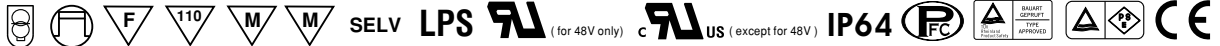




■ Features :

- Universal AC input / Full range (up to 295VAC)
- High efficiency up to 88.5%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- Built-in active PFC function
- IP64 design for indoor or outdoor installations
- Pass LPS
- Class 2 power unit
- 100% full load burn-in test
- High reliability
- Suitable for LED lighting and moving sign applications
- Suitable for dry / damp locations
- Compliance to worldwide safety regulations for lighting
- 2 years warranty



**SPECIFICATION**

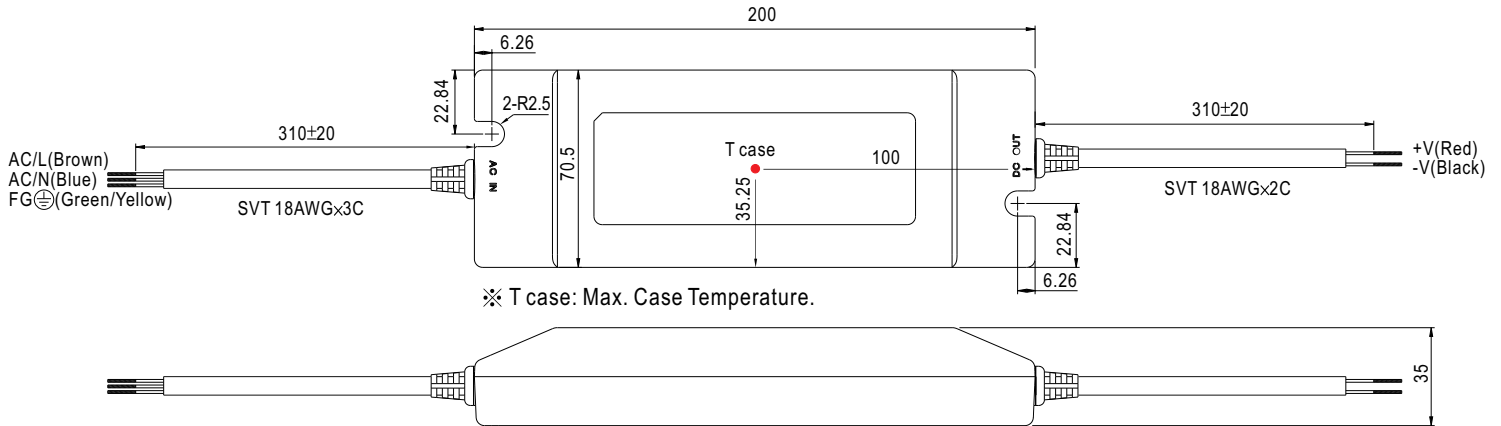
| MODEL               | PLN-100-12   | PLN-100-15   | PLN-100-20  | PLN-100-24  | PLN-100-27 | PLN-100-36                   | PLN-100-48 |              |
|---------------------|--|--|-------------|-------------|------------|------------------------------|------------|--------------|
| OUTPUT              | DC VOLTAGE   | 12V  | 15V         | 20V         | 24V        | 27V                          | 36V        | 48V          |
|                     | CONSTANT CURRENT REGION <small>Note.6</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 (SVR1)                            | 10.2 ~ 12V   | 12.8 ~ 15V  | 17 ~ 20V    | 20.4 ~ 24V | 23 ~ 27V                     | 30.6 ~ 36V | 40.8 ~ 48V   |
|                     | CURRENT ADJ. RANGE (SVR2)                            | 3.75 ~ 5A  | 3.75 ~ 5A   | 3.6 ~ 4.8A  | 3 ~ 4A     | 2.6 ~ 3.55A                  | 2 ~ 2.65A  | 1.5 ~ 2A     |
|                     | 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%  |             |             |            |                              |            |              |
| SETUP, RISE TIME    | 1200ms, 80ms/230VAC 1200ms, 80ms/115VAC at full load |  |             |             |            |                              |            |              |
| HOLD UP TIME (Typ.) | 60ms/230VAC 30ms/115VAC at full load                 |  |             |             |            |                              |            |              |
| INPUT               | VOLTAGE RANGE <small>Note.4</small>                  | 90 ~ 295VAC 127 ~ 417VDC   |             |             |            |                              |            |              |
|                     | FREQUENCY RANGE                                      | 47 ~ 63Hz  |             |             |            |                              |            |              |
|                     | POWER FACTOR (Typ.)                                  | PF>0.95/115VAC, PF>0.95/230VAC, PF>0.92/277VAC at full load (Please refer to "Power Factor Characteristic" curve)  |             |             |            |                              |            |              |
