



### Features :

- Universal AC input / Full range (up to 295VAC)
- Built-in active PFC function
- High efficiency 91%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP65 / IP67 design for indoor or outdoor installations
- Suitable for LED lighting and moving sign applications
- Compliance to worldwide safety regulations for lighting
- 3 years warranty



CLG-150-12 **A** Blank : IP67 rated. Cable for I/O connection.  
 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.  
 C : Terminal block for I/O connection. Output voltage and constant current level can be adjusted through internal potentiometer.

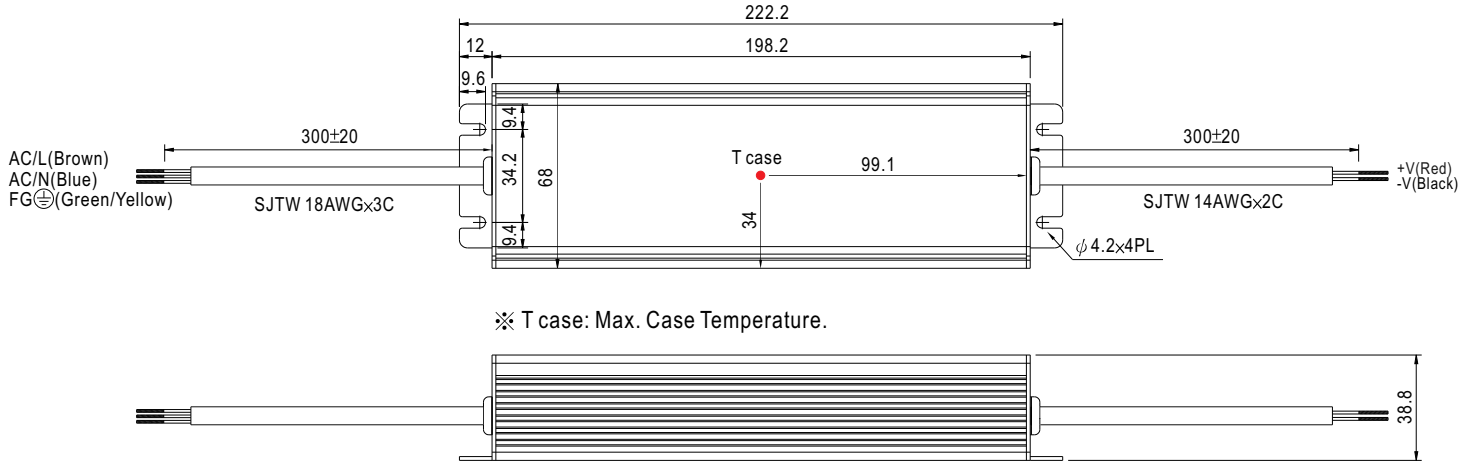
### SPECIFICATION

| MODEL               | CLG-150-12   | CLG-150-15  | CLG-150-20  | CLG-150-24  | CLG-150-30                          | CLG-150-36 | CLG-150-48 |            |
|---------------------|--|---|-------------|-------------|-------------------------------------|------------|------------|------------|
| OUTPUT              | DC VOLTAGE   | 12V   | 15V         | 20V         | 24V                                 | 30V        | 36V        | 48V        |
|                     | CONSTANT CURRENT REGION <small>Note.4</small>  | 9 ~ 12V   | 11.25 ~ 15V | 15 ~ 20V    | 18 ~ 24V                            | 22.5 ~ 30V | 27 ~ 36V   | 36 ~ 48V   |
|                     | RATED CURRENT  | 11A   | 9.5A        | 7.5A        | 6.3A                                | 5A         | 4.2A       | 3.2A       |
|                     | RATED POWER  | 132W  | 142.5W      | 150W        | 151.2W                              | 150W       | 151.2W     | 153.6W     |
|                     | RIPPLE & NOISE (max.) <small>Note.2</small>  | 150mVp-p  | 150mVp-p    | 150mVp-p    | 150mVp-p                            | 150mVp-p   | 150mVp-p   | 200mVp-p   |
|                     | VOLTAGE ADJ. RANGE <small>Note.6</small>   | 9 ~ 13V   | 13 ~ 17V    | 17 ~ 22V    | 22 ~ 27V                            | 26 ~ 32V   | 31 ~ 41V   | 40 ~ 56V   |
|                     | CURRENT ADJ. RANGE   | Can be adjusted by internal potentiometer or through output cable   |             |             |                                     |            |            |            |
|                     |  | 5.5 ~ 11A   | 4.75 ~ 9.5A | 3.75 ~ 7.5A | 3.15 ~ 6.3A                         | 2.5 ~ 5A   | 2.1 ~ 4.2A | 1.6 ~ 3.2A |
|                     | VOLTAGE TOLERANCE <small>Note.3</small>  | ±2.0%   | ±2.0%       | ±2.0%       | ±1.0%                               | ±1.0%      | ±1.0%      | ±1.0%      |
|                     | LINE REGULATION  | ±0.5%   | ±0.5%       | ±0.5%       | ±0.5%                               | ±0.5%      | ±0.5%      | ±0.5%      |
| LOAD REGULATION     | ±1.0%  | ±1.0%   | ±1.0%       | ±0.5%       | ±0.5%                               | ±0.5%      | ±0.5%      |            |
| SETUP, RISE TIME    | 3000ms, 80ms at full load 230VAC /115VAC   |   |             |             |                                     |            |            |            |
| HOLD UP TIME (Typ.) | 50ms / 230VAC 16ms / 115VAC at full load   |   |             |             |                                     |            |            |            |
| INPUT               | VOLTAGE RANGE <small>Note.5</small>  | 90 ~ 295VAC 127 ~ 417VDC  |             |             |                                     |            |            |            |
|                     | 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.)  | 88%   | 88%         | 90%         | 90%                                 | 91%        | 91%        | 91%        |
