



### Features :

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High efficiency up to 93.5%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP65 design for indoor or outdoor installations
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- Suitable for LED lighting and street lighting applications
- Suitable for dry / damp / wet locations
- 5 years warranty (Note.9)

IP65   



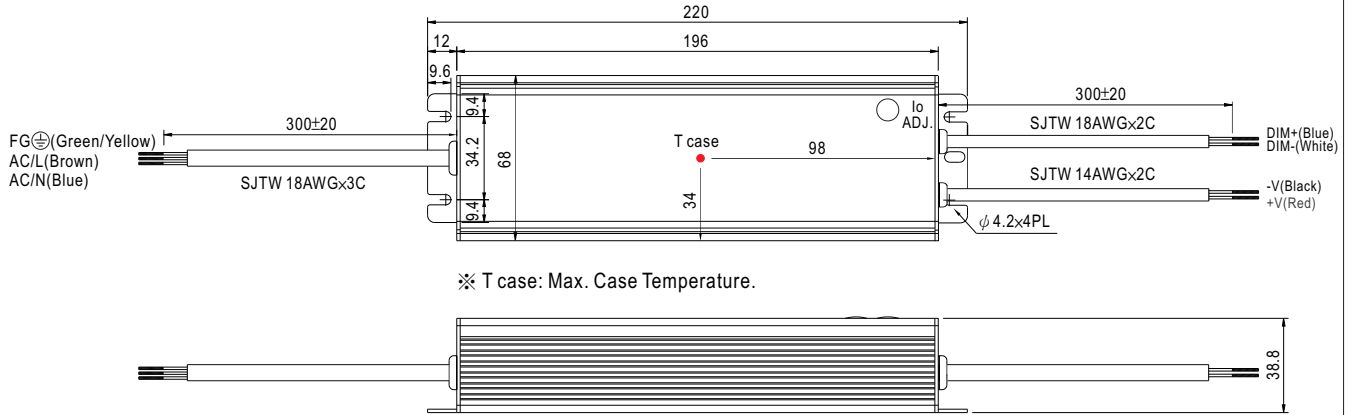
### SPECIFICATION

| MODEL                   | HLG-120H-12AB   | HLG-120H-15AB   | HLG-120H-20AB | HLG-120H-24AB  | HLG-120H-30AB | HLG-120H-36AB | HLG-120H-42AB | HLG-120H-48AB | HLG-120H-54AB |            |  |
|-------------------------|---|---|---------------|----------------|---------------|---------------|---------------|---------------|---------------|------------|--|
| OUTPUT                  | DC VOLTAGE  | 12V   | 15V           | 20V            | 24V           | 30V           | 36V           | 42V           | 48V           | 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   |  |
|                         | CURRENT ADJ. RANGE  | Can be adjusted by internal potentiometer or through output cable   |               |                |               |               |               |               |               |            |  |
|                         |   | 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%      |  |
|                         | 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.7 | 2500ms, 200ms at 95% load 230VAC / 115VAC   |   |               |                |               |               |               |               |               |            |  |
| HOLD UP TIME (Typ.)     | 12ms at full load 230VAC / 115VAC   |   |               |                |               |               |               |               |               |            |  |
| INPUT                   | VOLTAGE RANGE Note.4  | 90 ~ 305VAC   |               | 127 ~ 431VDC   |               |               |               |               |               |            |  |
|                         | FREQUENCY RANGE   | 47 ~ 63Hz   |               |                |               |               |               |               |               |            |  |
|                         | POWER FACTOR (Typ.)   | PF>0.98/115VAC, PF>0.95/230VAC, PF>0.93/277VAC at full load (Please refer to "Power Factor Characteristic" curve) |               |                |               |               |               |               |               |            |  |
|                         | 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 |               |               |               |               |               |            |  |
|                         | INRUSH CURRENT (Typ.)   | COLD START 75A/230VAC   |               |                |               |               |               |               |               |            |  |
|                         | LEAKAGE CURRENT   | <0.75mA / 277VAC  |               |                |               |               |               |               |               |            |  |
| PROTECTION              | OVER CURRENT  | 95 ~ 108%   |               |                |               |               |               |               |               |            |  |
|                         | SHORT CIRCUIT   | Protection type : 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 ~ 60V      | 59 ~ 65V   |  |
|                         | OVER TEMPERATURE  | 85°C ±10°C (RTH2)   |               |                |               |               |               |               |               |            |  |
|                         | Protection type : Shut down o/p voltage, recovers automatically after temperature goes down   |   |               |                |               |               |               |               |               |            |  |