|                     | EFFICIENCY (Typ.)                                    | 83%  | 85%         | 88.5%       | 88.5%      | 88%                          | 88%        | 88.5%        |
|                     | AC CURRENT (Typ.)                                    | 12V:0.8A/115VAC 0.4A/230VAC  |             | 0.3A/277VAC |            | 15V:0.9A/115VAC 0.45A/230VAC |            | 0.35A/277VAC |
|                     | INRUSH CURRENT (Typ.)                                | COLD START 40A/230VAC  |             |             |            |                              |            |              |
| LEAKAGE CURRENT     | <0.75mA / 240VAC                                     |  |             |             |            |                              |            |              |
| PROTECTION          | OVER CURRENT   | 95 ~ 102%<br>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 ~ 16V   | 16.5 ~ 20V  | 22 ~ 27V    | 27 ~ 34V   | 30 ~ 36V                     | 39 ~ 48V   | 52 ~ 64V     |
|                     | OVER TEMPERATURE                                     | 90°C ±10°C (RTH2)<br>Protection type : Shut down o/p voltage, re-power on to recover   |             |             |            |                              |            |              |
| ENVIRONMENT         | WORKING TEMP.  | -30 ~ +50°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, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes  |             |             |            |                              |            |              |
| SAFETY & EMC        | SAFETY STANDARDS <small>Note.7</small>               | UL879, UL1310, UL8750, CSA C22.2 No. 207-M89(except for 48V), TUV EN61347-1, EN61347-2-13 independent, TUV EN60950-1, CAN/CSA C22.2 No. 223-M91(except for 48V), CSA C22.2 No. 250.0-08(except for 48V), IP64, J61347-1, J61347-2-13 approved; design refer to UL60950-1 |             |             |            |                              |            |              |
|                     | WITHSTAND VOLTAGE                                    | I/P-O/P:3.75KVAC I/P-FG:1.88KVAC O/P-FG:0.5KVAC  |             |             |            |                              |            |              |
|                     | ISOLATION RESISTANCE                                 | I/P-O/P: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   | 303.1Khrs min. MIL-HDBK-217F (25°C)  |             |             |            |                              |            |              |
|                     | DIMENSION  | 200*70.5*35mm (L*W*H)  |             |             |            |                              |            |              |
|                     | PACKING  | 0.52Kg; 20pcs/12.5Kg/0.76CUFT  |             |             |            |                              |            |              |

