



#### ■ Features :

- Wide input range 180~528VAC
- Built-in active PFC function
- High efficiency up to 91.5%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- Three in one dimming function (0~10Vdc or 10V PWM signal or resistance)
- 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.9)



HVG-150-12[A] A : IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.  
B : IP67 rated. Constant current level adjustable through output cable with 0~10Vdc or 10V PWM signal or resistance.  
D (option) : IP67 rated. Timer dimming function, contact MEAN WELL for details.

#### SPECIFICATION

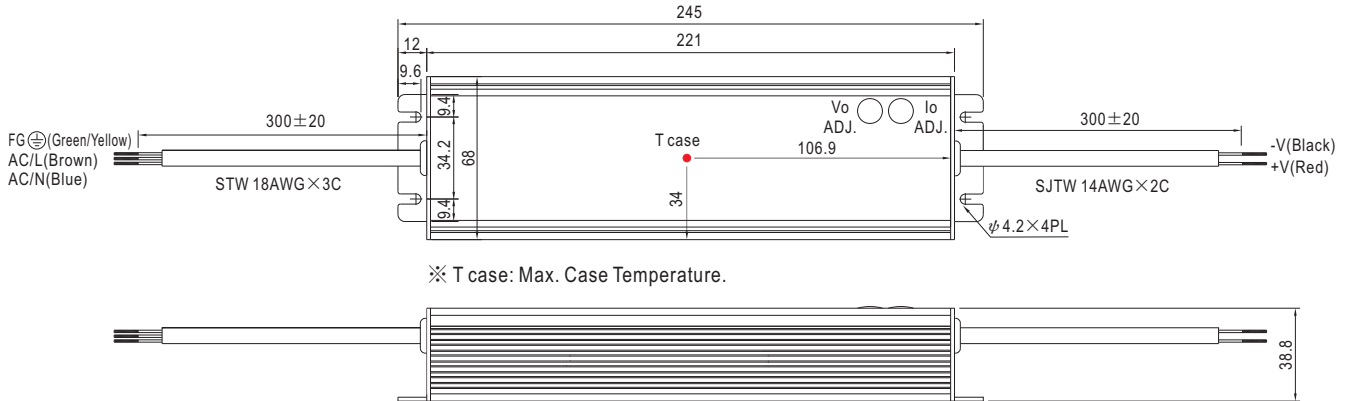
| MODEL                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | HVG-150-12                                                                                                              | HVG-150-15 | HVG-150-20  | HVG-150-24   | HVG-150-30 | HVG-150-36   | HVG-150-42   | HVG-150-48   | HVG-150-54   |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------|-------------|--------------|------------|--------------|--------------|--------------|--------------|
| OUTPUT                              | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 12V                                                                                                                     | 15V        | 20V         | 24V          | 30V        | 36V          | 42V          | 48V          | 54V          |
|                                     | CONSTANT CURRENT REGION <small>Note.4</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 7.2~12V                                                                                                                 | 8.25~15V   | 11~20V      | 13.2~24V     | 16.5~30V   | 19.8~36V     | 23.1~42V     | 26.4~48V     | 29.7~54V     |
|                                     | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10A                                                                                                                     | 10A        | 7.5A        | 6.25A        | 5A         | 4.17A        | 3.58A        | 3.13A        | 2.78A        |
|                                     | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 120W                                                                                                                    | 150W       | 150W        | 150W         | 150W       | 150.12W      | 150.36W      | 150.24W      | 150.12W      |
|                                     | RIPPLE & NOISE (max.) <small>Note.2</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 150mVp-p                                                                                                                | 150mVp-p   | 150mVp-p    | 150mVp-p     | 200mVp-p   | 200mVp-p     | 200mVp-p     | 200mVp-p     | 200mVp-p     |
|                                     | VOLTAGE ADJ. RANGE <small>Note.6</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 10.8 ~ 13.5V                                                                                                            | 13.5 ~ 17V | 17 ~ 22V    | 22 ~ 27V     | 27 ~ 33V   | 33 ~ 40V     | 38 ~ 46V     | 43 ~ 53V     | 49 ~ 58V     |
|                                     | CURRENT ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Can be adjusted by internal potentiometer A type only                                                                   |            |             |              |            |              |              |              |              |
|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 6 ~ 10A                                                                                                                 | 5.5 ~ 10A  | 4.13 ~ 7.5A | 3.44 ~ 6.25A | 2.75 ~ 5A  | 2.29 ~ 4.17A | 1.97 ~ 3.58A | 1.72 ~ 3.13A | 1.53 ~ 2.78A |
|                                     | VOLTAGE TOLERANCE <small>Note.3</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ±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%                                                                                                                   | ±1.0%      | ±0.5%       | ±0.5%        | ±0.5%      | ±0.5%        | ±0.5%        | ±0.5%        |              |
| SETUP, RISE TIME                    | 500ms, 80ms /230Vac 400ms, 80ms/347VAC/480VAC at full load ; B type 500ms, 280ms/230Vac 500ms, 280ms/347VAC/480VAC at 95% load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                         |            |             |              |            |              |              |              |              |
| HOLD UP TIME (Typ.)                 | 18ms at full load 480VAC / 347VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                         |            |             |              |            |              |              |              |              |
| VOLTAGE RANGE <small>Note.5</small> | 180 ~ 528VAC 254VDC ~ 747VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                         |            |             |              |            |              |              |              |              |
| FREQUENCY RANGE                     | 47 ~ 63Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                         |            |             |              |            |              |              |              |              |
| POWER FACTOR (Typ.)                 | PF≥0.98/230VAC, PF≥0.97/277VAC, PF≥0.95/347VAC, PF≥0.93/480VAC at full load (Please refer to "Power Factor Characteristic" curve)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                         |            |             |              |            |              |              |              |              |
| TOTAL HARMONIC DISTORTION           | THD<20% when output loading≥50% ( ≥60% only for 12V model) at 230VAC/277VAC/347VAC input<br>THD<20% when output loading≥75% at 480VAC input                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                         |            |             |              |            |              |              |              |              |
| EFFICIENCY (Typ.)                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 87%                                                                                                                     | 89%        | 90.5%       | 91%          | 91%        | 91%          | 91%          | 91.5%        | 91.5%        |
| AC CURRENT (Typ.)                   | 347VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.45A                                                                                                                   | 0.5A       |             |              |            |              |              |              |              |
|                                     | 480VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.35A                                                                                                                   | 0.38A      |             |              |            |              |              |              |              |
