



120W Constant Voltage + Constant Current LED Driver

**HLG-120H series**

(except for D-type)



(except for B/AB/D-type)



(except for AB-type)



(Part 2/Sec13)

R-41027766



Type HL



Type HL



05



EAC



CE



UKCA



## ■ Features

- Constant Voltage + Constant Current mode output
- Metal housing with class I design
- Built-in active PFC function
- 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

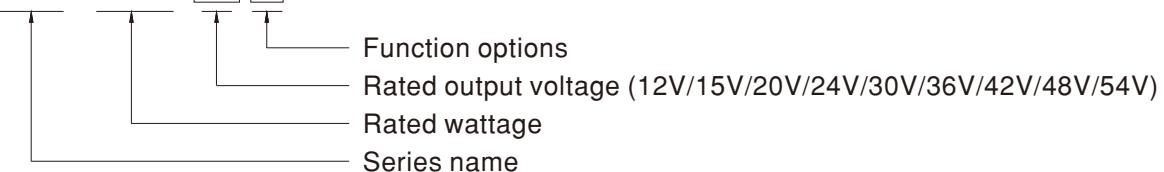
- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class I , Division 2 hazardous (Classified) location.

## ■ Description

HLG-120H series is a 120W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-120H operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the high efficiency up to 93.5%, with the fanless design, the entire series is able to operate for -40°C ~ +80°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. HLG-120H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

## ■ Model Encoding

HLG - 120H - 48 A



| Type  | IP Level | Function   | Note       |
|-------|----------|--|------------|
| Blank | IP67     | Io and Vo fixed  | In Stock   |
| A     | IP65     | Io and Vo adjustable through built-in potentiometer  | In Stock   |
| B     | IP67     | 3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance)   | In Stock   |
| AB    | IP65     | Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance) | In Stock   |
| D     | IP67     | Timer dimming function, contact MEAN WELL for details(safety pending).   | By request |