**NOTE**

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Derating may be needed under low input voltage. Please check the static characteristics for more details.
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.
6. 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.
7. Safety and EMC design refer to EN60598-1, subject 8750(UL), CNS15233, GB7000.1, FCC part18.
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.

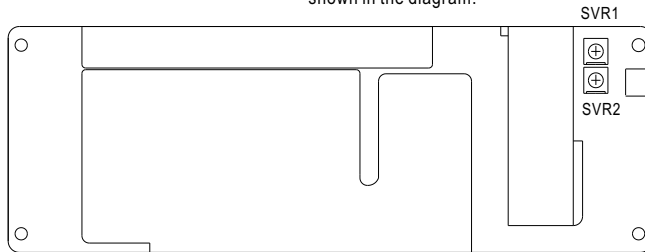
**Mechanical Specification**

Case No.955A Unit:mm



※ T case: Max. Case Temperature.

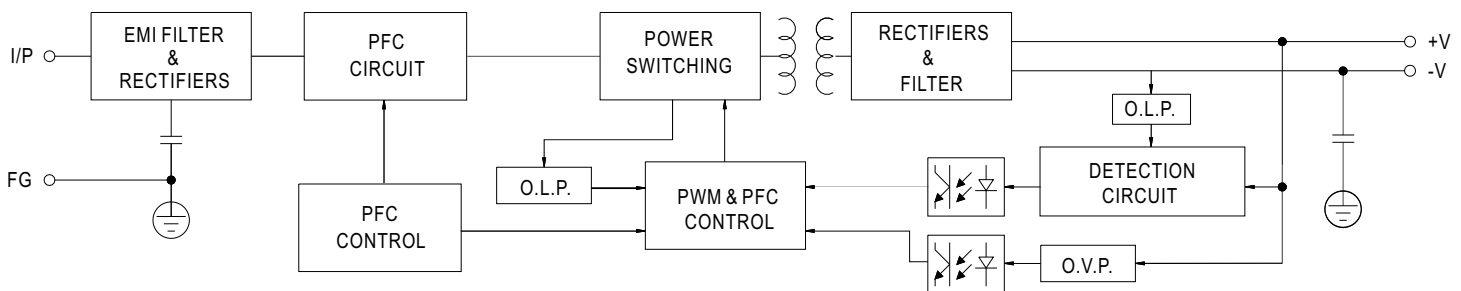
Output voltage and current adjustment : remove the upper case and adjust through SVR1 & SVR2 shown in the diagram.



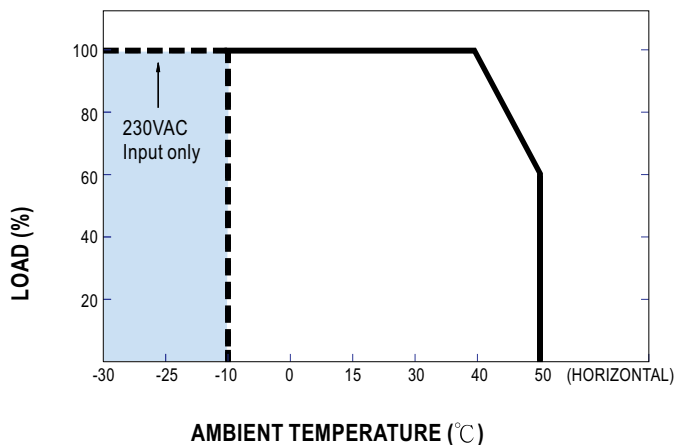
|      |                           |
|------|---------------------------|
| SVR1 | Output voltage adjustment |
| SVR2 | Output current adjustment |

