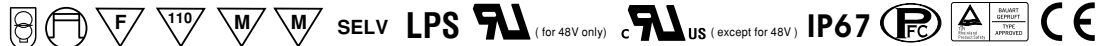




## ■ Features :

- Universal AC input / Full range (up to 295VAC)
- High efficiency 90%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in active PFC function
- IP67 design for indoor or outdoor installations
- UL1310 Class 2 power unit
- Pass LPS
- Cooling by free air convection
- 100% full load burn-in test
- High reliability
- Suitable for LED lighting and moving sign applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 3 years warranty (Note.6)

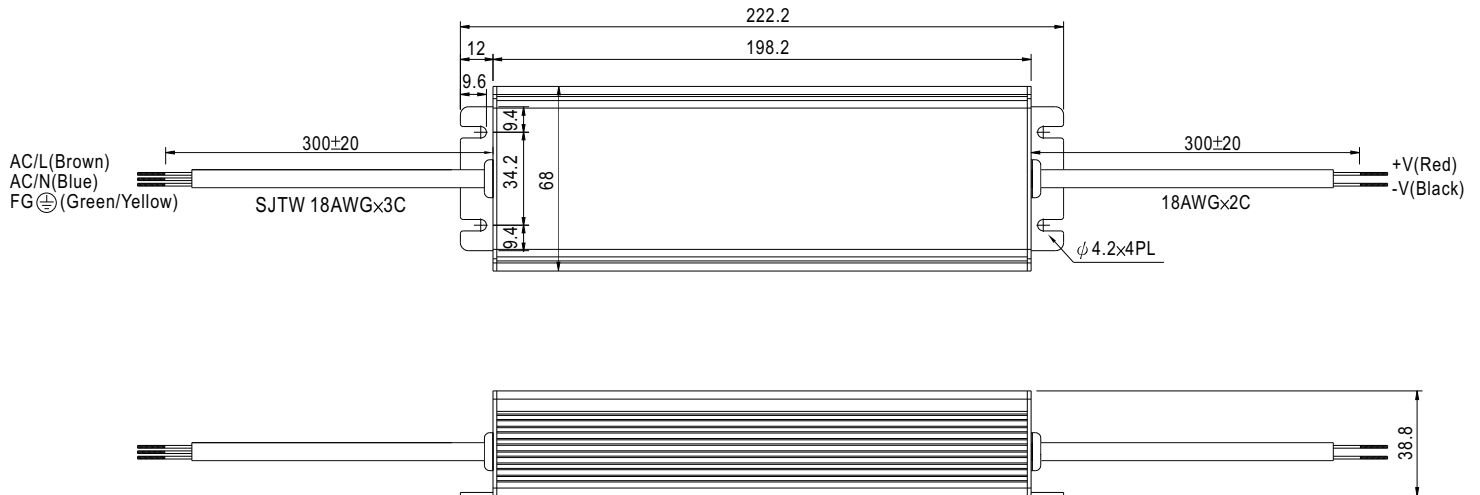


## SPECIFICATION

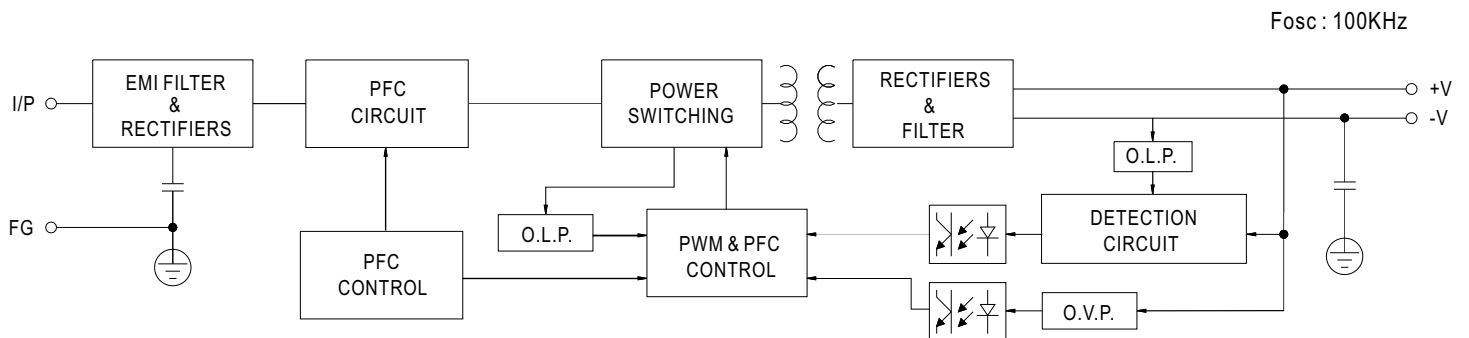
| MODEL        |  | CLG-100-12   | CLG-100-15  | CLG-100-20 | CLG-100-24 | CLG-100-27  | CLG-100-36 | CLG-100-48 |
|--------------|--|--|-------------|------------|------------|-------------|------------|------------|
| OUTPUT       | DC VOLTAGE   | 12V  | 15V         | 20V        | 24V        | 27V         | 36V        | 48V        |
|              | CONSTANT CURRENT REGION <small>Note.7</small>  | 9 ~ 12V  | 11.25 ~ 15V | 15 ~ 20V   | 18 ~ 24V   | 20.25 ~ 27V | 27 ~ 36V   | 36 ~ 48V   |
|              | RATED CURRENT <small>Note.5</small>  | 5A   | 5A          | 4.8A       | 4A         | 3.55A       | 2.65A      | 2A         |
|              | RATED POWER <small>Note.5</small>  | 60W  | 75W         | 96W        | 96W        | 95.85W      | 95.4W      | 96W        |
|              | RIPPLE & NOISE (max.) <small>Note.2</small>  | 150mVp-p   | 150mVp-p    | 150mVp-p   | 150mVp-p   | 150mVp-p    | 150mVp-p   | 200mVp-p   |
|              | VOLTAGE ADJ. RANGE   | Fixed. Can be modified between 0% ~ -15% rated output voltage  |             |            |            |             |            |            |
|              | CURRENT ADJ. RANGE   | Fixed. Can be modified between 3% ~ -25% rated output current  |             |            |            |             |            |            |
|              | VOLTAGE TOLERANCE <small>Note.3</small>  | ±3.0%  | ±3.0%       | ±3.0%      | ±3.0%      | ±3.0%       | ±2.0%      | ±2.0%      |
|              | LINE REGULATION  | ±1.0%  |             |            |            |             |            |            |
|              | LOAD REGULATION  | ±2.0%  |             |            |            |             |            |            |
| INPUT        | SETUP, RISE TIME   | 1200ms, 80ms / 230VAC      1200ms, 80ms / 115VAC at full load  |             |            |            |             |            |            |
|              | HOLD UP TIME (Typ.)  | 60ms / 230VAC      30ms / 115VAC at full load  |             |            |            |             |            |            |
|              | VOLTAGE RANGE <small>Note.4</small>  | 90 ~ 295VAC      127 ~ 417VDC  |             |            |            |             |            |            |
|              | FREQUENCY RANGE  | 47 ~ 63Hz  |             |            |            |             |            |            |
|              | POWER FACTOR   | PF>0.95/230VAC      PF>0.95/115VAC at full load      PF≥0.9 at 75 ~ 100% load  |             |            |            |             |            |            |
|              | EFFICIENCY (Typ.)  | 84.5%  | 86.5%       | 90%        | 90%        | 90%         | 90%        | 89%        |
|              | AC CURRENT   | 12V:0.8A/115VAC    0.4A/230VAC      15V:0.9A/115VAC    0.45A/230VAC      20V ~ 48V:1.1A/115VAC    0.55A/230VAC   |             |            |            |             |            |            |
| PROTECTION   | INRUSH CURRENT(max.)   | COLD START 40A/230VAC  |             |            |            |             |            |            |
|              | LEAKAGE CURRENT  | <0.75mA / 240VAC   |             |            |            |             |            |            |
|              | OVER CURRENT (Typ.)  | 95 ~ 102%  |             |            |            |             |            |            |
