### Features
- Constant Voltage + Constant Current mode output
- Metal housing with class I design
- Built-in active PFC function
- Class 2 power unit
- IP67/IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer;
  - 3 in 1 dimming; Timer dimming
- Typical lifetime > 62000 hours
- 7 years warranty

### Applications
- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type “HL” for use in Class I, Division 2 hazardous (Classified) location.

### Description
HLG-40H series is a 40W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-40H operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the high efficiency up to 89.5%, with the fanless design, the entire series is able to operate for -40℃ ~ +80℃ 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. HLG-40H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

### Model Encoding
The model encoding of HLG-40H series is as follows:

- **HLG - 40H - 
  - Function options
  - Rated output voltage (12V/15V/20V/24V/30V/36V/42V/48V/54V)
  - Rated wattage
  - Series name

### Table: Model Options

<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 (1~10VDC, 10V PWM signal and resistance)</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>IP67</td>
<td>Timer dimming function, contact MEAN WELL for details(safety pending).</td>
<td>By request</td>
</tr>
</tbody>
</table>
### 40W Constant Voltage + Constant Current LED Driver

**HLG-40H series**

**SPECIFICATION**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<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>
</tr>
<tr>
<td>RATED CURRENT</td>
<td>3.33A</td>
<td>2.67A</td>
<td>2A</td>
<td>1.67A</td>
<td>1.34A</td>
<td>1.12A</td>
<td>0.96A</td>
<td>0.84A</td>
<td>0.75A</td>
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<tr>
<td>RATED POWER</td>
<td>39.96W</td>
<td>40.05W</td>
<td>40W</td>
<td>40.08W</td>
<td>40.2W</td>
<td>40.32W</td>
<td>40.32W</td>
<td>40.32W</td>
<td>40.5W</td>
</tr>
<tr>
<td>RIPPLE &amp; NOISE</td>
<td>150mVp-p</td>
<td>150mVp-p</td>
<td>150mVp-p</td>
<td>200mVp-p</td>
<td>200mVp-p</td>
<td>200mVp-p</td>
<td>200mVp-p</td>
<td>300mVp-p</td>
<td>300mVp-p</td>
</tr>
<tr>
<td>CURRENT ADJ. RANGE</td>
<td>Adjustable for A-Type only (via built-in potentiometer)</td>
<td>Adjustable for A-Type only (via built-in potentiometer)</td>
<td>Adjustable for A-Type only (via built-in potentiometer)</td>
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<td>Adjustable for A-Type only (via built-in potentiometer)</td>
</tr>
<tr>
<td>VOLTAGE TOLERANCE</td>
<td>±2.5%</td>
<td>±2%</td>
<td>±1.2%</td>
<td>±1%</td>
<td>±1%</td>
<td>±1%</td>
<td>±1%</td>
<td>±1%</td>
<td>±1%</td>
</tr>
<tr>
<td>LINE REGULATION</td>
<td>±0.5%</td>
<td>±0.5%</td>
<td>±0.5%</td>
<td>±0.5%</td>
<td>±0.5%</td>
<td>±0.5%</td>
<td>±0.5%</td>
<td>±0.5%</td>
<td>±0.5%</td>
</tr>
<tr>
<td>LOAD REGULATION</td>
<td>±2.0%</td>
<td>±1.5%</td>
<td>±1%</td>
<td>±0.5%</td>
<td>±0.5%</td>
<td>±0.5%</td>
<td>±0.5%</td>
<td>±0.5%</td>
<td>±0.5%</td>
</tr>
<tr>
<td>SETUP, RISE TIME</td>
<td>500ms,80ms/115VAC</td>
<td>500ms,80ms/230VAC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOLD UP TIME (Typ.)</td>
<td>16ms / 115VAC, 230VAC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INPUT**

| VOLTAGE RANGE | Note.1 | 90 – 305VAC | 127 – 431VDC (Please refer to “STATIC CHARACTERISTIC” section) |
| FREQUENCY RANGE | 47 – 63Hz |
| POWER FACTOR (Typ.) | PF ≥0.98/115VAC, PF ≥0.95/230VAC, PF ≥0.92/277VAC @ full load (Please refer to “POWER FACTOR (PF) CHARACTERISTIC section) |
| TOTAL HARMONIC DISTORTION | THD = 20% @ load ≥60% / 115VAC, 230VAC; @ load ≥75% / 277VAC (Please refer to “TOTAL HARMONIC DISTORTION (THD) section) |
| EFFICIENCY (Typ.) | 86.5% / 86.5% | 88% / 88% | 88.5% / 88.5% | 88.5% / 88.5% | 89.5% / 89.5% |
| AC CURRENT (Typ.) | 0.43A / 115VAC, 0.24A/230VAC, 0.23A/277VAC |
| INRUSH CURRENT (Typ.) | COLD START 50A@25°C, measured at 50% (max) at 230VAC; Per NEMA 410 |
| MAX. No. of PSUs on 16A CIRCUIT BREAKER | 12 units (circuit breaker of type B) / 20 units (circuit breaker of type C) at 230VAC |
| LEAKAGE CURRENT | <0.75mA / 277VAC |