|                     | AC CURRENT (Typ.)  | 2A / 115VAC 1A / 230VAC   |             |             |                                     |            |            |            |
|                     | INRUSH CURRENT(max.)   | COLD START 65A/230VAC   |             |             |                                     |            |            |            |
| LEAKAGE CURRENT     | <1mA / 240VAC  |   |             |             |                                     |            |            |            |
| PROTECTION          | OVER CURRENT (Typ.) <small>Note.4</small>  | 95 ~ 108%   |             |             |                                     |            |            |            |
|                     |  | Protection type : Constant current limiting, recovers automatically after fault condition is removed  |             |             |                                     |            |            |            |
|                     | SHORT CIRCUIT  | Hiccup mode, recovers automatically after fault condition is removed  |             |             |                                     |            |            |            |
|                     | OVER VOLTAGE   | 13.5 ~ 16V  | 18 ~ 20V    | 23 ~ 27V    | 28 ~ 34V                            | 33 ~ 36V   | 42 ~ 48V   | 57 ~ 65V   |
|                     | Protection type : Shut down and latch off o/p voltage, re-power on to recover  |   |             |             |                                     |            |            |            |
| OVER TEMPERATURE    | 100°C ±10°C (RTH2)   |   |             |             |                                     |            |            |            |
|                     | Protection type : Shut down o/p voltage, re-power on to recover  |   |             |             |                                     |            |            |            |
| ENVIRONMENT         | WORKING TEMP.  | -30 ~ +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 <small>Note.7</small>   | UL8750, UL1012 ; EN61347-1, EN61347-2-13 independent (except for CLG-150 C type) ; UL60950-1, TUV EN60950-1 ; J61347-1(option, except for CLG-150 C type), J61347-2-13, IP65 or IP67 approved |             |             |                                     |            |            |            |
|                     | WITHSTAND VOLTAGE  | I/P-O/P:3.75KVAC I/P-FG:1.88KVAC 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 (≥ 75% 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   | 303.7Khrs min. MIL-HDBK-217F (25°C)   |             |             |                                     |            |            |            |
|                     | DIMENSION  | 222*68*38.8mm (L*W*H)(CLG-150-Blank/A/B)  |             |             | 229*68*38.8mm (L*W*H)(CLG-150-C)    |            |            |            |
|                     | PACKING  | 1.0Kg; 12pcs/13Kg/0.58CUFT(CLG-150-Blank/A/B)   |             |             | 1Kg; 12pcs/13Kg/0.96CUFT(CLG-150-C) |            |            |            |
| 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. Constant current operation region is within 75% ~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.</li> <li>5. Derating may be needed under low input voltages. Please check the static characteristics for more details.</li> <li>6. Type A and type C only.</li> <li>7. Safety and EMC design refer to EN60598-1, subject 8750(UL), CNS15233, GB7000.1, FCC part18.</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> </ol> |   |             |             |                                     |            |            |            |