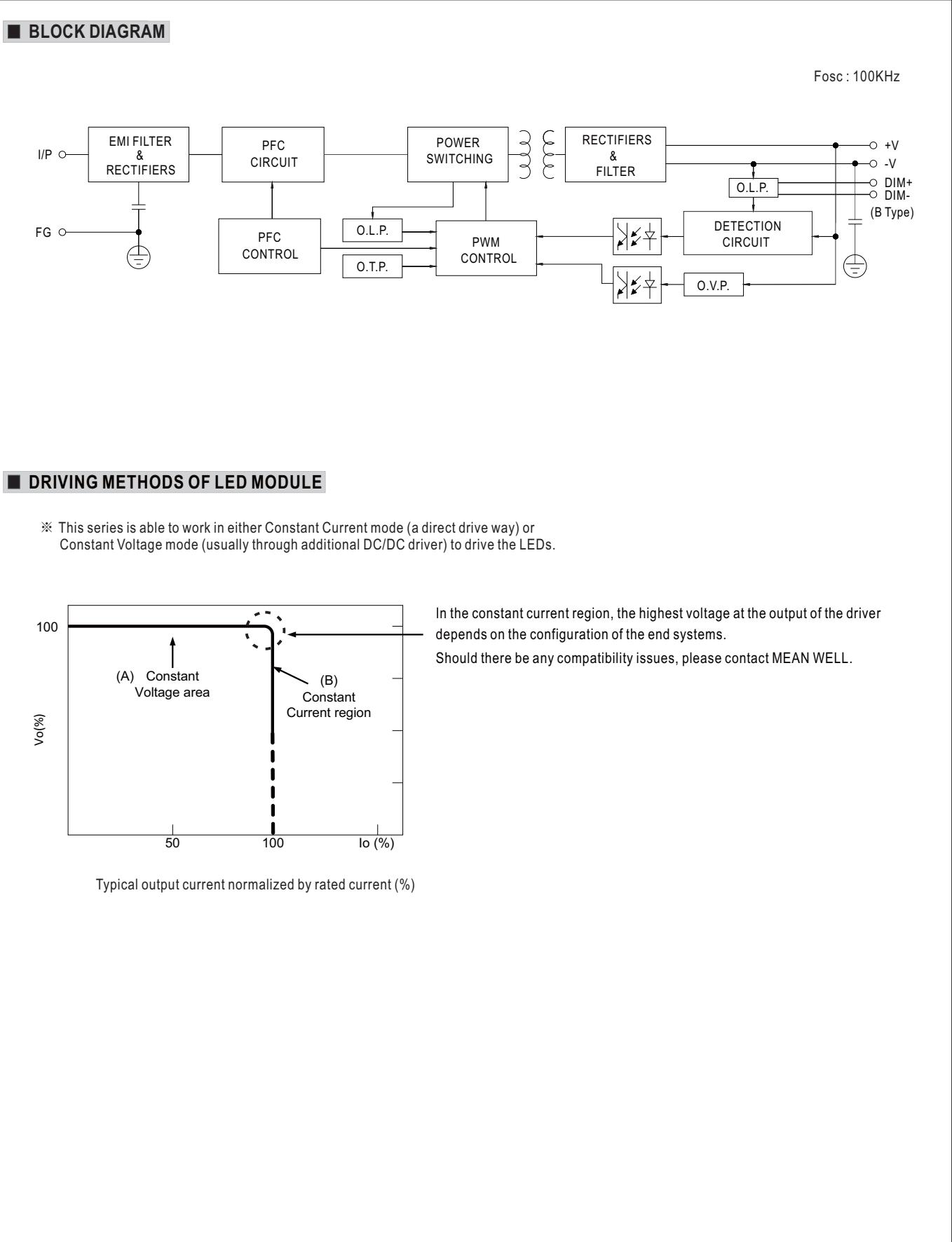
## SPECIFICATION

| MODEL        | HLG-120H-12  | HLG-120H-15  | HLG-120H-20   | HLG-120H-24    | HLG-120H-30 | HLG-120H-36 | HLG-120H-42 | HLG-120H-48 | HLG-120H-54 |          |
|--------------|--|--|---------------|----------------|-------------|-------------|-------------|-------------|-------------|----------|
| OUTPUT       | DC VOLTAGE   | 12V  | 15V           | 20V            | 24V         | 30V         | 36V         | 42V         | 48V         | 54V      |
|              | CONSTANT CURRENT REGION Note.4   | 6~12V  | 7.5~15V       | 10~20V         | 12~24V      | 15~30V      | 18~36V      | 21~42V      | 24~48V      | 27~54V   |
|              | RATED CURRENT  | 10A  | 8A            | 6A             | 5A          | 4A          | 3.4A        | 2.9A        | 2.5A        | 2.3A     |
|              | RATED POWER  | 120W   | 120W          | 120W           | 120W        | 120W        | 122.4W      | 121.8W      | 120W        | 124.2W   |
|              | RIPPLE & NOISE (max.) Note.2   | 150mVp-p   | 150mVp-p      | 150mVp-p       | 150mVp-p    | 200mVp-p    | 200mVp-p    | 200mVp-p    | 200mVp-p    | 200mVp-p |
|              | VOLTAGE ADJ. RANGE   | Adjustable for A/AB-Type only (via built-in potentiometer)   |               |                |             |             |             |             |             |          |
|              |  | 10.8~13.5V   | 13.5~17V      | 17~22V         | 22~27V      | 27~33V      | 33~40V      | 38~46V      | 43~53V      | 49~58V   |
|              | CURRENT ADJ. RANGE   | Adjustable for A/AB-Type only (via built-in potentiometer)   |               |                |             |             |             |             |             |          |
|              |  | 5~10A  | 4~8A          | 3~6A           | 2.5~5A      | 2~4A        | 1.7~3.4A    | 1.4~2.9A    | 1.2~2.5A    | 1.1~2.3A |
|              | VOLTAGE TOLERANCE Note.3   | ±2.5%  | ±2.0%         | ±1.0%          | ±1.0%       | ±1.0%       | ±1.0%       | ±1.0%       | ±1.0%       | ±1.0%    |
| INPUT        | LINE REGULATION  | ±0.5%  | ±0.5%         | ±0.5%          | ±0.5%       | ±0.5%       | ±0.5%       | ±0.5%       | ±0.5%       | ±0.5%    |
|              | LOAD REGULATION  | ±2.0%  | ±1.5%         | ±0.5%          | ±0.5%       | ±0.5%       | ±0.5%       | ±0.5%       | ±0.5%       | ±0.5%    |
|              | SETUP, RISE TIME Note.6  | 1200ms,50ms/115VAC 500ms,50ms/230VAC   |               |                |             |             |             |             |             |          |
|              | HOLD UP TIME (Typ.)  | 12ms / 115VAC, 230VAC  |               |                |             |             |             |             |             |          |
|              | VOLTAGE RANGE Note.5   | 90~305VAC 127~431VDC<br>(Please refer to "STATIC CHARACTERISTIC" section)  |               |                |             |             |             |             |             |          |
|              | FREQUENCY RANGE  | 47~63Hz  |               |                |             |             |             |             |             |          |
|              | POWER FACTOR (Typ.)  | PF≥0.98/115VAC, PF≥0.95/230VAC, PF≥0.93/277VAC @ full load<br>(Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)   |               |                |             |             |             |             |             |          |
|              | TOTAL HARMONIC DISTORTION  | THD< 20% (@ load≥50% / 115VAC,230VAC; @ load≥75% / 277VAC)<br>(Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)  |               |                |             |             |             |             |             |          |
|              | EFFICIENCY (Typ.)  | 92%  | 92%           | 93%            | 93%         | 93%         | 93%         | 93%         | 93.5%       | 93.5%    |
|              | AC CURRENT (Typ.)  | 1.4A / 115VAC  | 0.6A / 230VAC | 0.55A / 277VAC |             |             |             |             |             |          |
| PROTECTION   | INRUSH CURRENT (Typ.)  | COLD START 60A(twidth=375μs measured at 50% Ipeak) at 230VAC; Per NEMA 410   |               |                |             |             |             |             |             |          |
|              | MAX. No. of PSUs on 16A CIRCUIT BREAKER  | 5 units (circuit breaker of type B) / 9 units (circuit breaker of type C) at 230VAC  |               |                |             |             |             |             |             |          |
|              | LEAKAGE CURRENT  | <0.75mA / 277VAC   |               |                |             |             |             |             |             |          |
|              | OVER CURRENT   | 95~108%<br>Constant current limiting, recovers automatically after fault condition is removed  |               |                |             |             |             |             |             |          |
| ENVIRONMENT  | SHORT CIRCUIT  | Constant current limiting, recovers automatically after fault condition is removed   |               |                |             |             |             |             |             |          |
