  - 60%
  - 70%
  - 80%
  - 90%
  - 100%

**Block Diagram**

- **Fosc** : 100KHz

**Derating Curve**

- AMBIENT TEMPERATURE (°C)
- LOAD (%)

**Static Characteristics**

- INPUT VOLTAGE (V) 60Hz
- LOAD (%)

**150W Single Output Switching Power Supply HLG-150H series**

**File Name: HLG-150H-SPEC 2010-12-24**
There are two major kinds of LED drive method: "direct drive" and "with LED driver".

A typical LED power supply may either work in "constant voltage mode (CV)" or constant current mode (CC) to drive the LEDs.

Mean Well's LED power supply with CV+CC characteristic can be operated at both CV mode (with LED driver, at area (A)) and CC mode (direct drive, at area (B)).
**Direct driving:**
Under direct driving, the power supply will work in "constant current mode (CC)" and output voltage of the power supply will be clamped by sum of forward voltage (Vf) of the LED strip.
The total forward voltage of series connecting LEDs is suggested for 60%~95% of power supply rated output voltage due to concern of the best PF value and efficiency.

**With LED driver:**
Using additional driver, the power supply will work in "constant voltage mode (CV)" and output voltage of the power supply will be kept in rated value.
In this drive mode, several design issues need to be considered:
1. Output voltage of PSU must be higher than total forward voltage of series connecting LEDs by 3V minimum.
2. Input capacitor (Cin) of LED driver circuit should use 47uF ~ 100uF (typ.) of rating depends on the operating frequency of the LED driver.
   - The higher the operating frequency is used, the smaller value of Cin should be chosen, and vice versa.
3. Do not use B type with LED driver.

**DIMMING OPERATION(for B-type only)**
Using the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.

### Dimming connection diagram for turning the lighting fixture ON/OFF:

1. Output constant current level can be adjusted through output cable by connecting a resistor or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
2. The LED lighting fixture can be turned ON/OFF by the switch.
### EMI DEBUG SUGGESTION

A. Add a common mode ferrite choke on output wires to reduce the common emission between 10M ~ 300MHz per lighting EMI regulation.

B. Chassis of LED lamp and chassis of HLG-150H or the FG wire should be connected to the safety ground to reduce the EMI noise, including the conduction and radiation emission.

C. The additional X-Cap and discharge resistor can reduce the low frequency conduction noise between 9K ~ 1MHz per lighting EMI regulation.

D. L-C filter should be added at the DC input of LED constant current driver to avoid the differential emission and high frequency noise generated by the CC driver.

### WATERPROOF CONNECTION

○ Waterproof connector

Waterproof connector can be assembled on the output cable of HLG-150H to operate in dry/wet/damp or outdoor environment.

<table>
<thead>
<tr>
<th>Size</th>
<th>Pin Configuration (Female)</th>
<th>Order No.</th>
<th>Suitable Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12</td>
<td>4-PIN, 5-PIN, 5A/PIN</td>
<td>M12-04, M12-05</td>
<td>10A max., 10A max.</td>
</tr>
<tr>
<td>M15</td>
<td>2-PIN, 12A/PIN</td>
<td>M15-02</td>
<td>12A max.</td>
</tr>
</tbody>
</table>

○ Cable Joiner

Suitable for 14AWG~22AWG

Up to four wires can be connected through this cable joiner by soldering or clamping by tools.