| INRUSH CURRENT (Typ.)               | COLD START 35A(twidth=790μs measured at 50% Ipeak) at 480VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                         |            |             |              |            |              |              |              |              |
| LEAKAGE CURRENT                     | <0.75mA / 480VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                         |            |             |              |            |              |              |              |              |
| PROTECTION                          | OVER CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 95 ~ 108%<br>Protection type : Constant current limiting, recovers automatically after fault condition is removed       |            |             |              |            |              |              |              |              |
|                                     | SHORT CIRCUIT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Constant current limiting, recovers automatically after fault condition is removed                                      |            |             |              |            |              |              |              |              |
|                                     | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 14.4 ~ 16.8V                                                                                                            | 18 ~ 21V   | 23 ~ 27V    | 28 ~ 34V     | 34 ~ 38V   | 41 ~ 46V     | 47 ~ 53V     | 54 ~ 60V     | 59 ~ 65V     |
|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Protection type : Shut down o/p voltage with auto-recovery or re-power on to recovery                                   |            |             |              |            |              |              |              |              |
|                                     | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Shut down o/p voltage, recovers automatically after temperature goes down                                               |            |             |              |            |              |              |              |              |
| ENVIRONMENT                         | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | -40 ~ +70℃ (Refer to "Derating Curve")                                                                                  |            |             |              |            |              |              |              |              |
|                                     | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20 ~ 95% RH non-condensing                                                                                              |            |             |              |            |              |              |              |              |
|                                     | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -40 ~ +80℃, 10 ~ 95% RH                                                                                                 |            |             |              |            |              |              |              |              |
|                                     | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±0.03%/℃ (0 ~ 60℃)                                                                                                      |            |             |              |            |              |              |              |              |
|                                     | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes                                                 |            |             |              |            |              |              |              |              |
| SAFETY & EMC                        | SAFETY STANDARDS <small>Note.7</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | UL8750, CSA C22.2 No. 250.0-08, IP65 or IP67 approved                                                                   |            |             |              |            |              |              |              |              |
|                                     | 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℃ / 70% RH                                                               |            |             |              |            |              |              |              |              |
|                                     | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Compliance to EN55015, EN61000-3-2 Class C (≥55% load, ≥60% load only for 12V model) ; EN61000-3-3, FCC part 15 class B |            |             |              |            |              |              |              |              |
|                                     | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, light industry level (surge 4KV), criteria A                           |            |             |              |            |              |              |              |              |
| OTHERS                              | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 158.6K hrs min. MIL-HDBK-217F (25℃)                                                                                     |            |             |              |            |              |              |              |              |
|                                     | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 245*68*38.8mm (L*W*H)                                                                                                   |            |             |              |            |              |              |              |              |
|                                     | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.24Kg; 12pcs/15.9Kg/0.78CUFT                                                                                           |            |             |              |            |              |              |              |              |
| NOTE                                | 1. All parameters NOT specially mentioned are measured at 347VAC input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. Please refer to "DRIVING METHODS OF LED MODULE".<br>5. Derating may be needed under low input voltages. Please check the static characteristics for more details.<br>6. A type only.<br>7. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1.<br>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.<br>9. Refer to warranty statement.<br>10. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains. |                                                                                                                         |            |             |              |            |              |              |              |              |