|              | SHORT CIRCUIT  | Protection type : Constant current limiting, recovers automatically after fault condition is removed   |             |            |            |             |            |            |
|              | OVER VOLTAGE   | Hiccup mode, recovers automatically after fault condition is removed   |             |            |            |             |            |            |
| ENVIRONMENT  | OVER TEMPERATURE   | 90℃ ±10℃ (RTH2)  |             |            |            |             |            |            |
|              | WORKING TEMP.  | Protection type : Shut down o/p voltage, re-power on to recover  |             |            |            |             |            |            |
|              | WORKING HUMIDITY   | 90℃ ±10℃ (RTH2)  |             |            |            |             |            |            |
|              | STORAGE TEMP., HUMIDITY  | Protection type : Shut down o/p voltage, re-power on to recover  |             |            |            |             |            |            |
|              | TEMP. COEFFICIENT  | -30 ~ +70℃ (Refer to output load derating curve)   |             |            |            |             |            |            |
| SAFETY & EMC | VIBRATION  | 20 ~ 95% RH non-condensing   |             |            |            |             |            |            |
|              | SAFETY STANDARDS <small>Note.8</small>   | -40 ~ +80℃, 10 ~ 95% RH  |             |            |            |             |            |            |
|              | WITHSTAND VOLTAGE  | ±0.03%/℃ (0 ~ 50℃)   |             |            |            |             |            |            |
|              | ISOLATION RESISTANCE   | 10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes  |             |            |            |             |            |            |
|              | EMI CONDUCTION & RADIATION   | UL879, UL8750, UL1310 Class 2, UL60950-1, TUV EN60950-1, EN61347-1, EN61347-2-13 independent<br>CAN/CSA C22.2 No. 223-M91(except for 48V), IP67 approved |             |            |            |             |            |            |
|              | HARMONIC CURRENT   | I/P-O/P:3.75KVAC    I/P-FG:1.88KVAC    O/P-FG:0.5KVAC  |             |            |            |             |            |            |
|              | EMS IMMUNITY   | I/P-O/P:100M Ohms / 500VDC / 25℃ / 70% RH  |             |            |            |             |            |            |
| OTHERS       | MTBF   | Compliance to EN55015, EN55022 (CISPR22) Class B   |             |            |            |             |            |            |
|              | DIMENSION  | Compliance to EN61000-3-2 Class C (≥75% load) ; EN61000-3-3  |             |            |            |             |            |            |
|              | PACKING  | Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN61547, EN55024, light industry level (surge 4KV), criteria A   |             |            |            |             |            |            |
| NOTE         | <div>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.</div> <div>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.</div> <div>3. Tolerance : includes set up tolerance, line regulation and load regulation.</div> <div>4. Derating may be needed under low input voltages. Please check the static characteristics for more details.</div> <div>5. This is the maximum possible output current and power, over load protection may be activated slightly below this level to comply with the requirement of UL1310 class 2.</div> <div>6. 3 years warranty is guaranteed for operating ambient temperature no higher than 68℃.</div> <div>7. 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.</div> <div>8. Safety and EMC design refer to EN60598-1, subject 8750(UL), CNS15233, GB7000.1, FCC part18.</div> <div>9. 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.</div> |  |             |            |            |             |            |            |