**Block Diagram**

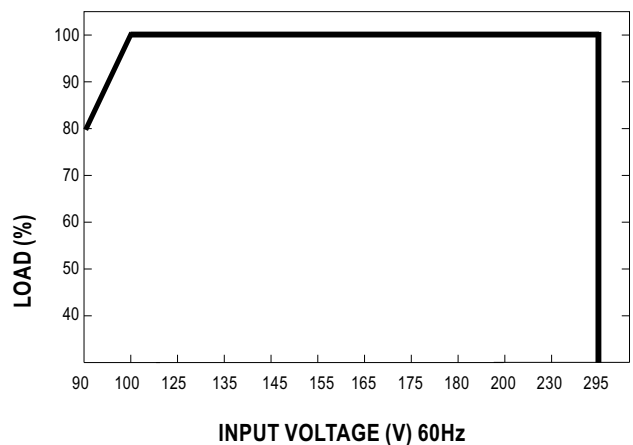
Fosc : 100KHz



**Derating Curve**

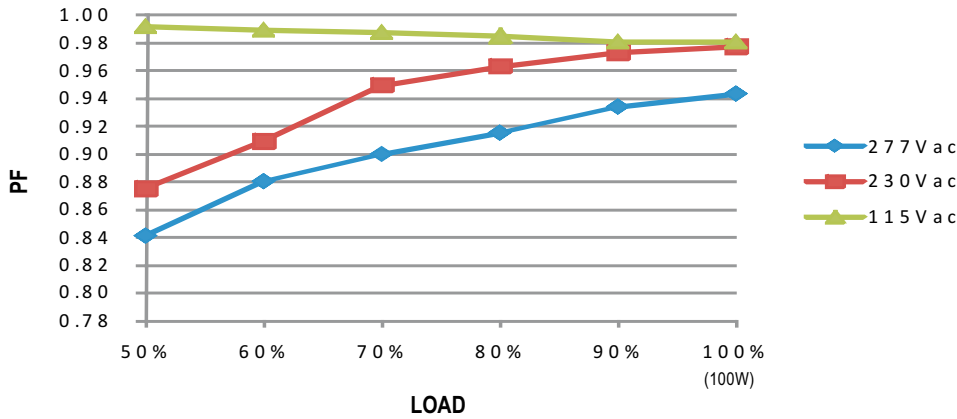


**Static Characteristics**



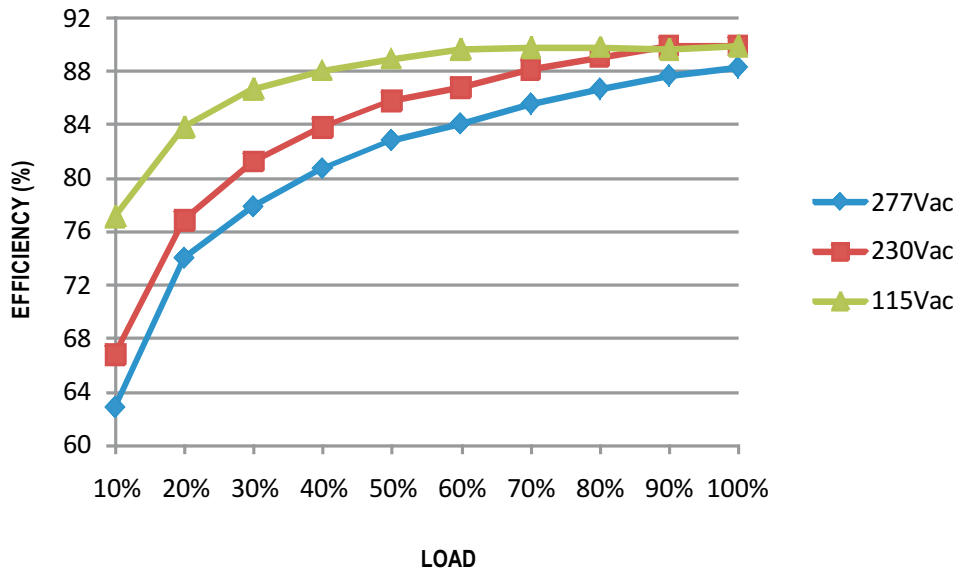
**Power Factor Characteristic**

**Constant Current Mode**



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

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

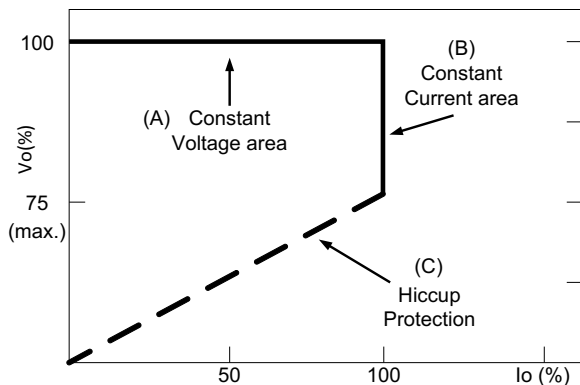


**DRIVING METHODS OF LED MODULE**

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