## Mechanical Specification

Case No.994

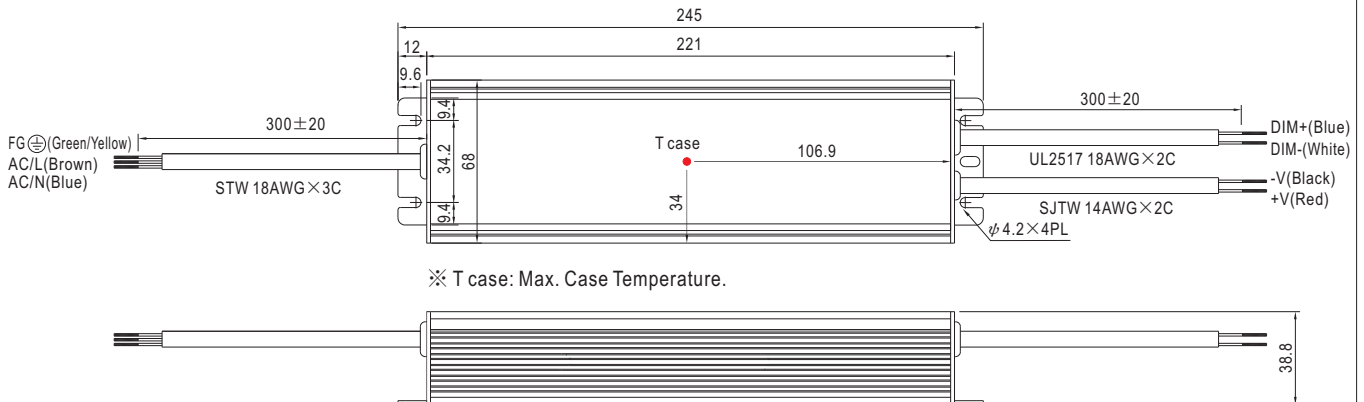
Unit:mm

### A Type:(HVG-150-\_A)

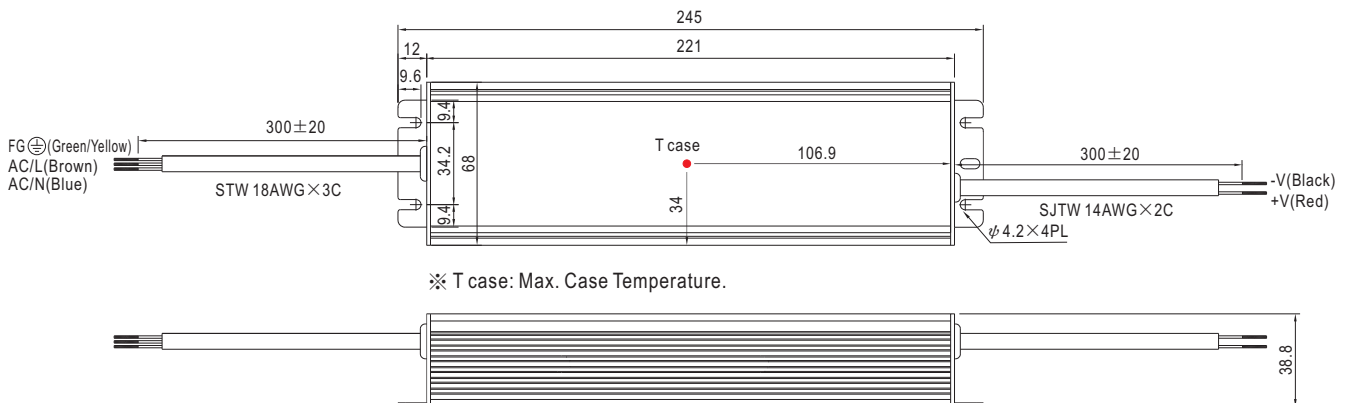


※ IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.  