## Mechanical Specification

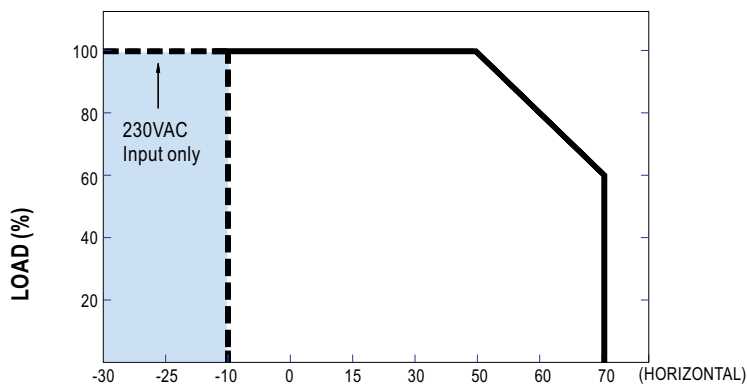
Case No. 954A Unit:mm



## Block Diagram



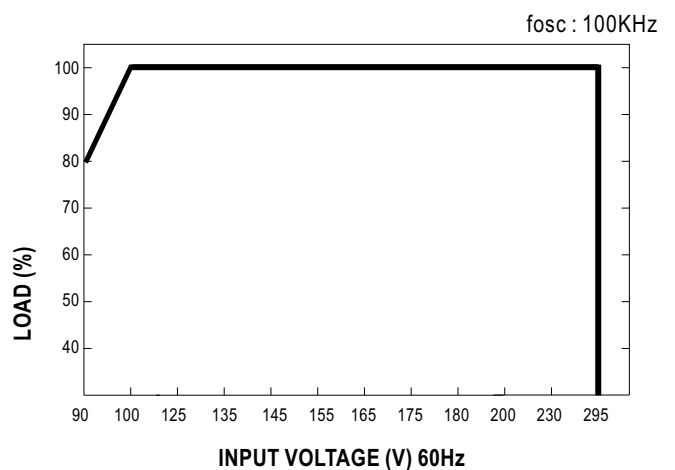
## Derating Curve



AMBIENT TEMPERATURE (°C)