|              | OVER VOLTAGE   | 14~17V   | 18~21V        | 23~27V         | 28~34V      | 34~38V      | 41~46V      | 47~53V      | 54~63V      | 59~65V   |
|              | OVER TEMPERATURE   | Shut down o/p voltage with auto-recovery or re-power on to recovery  |               |                |             |             |             |             |             |          |
|              | WORKING TEMP.  | Tcase= -40~+80°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)  |               |                |             |             |             |             |             |          |
| SAFETY & EMC | MAX. CASE TEMP.  | Tcase= +80°C   |               |                |             |             |             |             |             |          |
|              | WORKING HUMIDITY   | 20~95% RH non-condensing   |               |                |             |             |             |             |             |          |
|              | STORAGE TEMP., HUMIDITY  | -40~+80°C, 10~95% RH   |               |                |             |             |             |             |             |          |
|              | TEMP. COEFFICIENT  | ±0.03%/°C (0~60°C)   |               |                |             |             |             |             |             |          |
|              | VIBRATION  | 10~500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes  |               |                |             |             |             |             |             |          |
|              | SAFETY STANDARDS Note.8  | UL8750(type "HL"), CSA C22.2 No. 250-0.08, BS EN/EN 61347-1, BS EN/EN 61347-2-13, AS/NZS 61347-1(except for AB-type), AS/NZS 61347-2-13(except for AB-type) independent; GB19510.1, GB19510.14, IP65 or IP67, J61347-1, J61347-2-13(except for B, AB and D-type), BIS IS15885( for 12B,24B,36A,54A only), EAC TP TC 004, KC61347-1, KC61347-2-13(except for D-type) approved |               |                |             |             |             |             |             |          |
| OTHERS       | 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:100M Ohms / 500VDC / 25°C / 70% RH   |               |                |             |             |             |             |             |          |
|              | EMC EMISSION Note.8  | Compliance to BS EN/EN55015, BS EN/EN55032 Class B, BS EN/EN61000-3-2 Class C (@ load≥50%) ; BS EN/EN61000-3-3, GB17743 and GB17625.1, EAC TP TC 020   |               |                |             |             |             |             |             |          |
| NOTE         | EMC IMMUNITY   | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN61547, BS EN/EN55024, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV), EAC TP TC 020   |               |                |             |             |             |             |             |          |
|              | MTBF   | 559.5 hrs min. Telcordia SR-332 (Bellcore); 167.1Khrs min. MIL-HDBK-217F (25°C)  |               |                |             |             |             |             |             |          |
|              | DIMENSION  | 220*68*38.8mm (L*W*H)  |               |                |             |             |             |             |             |          |
| NOTE         | PACKING  | 1.12Kg; 12pcs/14.4Kg/0.8CUFT   |               |                |             |             |             |             |             |          |
|              | 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. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.  |  |               |                |             |             |             |             |             |          |
|              | 9. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (t <sub>c</sub> ) point (or TMP, per DLC), is about 75°C or less.  |  |               |                |             |             |             |             |             |          |
|              | 10. Please refer to the warranty statement on MEAN WELL's website at <a href="http://www.meanwell.com">http://www.meanwell.com</a>   |  |               |                |             |             |             |             |             |          |
|              | 11. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).   |  |               |                |             |             |             |             |             |          |
|              | 12. For any application note and IP water proof function installation caution, please refer our user manual before using.<br><a href="https://www.meanwell.com/Upload/PDF/LED_EN.pdf">https://www.meanwell.com/Upload/PDF/LED_EN.pdf</a>                                       |  |               |                |             |             |             |             |             |          |
|              | ※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a>   |  |               |                |             |             |             |             |             |          |