(Can access by removing the rubber stopper on the case.)

### B Type:(HVG-150-\_B)

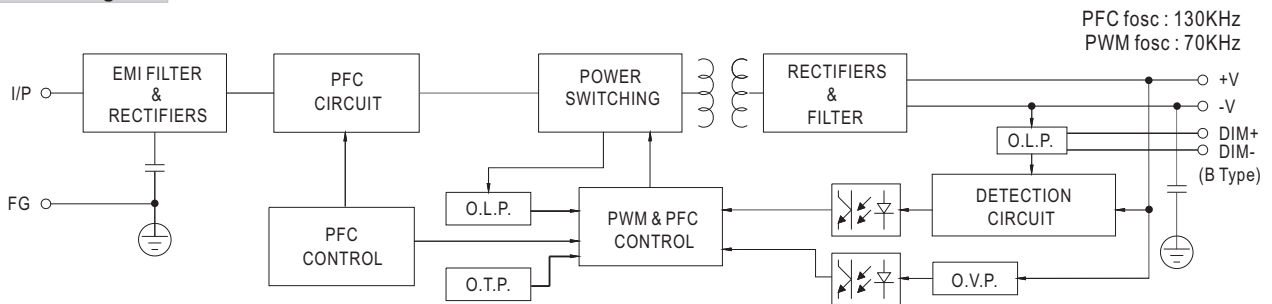


### D Type(option):(HVG-150-\_D)

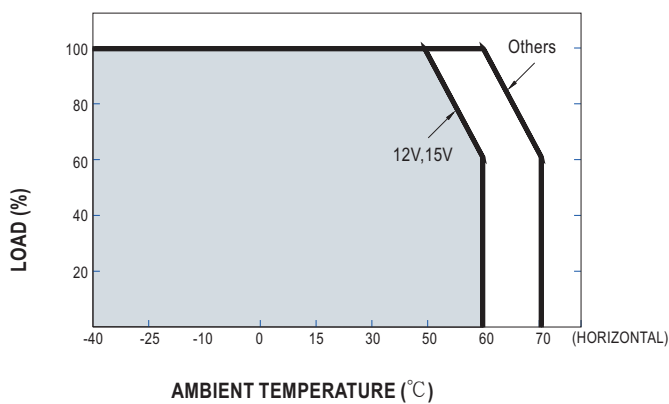


※ IP67 rated. Timer dimming function, contact MEAN WELL for details.