■ Mechanical Specification

Case No. 954A Unit:mm

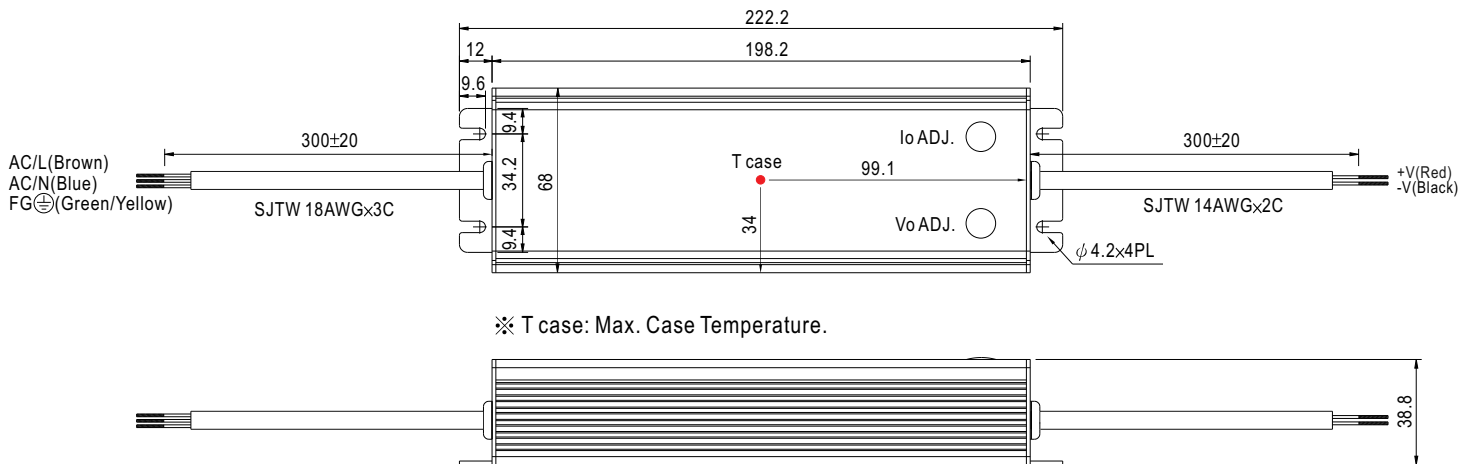
Blank:(CLG-150)



※ T case: Max. Case Temperature.

※IP67 rated. Cable for I/O connection.