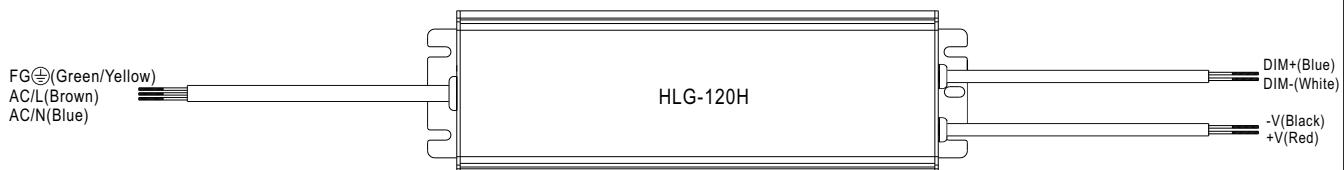


120W Constant Voltage + Constant Current LED Driver

**HLG-120H series**



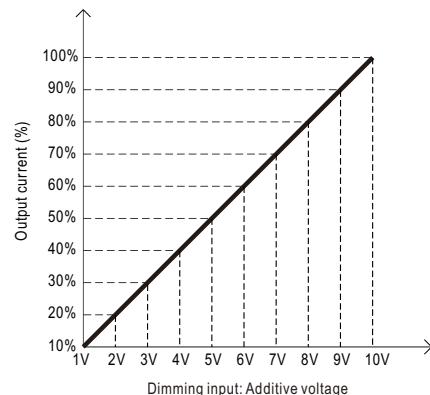
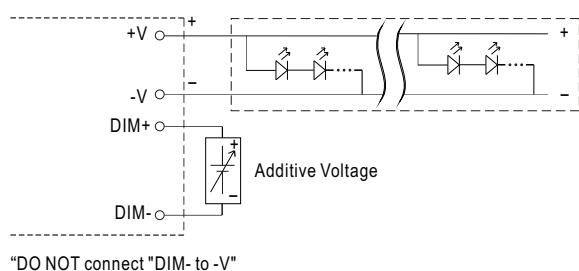
## DIMMING OPERATION



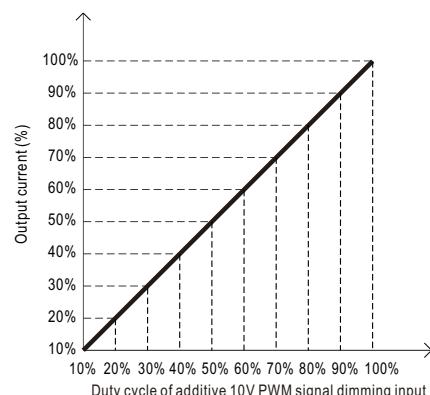
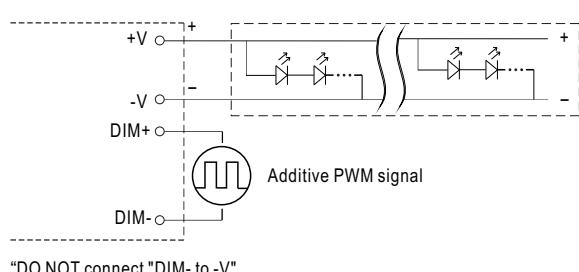
### ※ 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-:
  - 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:  $100\mu\text{A}$  (typ.)

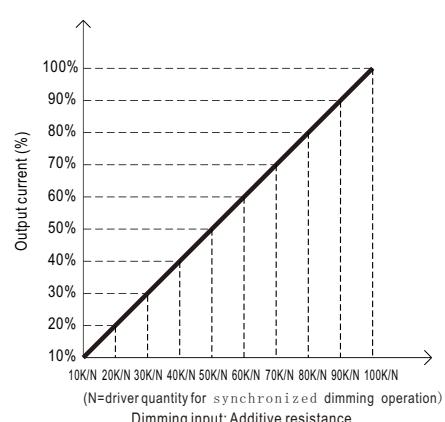
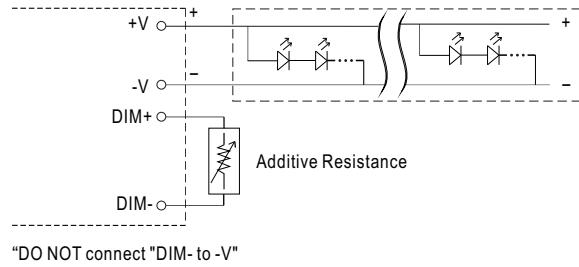
#### ◎ Applying additive 1 ~ 10VDC