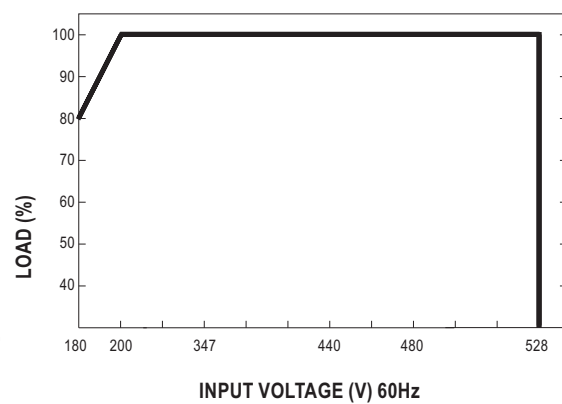
## Block Diagram



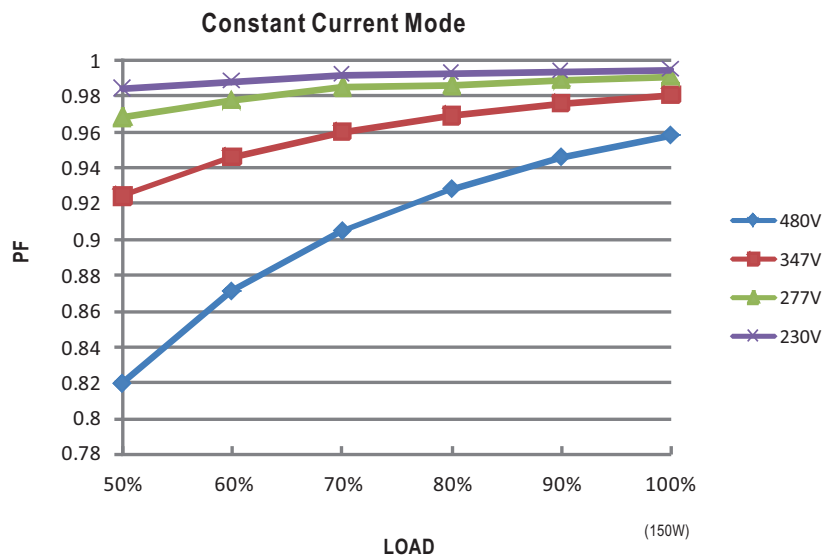
## Derating Curve



## Static Characteristics

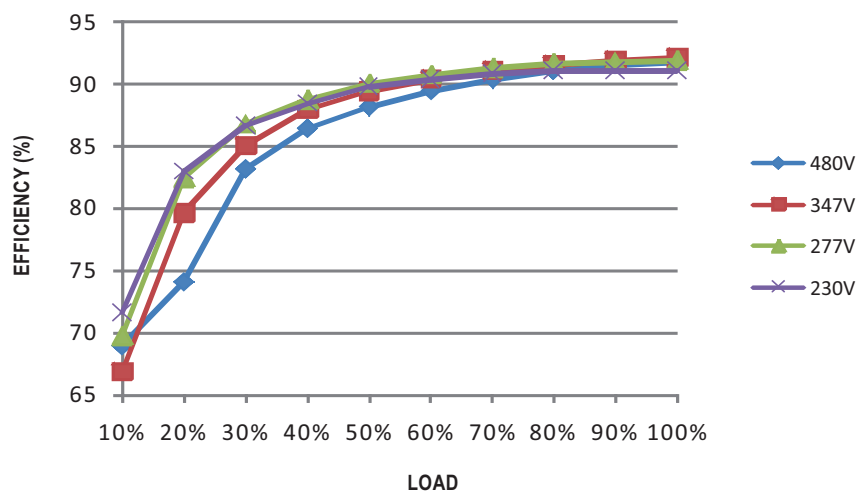


## Power Factor Characteristic



### ■ EFFICIENCY vs LOAD (48V Model)

HVG-150 series possess superior working efficiency that up to 91.5% can be reached in field applications.