| ENVIRONMENT             | WORKING TEMP.   | -40 ~ +70°C (Refer to "Derating Curve")   |               |                |               |               |               |               |               |            |  |
|                         | WORKING HUMIDITY  | 20 ~ 95% RH non-condensing  |               |                |               |               |               |               |               |            |  |
|                         | STORAGE TEMP., HUMIDITY   | -40 ~ +80°C, 10 ~ 95% RH  |               |                |               |               |               |               |               |            |  |
|                         | TEMP. COEFFICIENT   | ±0.03%/°C (0 ~ 50°C)  |               |                |               |               |               |               |               |            |  |
|                         | VIBRATION   | 10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes   |               |                |               |               |               |               |               |            |  |
| SAFETY & EMC            | SAFETY STANDARDS Note.6   | UL18750, CSA C22.2 No. 250.0-08, IP65 approved ; design refer to UL60950-1, TUV EN60950-1                         |               |                |               |               |               |               |               |            |  |
|                         | WITHSTAND VOLTAGE   | I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC  |               |                |               |               |               |               |               |            |  |
|                         | ISOLATION RESISTANCE  | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH  |               |                |               |               |               |               |               |            |  |
|                         | EMC EMISSION  | Compliance to EN55015, EN55022 (CISPR22) Class B, EN61000-3-2 Class C (≥ 50% load) ; EN61000-3-3                  |               |                |               |               |               |               |               |            |  |
|                         | EMC IMMUNITY  | Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level (surge 4KV), criteria A            |               |                |               |               |               |               |               |            |  |
| OTHERS                  | MTBF  | 192.2K hrs min. MIL-HDBK-217F (25°C)  |               |                |               |               |               |               |               |            |  |
|                         | DIMENSION   | 220*68*38.8mm (L*W*H)   |               |                |               |               |               |               |               |            |  |
|                         | PACKING   | 1.12Kg; 12pcs/14.4Kg/0.8CUFT  |               |                |               |               |               |               |               |            |  |
| NOTE                    | <ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</li> <li>3. Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>4. Derating may be needed under low input voltages. Please check the static characteristics for more details.</li> <li>5. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.</li> <li>6. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.</li> <li>7. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.</li> <li>8. 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.</li> <li>9. Refer to warranty statement.</li> </ol> |   |               |                |               |               |               |               |               |            |  |

## Mechanical Specification

Case No.994A Unit:mm

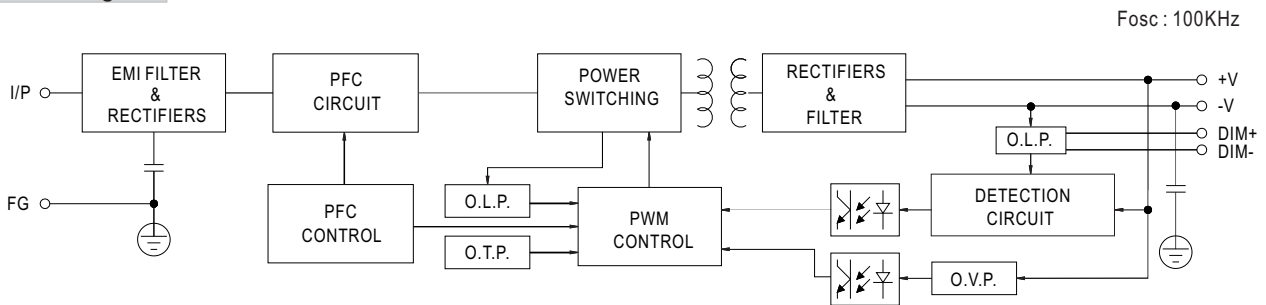
AB Type:(HLG-120H\_AB)