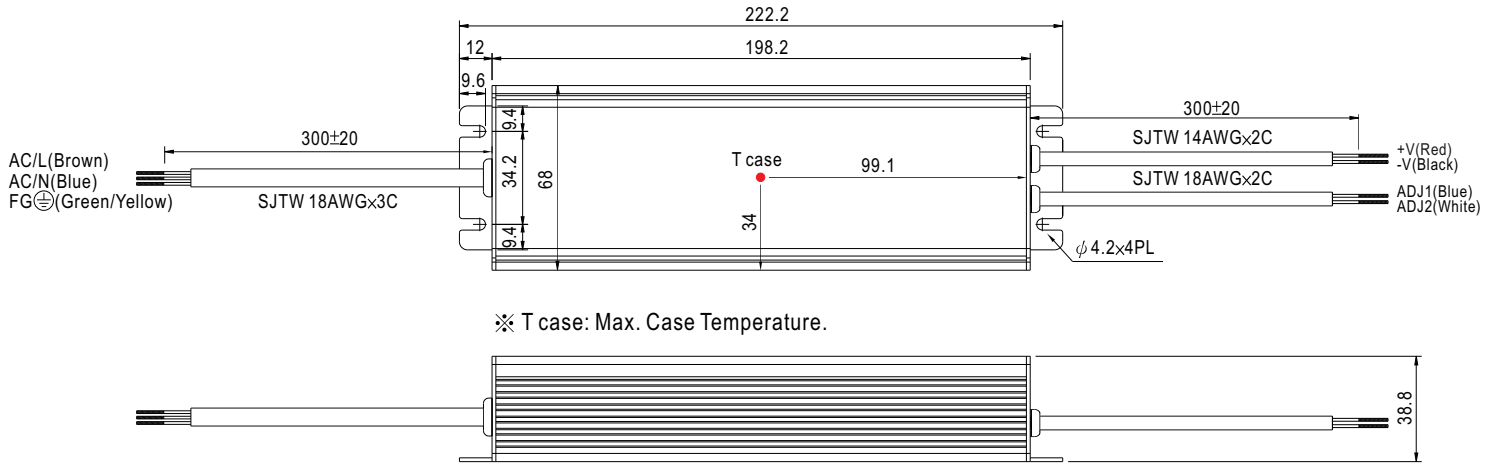
A Type:(CLG-150- \_A)



※ T case: Max. Case Temperature.

※ 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:(CLG-150-B)**

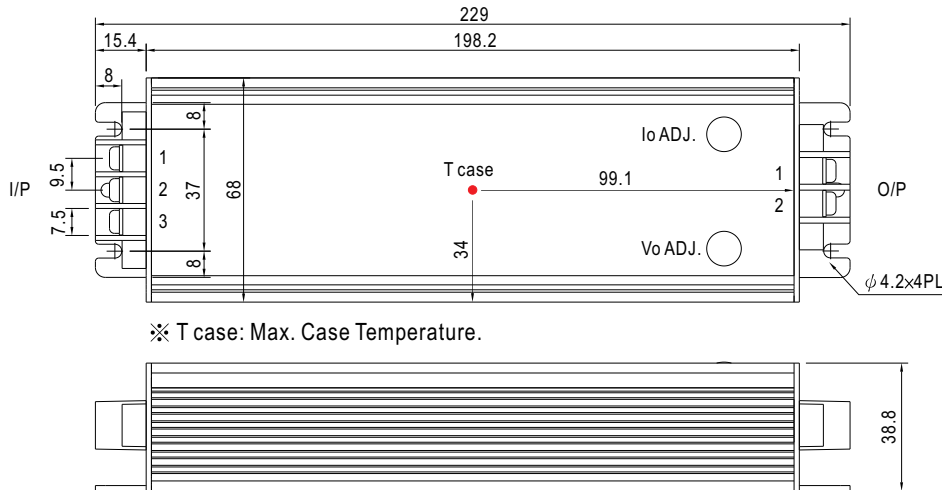


※ T case: Max. Case Temperature.

- ※ IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistor between ADJ1 and ADJ2.
- ※ Reference resistance value for output current adjustment (Typical)

| Resistance | Percentage of rated current |
|------------|-----------------------------|
| Open       | Slightly > 100%             |
| 4.7KΩ      | 100%                        |
| 620Ω       | 75%                         |
| 82Ω        | 50%                         |
| Short      | Slightly < 50%              |

**C Type:(CLG-150-C)**



※ T case: Max. Case Temperature.