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



#### ◎ Applying additive resistance:

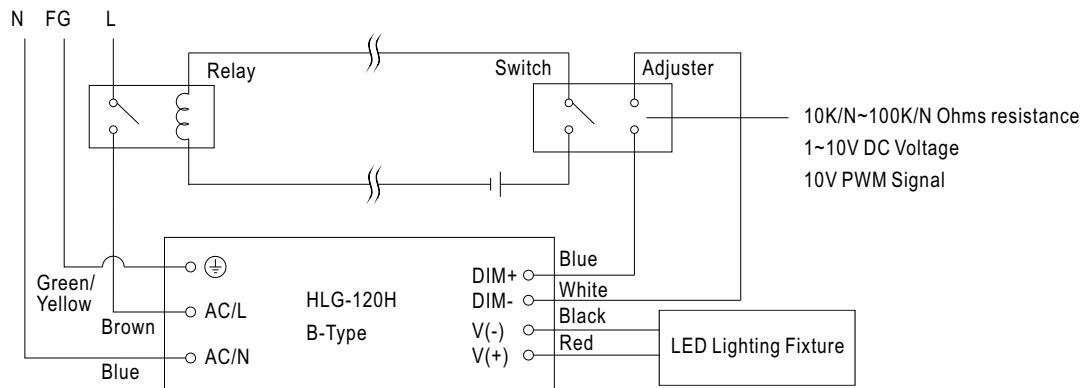




120W Constant Voltage + Constant Current LED Driver

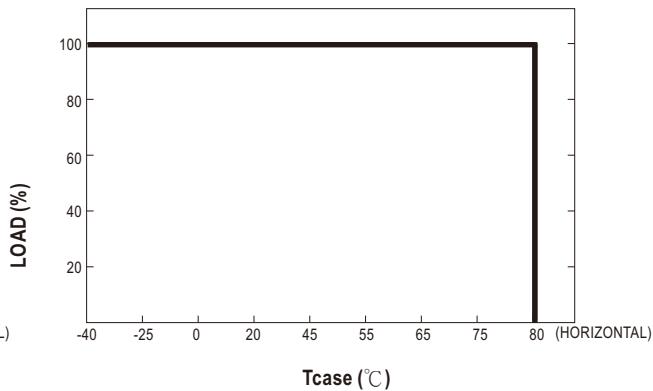
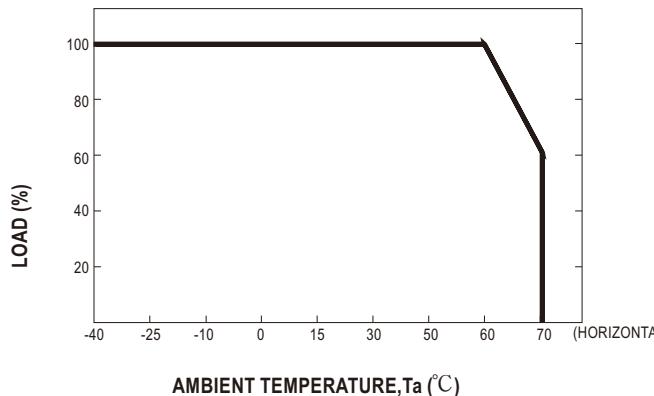
**HLG-120H series**

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.

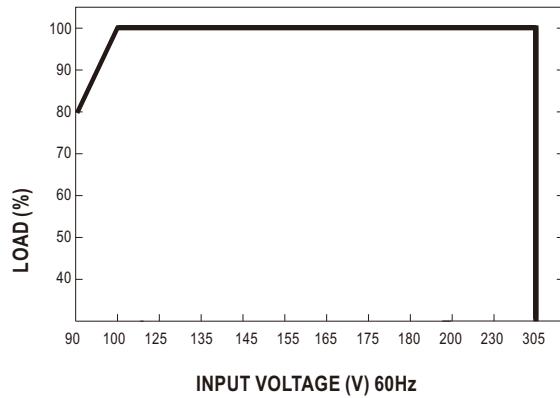


Using a switch and relay can turn ON/OFF the lighting fixture.

## ■ OUTPUT LOAD vs TEMPERATURE (Note.10)



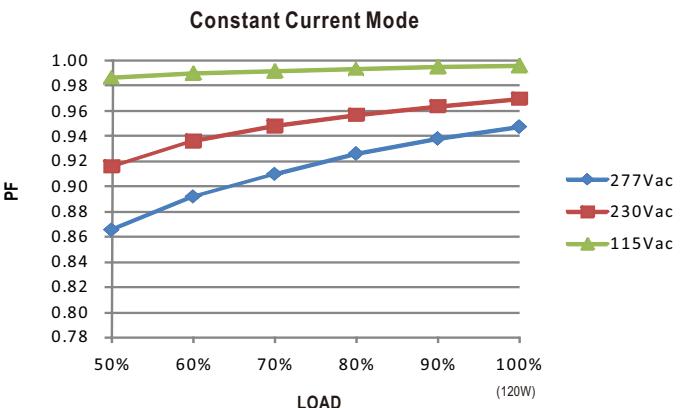
## ■ STATIC CHARACTERISTICS



※ De-rating is needed under low input voltage.