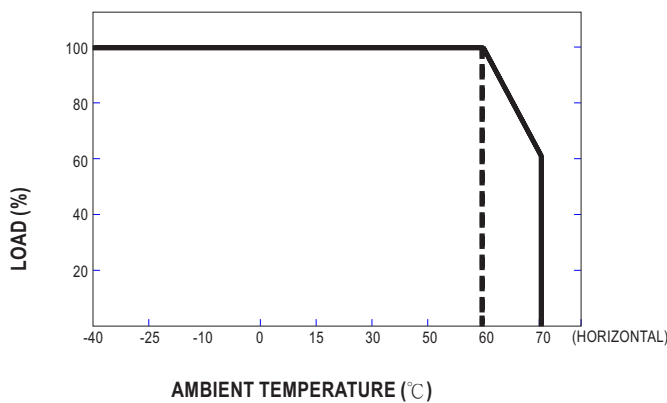
※ T case: Max. Case Temperature.

※ IP65 rated. Constant current level can be adjusted through internal potentiometer.  
(Can access by removing the rubber stopper on the case.)

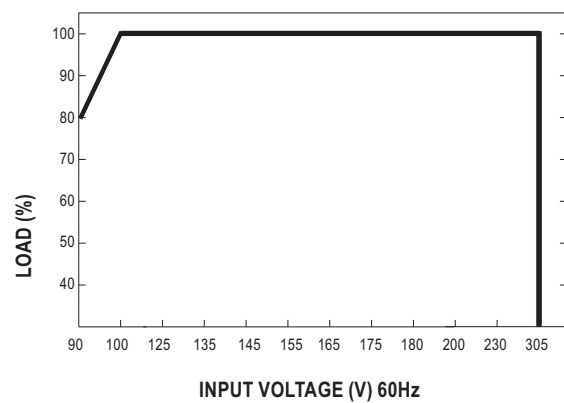
## Block Diagram



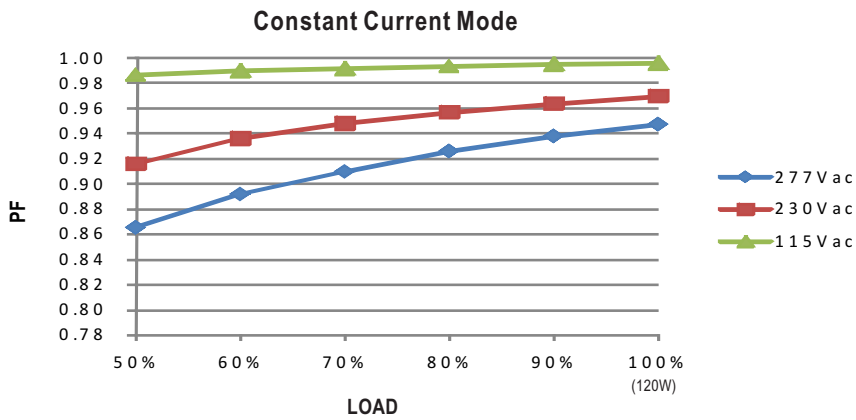
## Derating Curve



## Static Characteristics

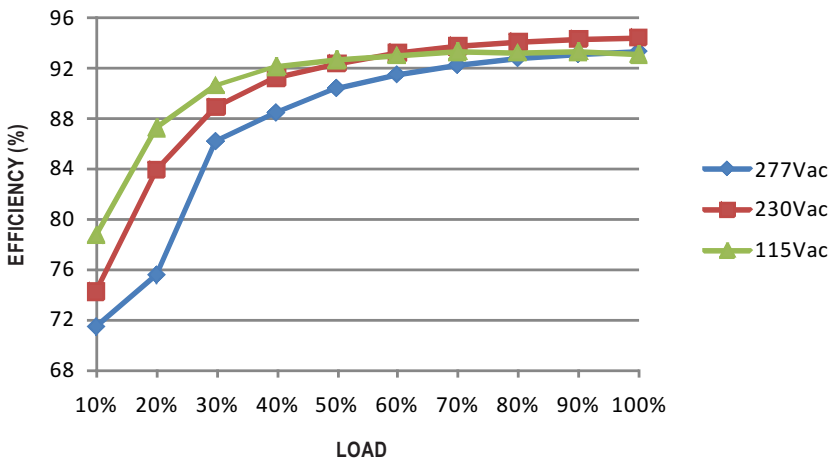


## Power Factor Characteristic



## EFFICIENCY vs LOAD (48V Model)

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

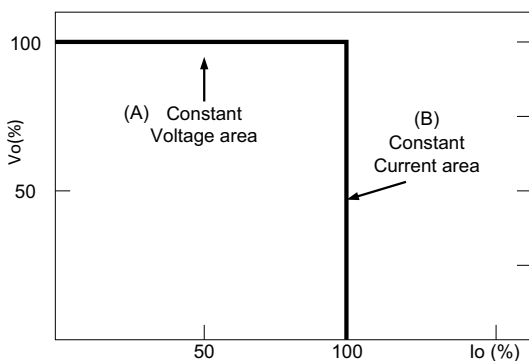


## DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

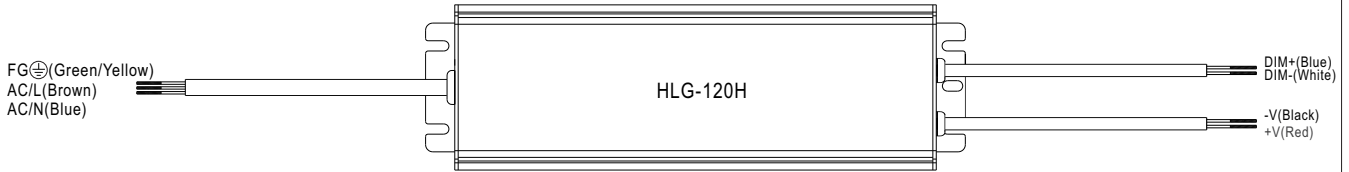
A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

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)).



Typical LED power supply I-V curve

## ■ DIMMING OPERATION



※ Built-in 3 in 1 dimming function. Output constant current level can be adjusted through output cable by connecting a resistance or 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%  | 95%~108% |