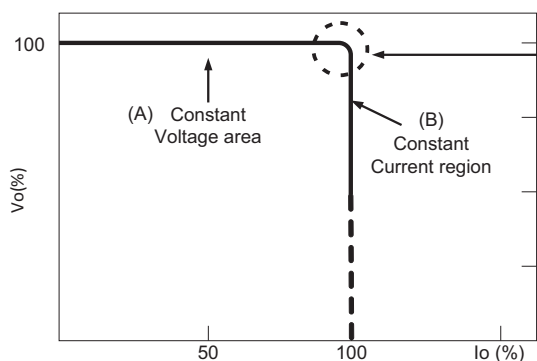


### ■ DRIVING METHODS OF LED MODULE

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

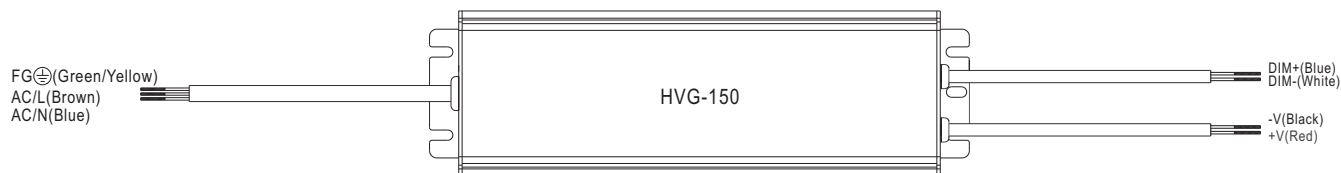
In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.

Original :Constant Current area

Original :Solid line

## DIMMING OPERATION



※ Built-in 3 in 1 dimming function, IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistance or 0 ~ 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            | Single driver                                                              | Short | 10K $\Omega$    | 20K $\Omega$    | 30K $\Omega$    | 40K $\Omega$    | 50K $\Omega$    | 60K $\Omega$    | 70K $\Omega$    | 80K $\Omega$    | 90K $\Omega$    | 100K $\Omega$    | OPEN     |
|-----------------------------|----------------------------------------------------------------------------|-------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|----------|
|                             | Multiple drivers<br>(N=driver quantity for synchronized dimming operation) | Short | 10K $\Omega$ /N | 20K $\Omega$ /N | 30K $\Omega$ /N | 40K $\Omega$ /N | 50K $\Omega$ /N | 60K $\Omega$ /N | 70K $\Omega$ /N | 80K $\Omega$ /N | 90K $\Omega$ /N | 100K $\Omega$ /N | -----    |
| Percentage of rated current |                                                                            | 0%    | 10%             | 20%             | 30%             | 40%             | 50%             | 60%             | 70%             | 80%             | 90%             | 100%             | 95%~108% |

※ 0 ~ 10V dimming function for output current adjustment (Typical)

| Dimming value               | 0V | 1V  | 2V  | 3V  | 4V  | 5V  | 6V  | 7V  | 8V  | 9V  | 10V  | OPEN     |
|-----------------------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----------|
| Percentage of rated current | 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | 95%~108% |

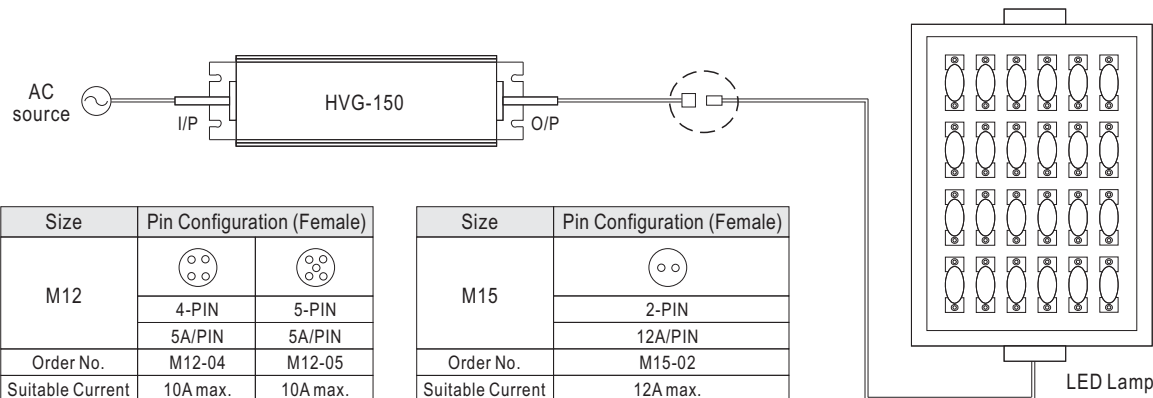
※ 10V PWM signal for output current adjustment (Typical): Frequency range :100Hz ~ 3KHz

| Duty value                  | 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | OPEN     |
|-----------------------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----------|
| Percentage of rated current | 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | 95%~108% |