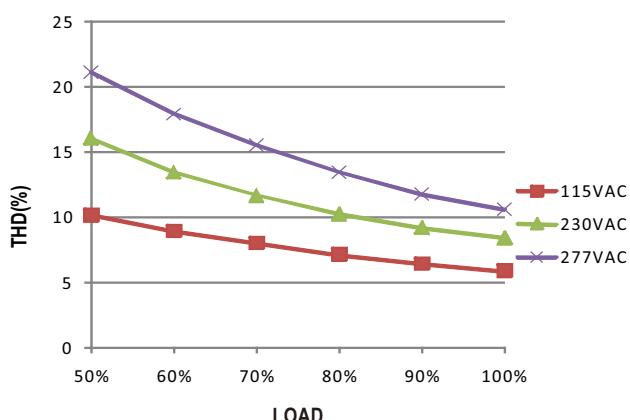
## ■ POWER FACTOR(PF) CHARACTERISTIC

※ Tcase at 70°C



## ■ TOTAL HARMONIC DISTORTION (THD)

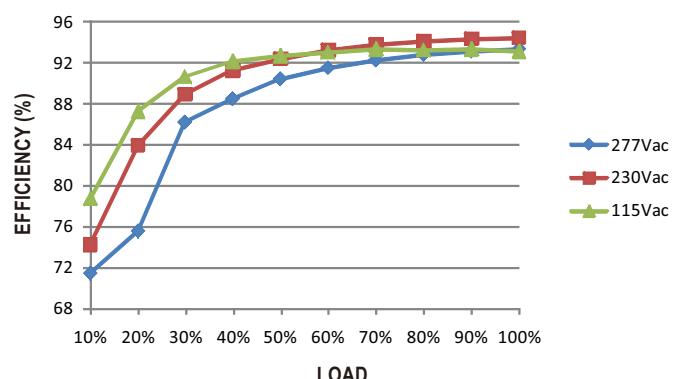
※ 48V Model, Tcase at 70°C



## ■ EFFICIENCY vs LOAD

HLG-120H series possess superior working efficiency that up to 93.5% can be reached in field applications.