AC Input Terminal Pin No. Assignment

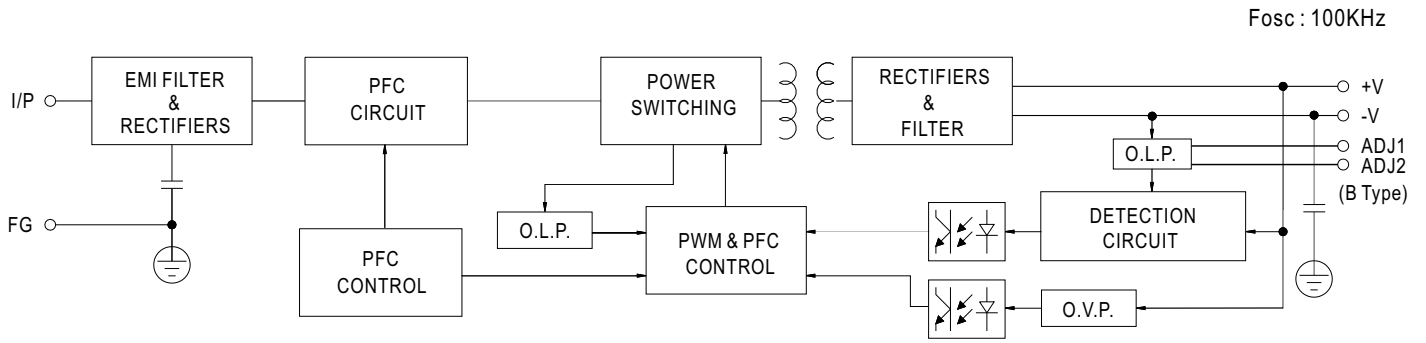
| Pin No. | Assignment |
|---------|------------|
| 1       | FG $\perp$ |
| 2       | AC/N       |
| 3       | AC/L       |

DC Output Terminal Pin No. Assignment

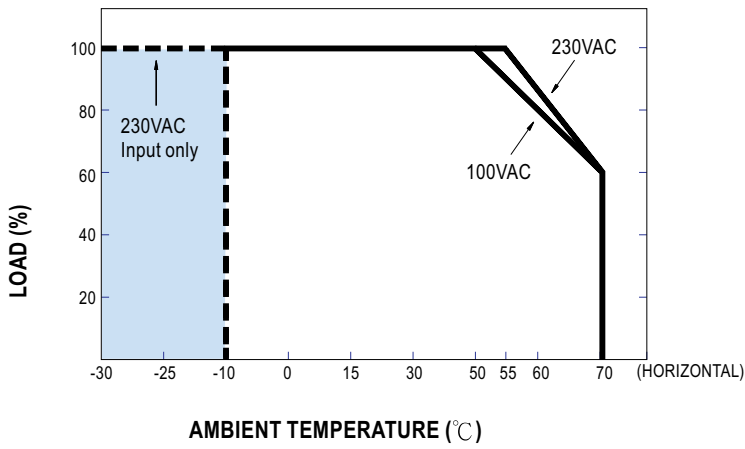
| Pin No. | Assignment |
|---------|------------|
| 1       | +V         |
| 2       | -V         |