※-30°C start up possible for 230VAC input

## Static Characteristics

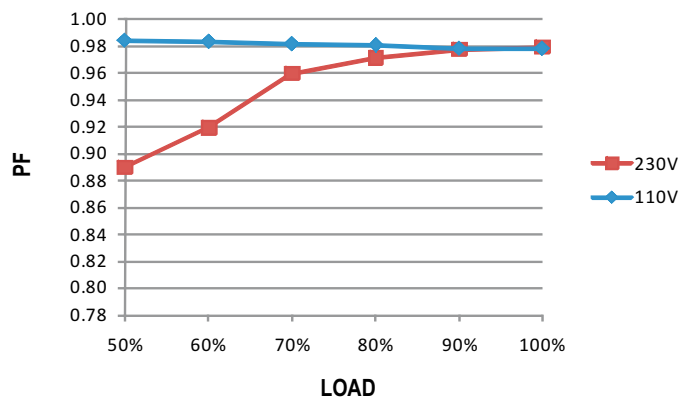


INPUT VOLTAGE (V) 60Hz

### Power Factor Characteristic

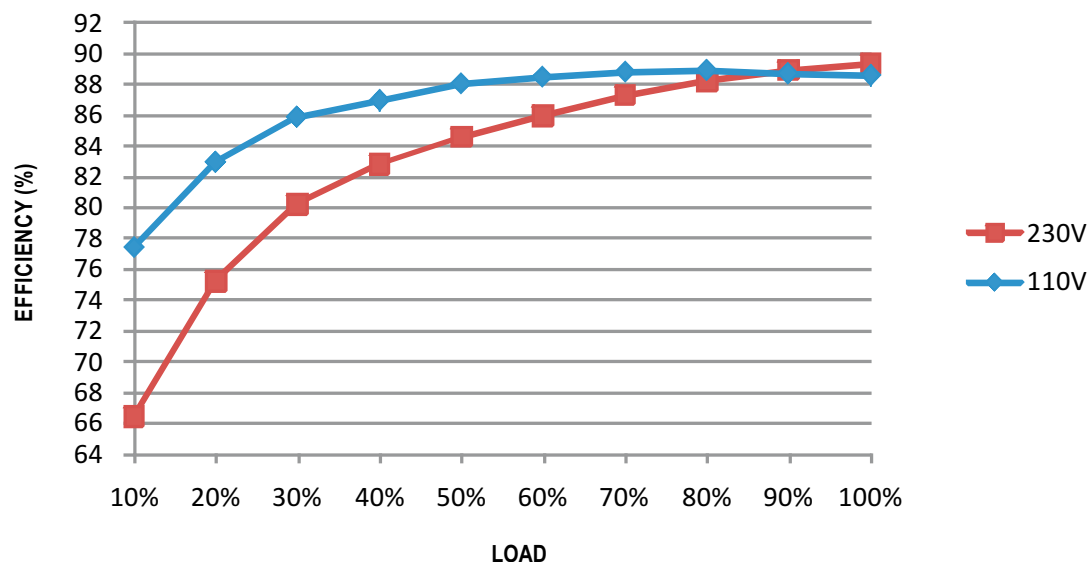
Power factor will be higher than 0.9 when output loading is 75% or higher.

#### Constant Current Mode



### EFFICIENCY vs LOAD (48V Model)

CLG-100 series possess superior working efficiency that up to 89% can be reached in field applications.

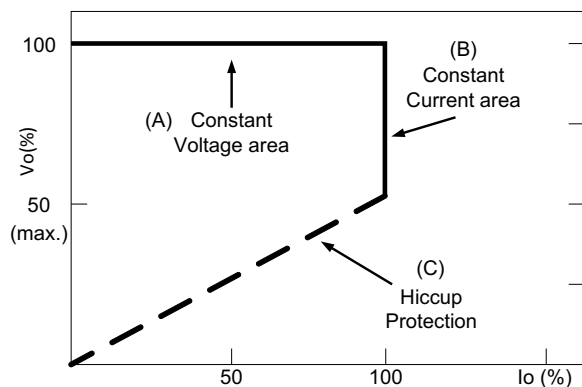


### DRIVING METHODS OF LED MODULE

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