※ 48V Model, Tcase at 70°C

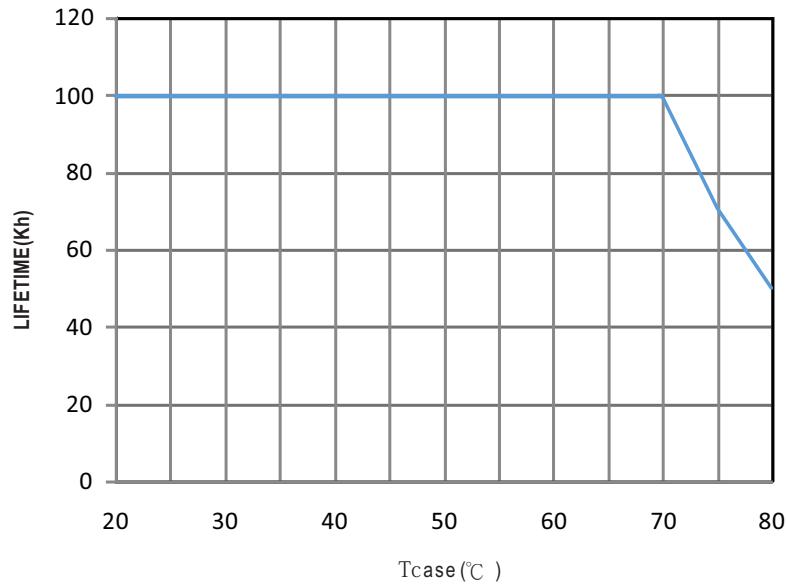




120W Constant Voltage + Constant Current LED Driver

**HLG-120H** series

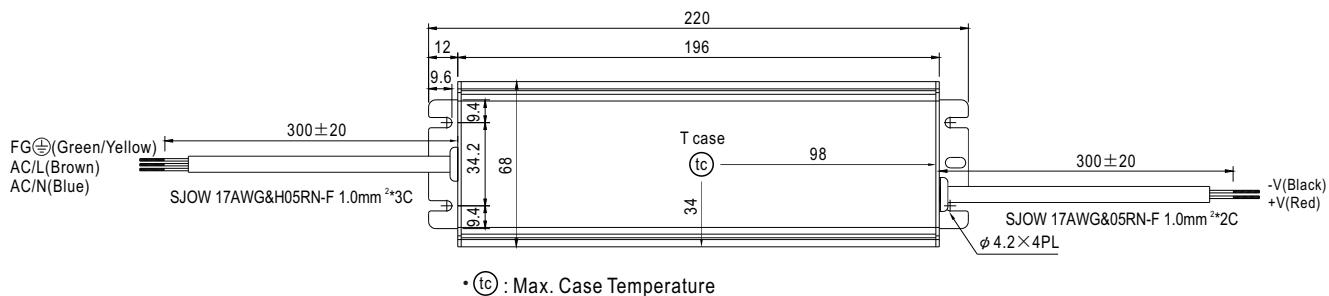
■ LIFE TIME



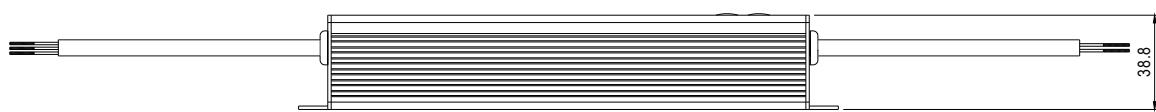
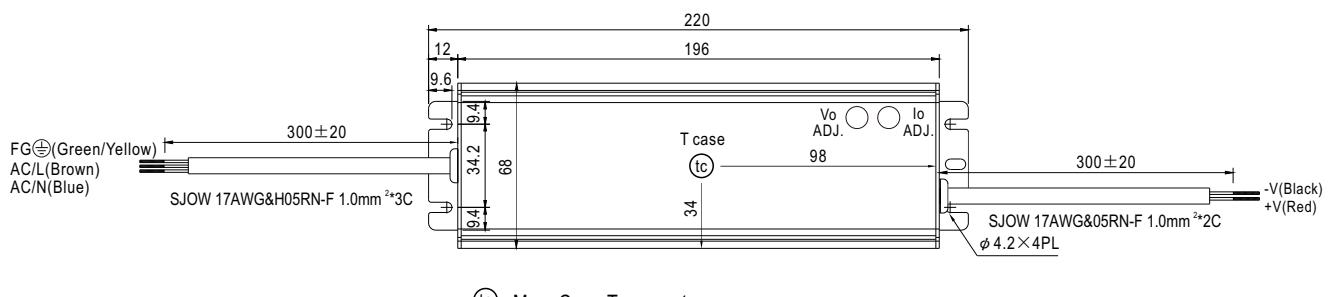
## ■ MECHANICAL SPECIFICATION