**PROTECTION**

| OVER CURRENT | 95% – 108% |
| SHORT CIRCUIT | Constant current limiting, recovers automatically after fault condition is removed |
| OVER VOLTAGE | Shut down o/p voltage, re-power on to recover |
| OVER TEMPERATURE | Shut down o/p voltage, re-power on to recover |
| MAX. CASE TEMP. | Tcase = +80°C (Please refer to “OUTPUT LOAD vs TEMPERATURE section) |
| WORKING HUMIDITY | 20% – 95% RH non-condensing |
| TEMPERATURE | ±0.03%/°C (0 ~ 60°C) |
| VIBRATION | 10 ~ 500Hz, 5G 12min./cycle, period for 72min. each along X, Y, Z axes |

**SAFETY & EMC**

| SAFETY STANDARDS Note.2 | UL8750(type “HL”), CSA C22.2 No. 250.0-08 (except for 48V, 54V), TUV EN61347-1, EN61347-2-13 independent, IP65 or IP67 approved; optional models for JIS347-1, JIS347-2-13 ; design refer to UL60950-1, TUV EN60950-1, EN60335-1 |
| WITHSTAND VOLTAGE | I/P-O/P:3.75KVAC; I/P-FG:2KVAC; O/P-FG:1.5KVAC |
| ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG: 100MΩ (500VDC / 25°C) 70% RH |
| EMC EMISSION | Compliance to EN55015, EN61000-3-2 Class C ( @ load ≥60% ); EN61000-3-3 |
| EMC IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, EN55024, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV) |
| OTHERS | MTBF | 1131.9K hrs min. Tcredia SR-332 (Bellcore) ; 336.5K hrs min. MIL-HDBK-217F (25°C) |
| DIMENSION | 171 x 61.5 x 36.8mm (L x W x H) |
| PACKING | 0.73Kg; 20pcs/15.6Kg/0.9CUFT |

**NOTE**

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz 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. Please refer to “DRIVING METHODS OF LED MODULE”.
5. De-rating may be needed under low input voltages. Please refer to “STATIC CHARACTERISTIC” sections for details.
6. 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.
7. 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. The model certified for CQC (CB15910.14, GB18950.1, GB17743 and GB17625.1) is an optional model. Please contact MEAN WELL for details.
9. To fulfill requirements of the latest IEC regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
10. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly at (or Tmp, per DLC), is about 75°C or less.
11. Please refer to the warranty statement on MEAN WELL’s website at http://www.meanwell.com
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 (%)
DIMMING OPERATION

◎ Applying additive 1 ~ 10VDC

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

◎ Applying additive resistance:

※ 3 in 1 dimming function (for B-Type)
- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-:
  - 1 ~ 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: 100mA (typ.)

Applying additive 3 ~ 10VDC

DO NOT connect "DIM- to -V"

Applying additive 10V PWM signal

DO NOT connect "DIM- to -V"

Applying additive resistance

DO NOT connect "DIM- to -V"
Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.

Using a switch and relay can turn ON/OFF the lighting fixture.
HLG-40H series

OUTPUT LOAD vs TEMPERATURE

STATIC CHARACTERISTICS

POWER FACTOR (PF) CHARACTERISTIC

TOTAL HARMONIC DISTORTION (THD)

EFFICIENCY vs LOAD

DE-RE-RATING IS NEEDED UNDER LOW INPUT VOLTAGE.

HLG-40H series possess superior working efficiency that up to 89.5% can be reached in field applications.
40W Constant Voltage + Constant Current LED Driver

HLG-40H series

LIFETIME

LIFETIME (Khr)

Tcase (°C)
40W Constant Voltage + Constant Current LED Driver

HLG-40H series

MECHANICAL SPECIFICATION

※ Blank/D-Type

AC/L (Brown)
AC/N (Blue)
FG [(Green/Yellow)]

SJTW 18AWG × 3C

UL 2517 18AWG × 2C

ψ × 4.2 × 4PL

+V (Red)
-V (Black)

* ( ): Max. Case Temperature

※ A-Type

AC/L (Brown)
AC/N (Blue)
FG [(Green/Yellow)]

SJTW 18AWG × 3C

UL 2517 18AWG × 2C

ψ × 4.2 × 4PL

+V (Red)
-V (Black)

DIM-(White)
DIM+(Blue)

* ( ): Max. Case Temperature

※ B-Type

AC/L (Brown)
AC/N (Blue)
FG [(Green/Yellow)]

SJTW 18AWG × 3C

UL 2517 18AWG × 2C

ψ × 4.2 × 4PL

+V (Red)
-V (Black)

DIM-(White)
DIM+(Blue)

* ( ): Max. Case Temperature
WATERPROOF CONNECTION

Waterproof connector can be assembled on the output cable of HLG-40H to operate in dry/wet/damp or outdoor environment.

Cable Joiner

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

CJ04 cable joiner can be purchased independently for user’s own assembly.
MEAN WELL order No.: CJ04-1, CJ04-2.

INSTALLATION MANUAL

Please refer to: http://www.meanwell.com/manual.html