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

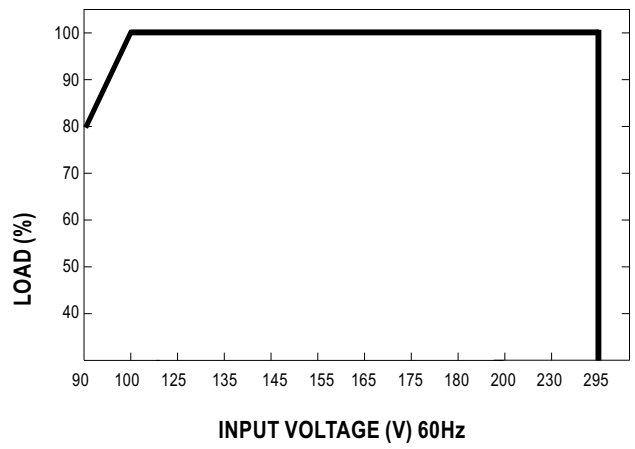
**Block Diagram**



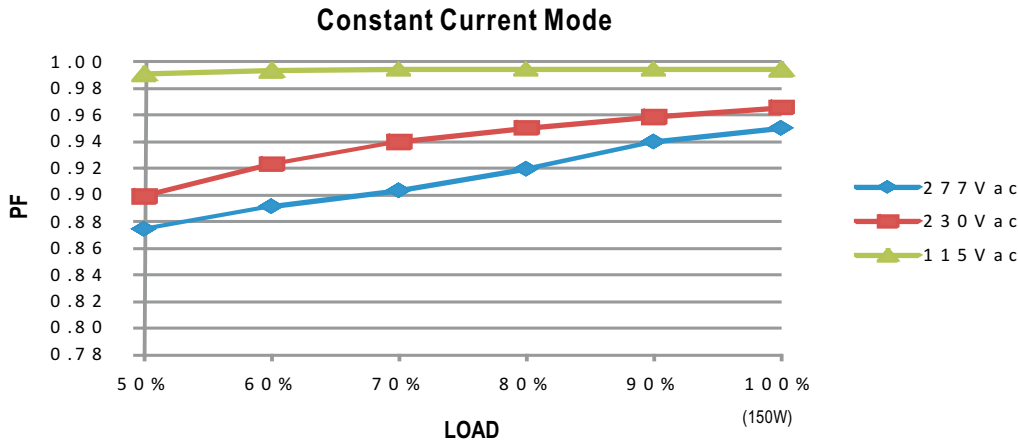
**Derating Curve**



**Static Characteristics**

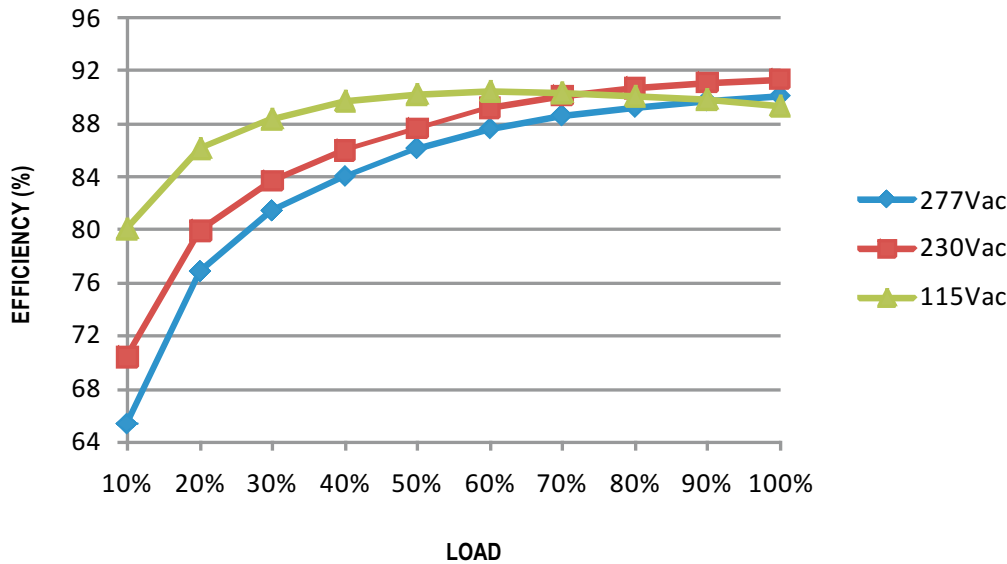


**Power Factor Characteristic**



**EFFICIENCY vs LOAD (48V Model)**

CLG-150 series possess superior working efficiency that up to 91% can be reached in field applications.

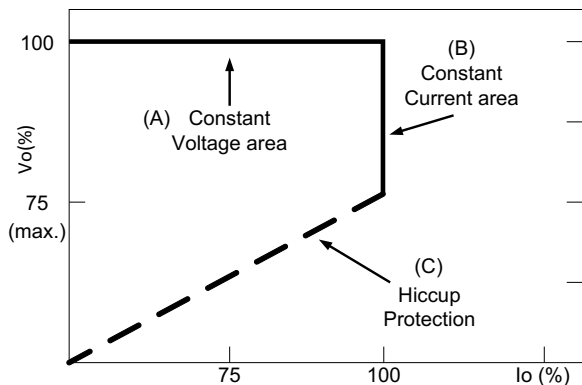


**DRIVING METHODS OF LED MODULE**

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