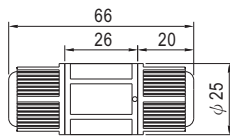
## WATERPROOF CONNECTION

◎ Waterproof connector

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



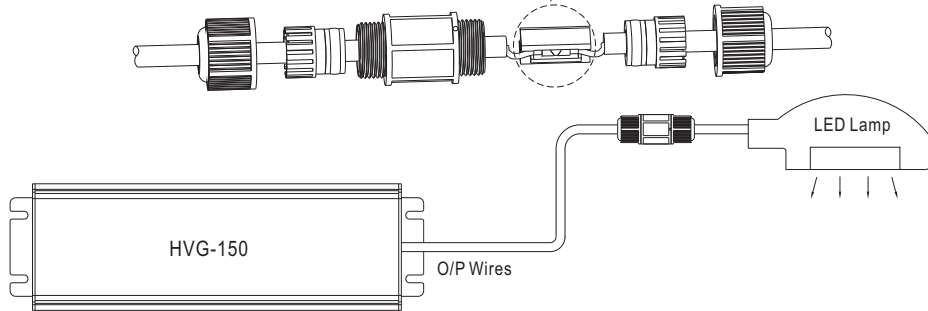
## ◎ Cable Joiner



CJ04-1 suitable for 14AWG~16AWG  
CJ04-2 suitable for 18AWG~22AWG

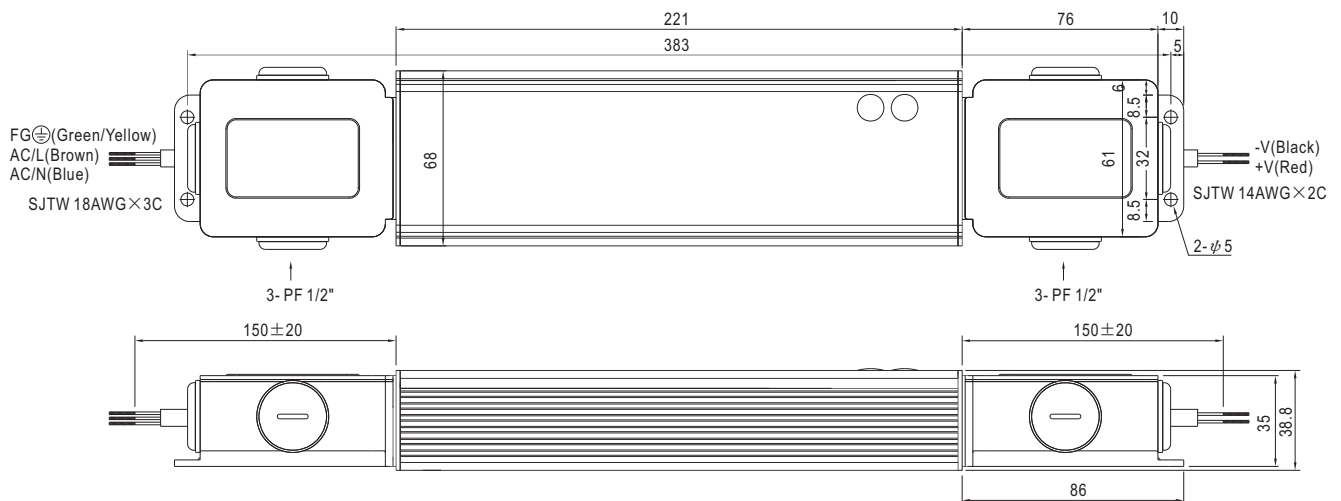


Up to four wires can be connected through this cable joiner by soldering or clamping by tools.



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

## ◎ Junction Box(Optional)



※Optional junction box available for A - type, please contact MEAN WELL for details.