Case No.994A Unit:mm

※Blank/D-Type



※A-Type

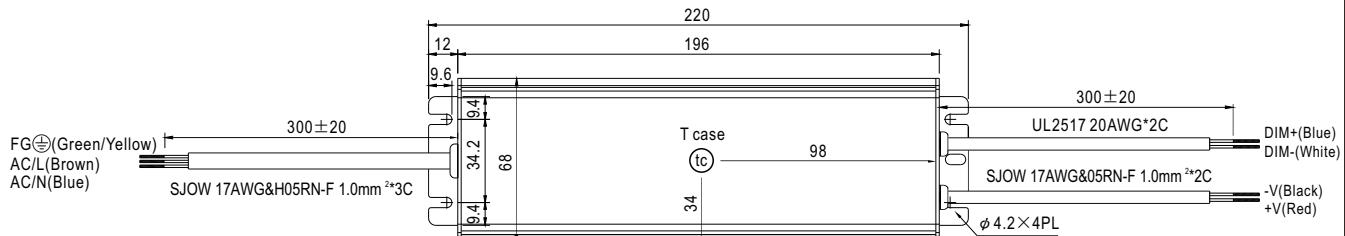




120W Constant Voltage + Constant Current LED Driver

**HLG-120H series**

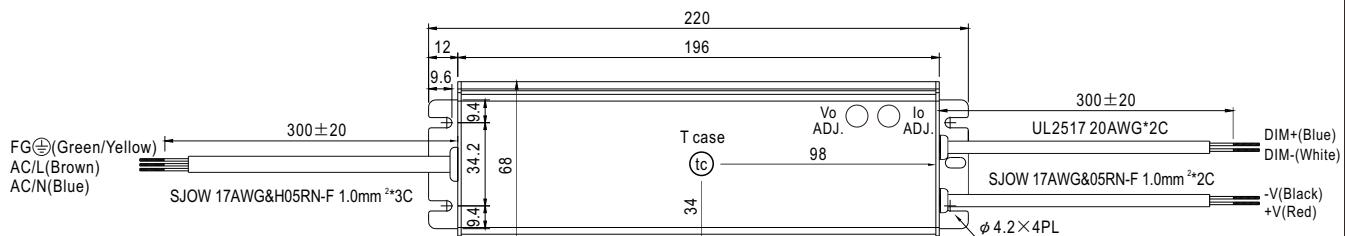
※B-Type



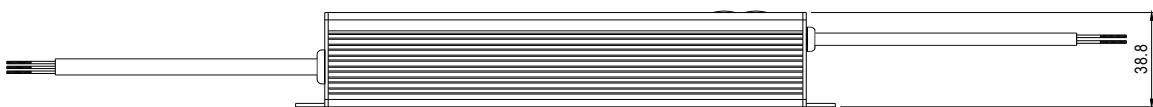
• (tc) : Max. Case Temperature



※AB-Type



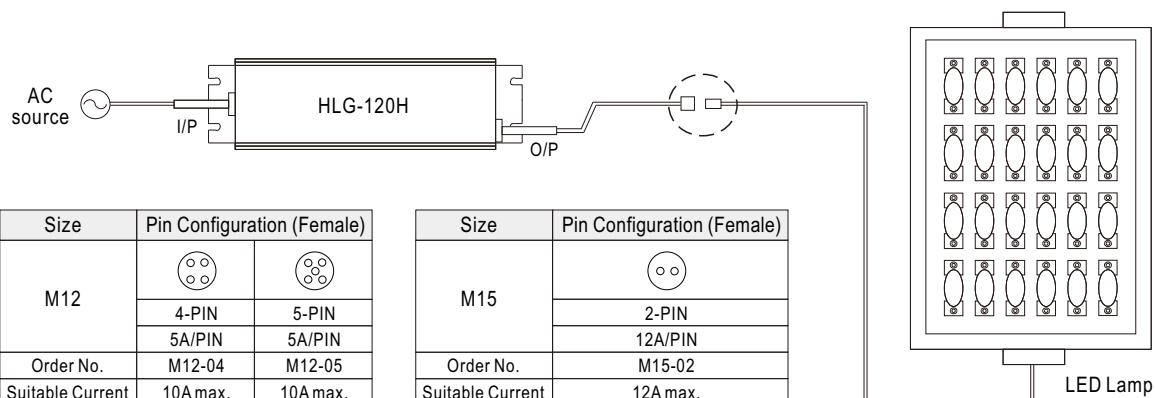
• (tc) : Max. Case Temperature



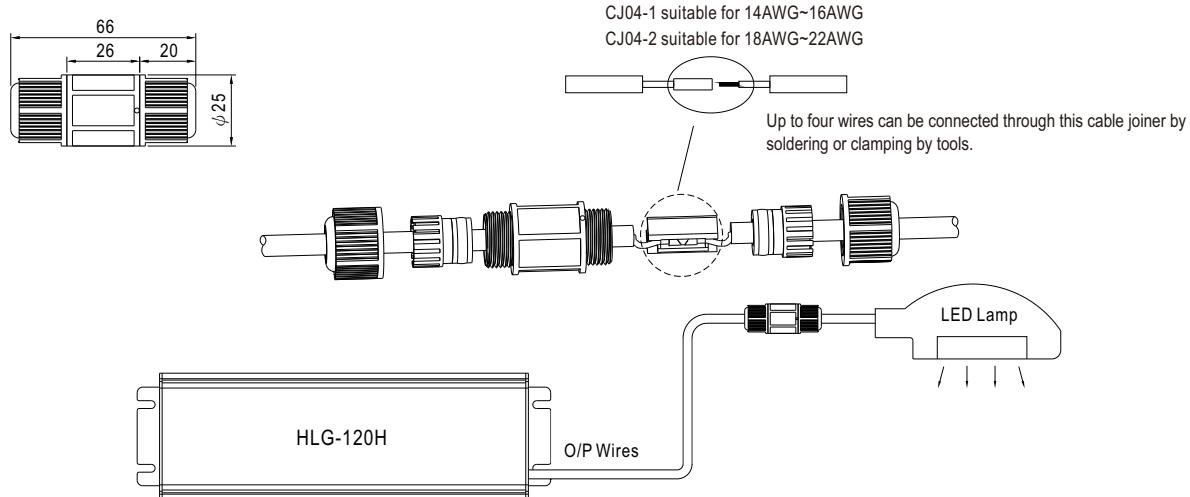
### ■ WATERPROOF CONNECTION

#### ※ Waterproof connector

Waterproof connector can be assembled on the output cable of HLG-120H to operate in dry/wet/damp or outdoor environment.



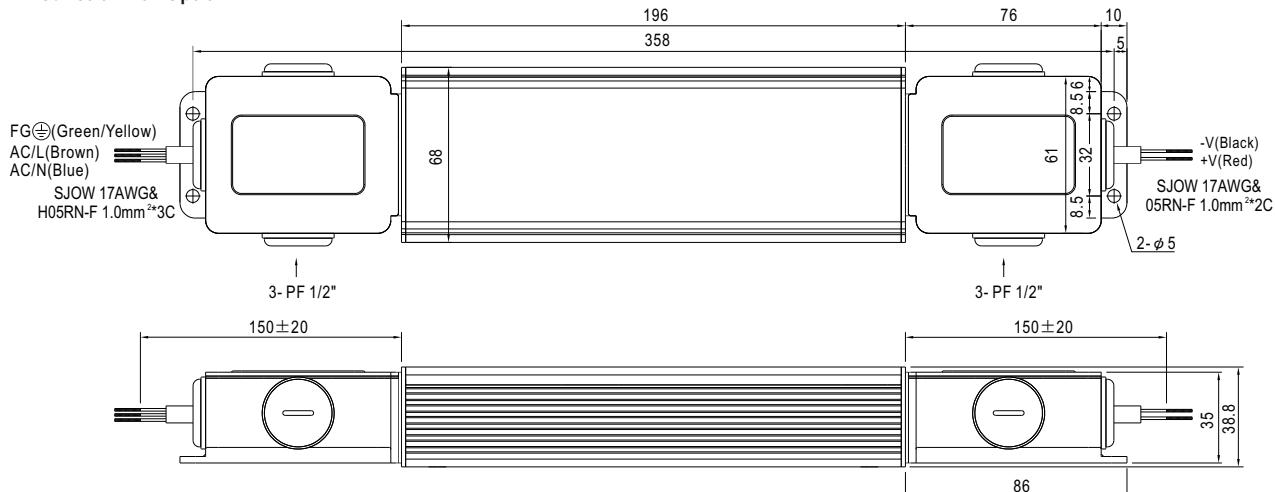
#### ※ Cable Joiner



◎ CJ04 cable joiner can be purchased independently for user's own assembly.

MEAN WELL order No. : CJ04-1, CJ04-2.

#### ※ Junction Box Option



◎ Junction box option is available for A / Blank - Type. Please contact MEAN WELL for details.

### ■ INSTALLATION MANUAL

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