※ 1 ~ 10V dimming function for output current adjustment (Typical)

| Dimming value               | 1V  | 2V  | 3V  | 4V  | 5V  | 6V  | 7V  | 8V  | 9V  | 10V  | OPEN     |
|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----------|
| Percentage of rated current | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | 95%~108% |

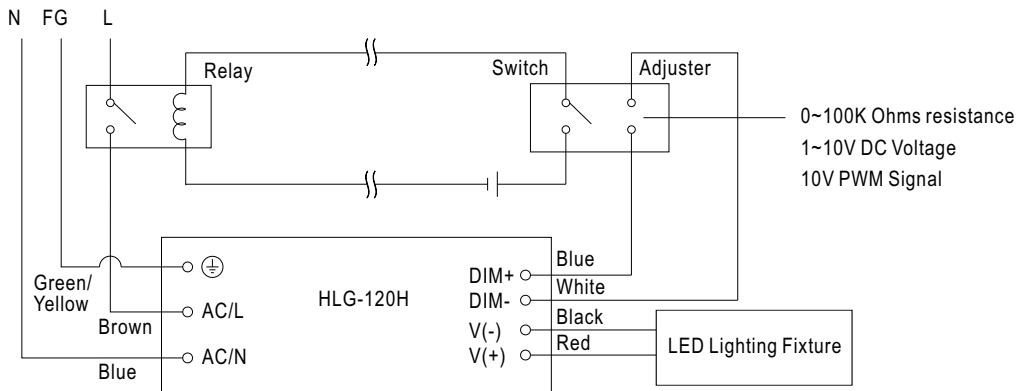
※ 10V PWM signal for output current adjustment (Typical): Frequency range : 100Hz ~ 3KHz

| Duty value                  | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | OPEN     |
|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----------|
| Percentage of rated current | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | 95%~108% |

※ Using the built-in dimming function 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.

※ Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.

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



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

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



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