



■ Features :

- Universal AC input / Full range(up to 277VAC)
- Built-in constant current limiting circuit with adjustable OCP level
- Fully isolated plastic case
- Protections:Short circuit/Over load/Over voltage/Over temperature
- Built-in active PFC function
- IP64 design for indoor or outdoor installations
- Small and compact size
- Cooling by free air convection
- 100% full load burn-in test
- High reliability,low cost
- Suitable for Damp / wet locations
- Suitable for LED lighting and moving sign applications
- 2 years warranty



SPECIFICATION

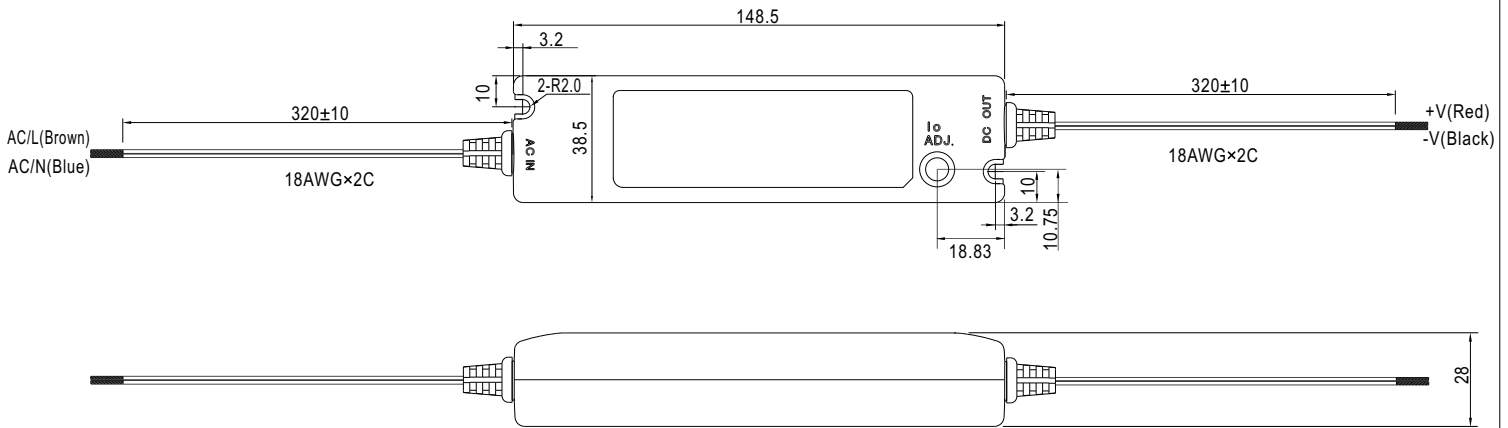
| MODEL        |  | PLN-20-12   | PLN-20-18  | PLN-20-24 | PLN-20-36 | PLN-20-48 |
|--------------|--|---|------------|-----------|-----------|-----------|
| OUTPUT       | DC VOLTAGE                                   | 12V   | 18V        | 24V       | 36V       | 48V       |
|              | LED OPERATION VOLTAGE Note.5                 | 9 ~ 12V   | 13.5 ~ 18V | 18 ~ 24V  | 27 ~ 36V  | 36 ~ 48V  |
|              | RATED CURRENT                                | 1.6A  | 1.1A       | 0.8A      | 0.55A     | 0.42A     |
|              | CURRENT RANGE                                | 0 ~ 1.6A  | 0 ~ 1.1A   | 0 ~ 0.8A  | 0 ~ 0.55A | 0 ~ 0.42A |
|              | CURRENT ADJ. RANGE                           | 75% ~ 100%  |            |           |           |           |
|              | RATED POWER                                  | 19.2W   | 19.8W      | 19.2W     | 19.8W     | 20.2W     |
|              | RIPPLE & NOISE (max.) Note.2                 | 2.5Vp-p   | 3.0Vp-p    | 3.0Vp-p   | 3.0Vp-p   | 3.8Vp-p   |
|              | VOLTAGE TOLERANCE Note.3                     | ±10%  |            |           |           |           |
|              | LINE REGULATION                              | ±3.0%   |            |           |           |           |
|              | LOAD REGULATION                              | ±10%  |            |           |           |           |
| SETUP TIME   | 2300ms / 230VAC 3000ms / 115VAC at full load |   |            |           |           |           |
| INPUT        | VOLTAGE RANGE Note.4                         | 90 ~ 277VAC 127~392VDC  |            |           |           |           |
|              | FREQUENCY RANGE                              | 47 ~ 63Hz   |            |           |           |           |
|              | POWER FACTOR                                 | PF ≧ 0.9 at 75~100% load, 115VAC/230VAC   |            |           |           |           |
|              | EFFICIENCY(Typ.)                             | 80%   | 81%        | 82%       | 83%       | 83.5%     |
|              | AC CURRENT                                   | 0.4A/115VAC 0.2A/230VAC   |            |           |           |           |
|              | INRUSH CURRENT(max.)                         | 40A/230VAC  |            |           |           |           |
|              | LEAKAGE CURRENT                              | 0.5mA / 240VAC  |            |           |           |           |
| PROTECTION   | OVER CURRENT Note.5                          | 95 ~ 110%<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                                 | 14 ~ 16V  | 19 ~ 22V   | 27 ~ 34V  | 41 ~ 46V  | 54 ~ 60V  |
|              | OVER TEMPERATURE                             | 110°C±10°C (TSW1)<br>Protection type : Shut down o/p voltage, recovers automatically after temperature goes down  |            |           |           |           |
| ENVIRONMENT  | WORKING TEMP.                                | -30 ~ +60°C (Refer to output load derating curve)   |            |           |           |           |
|              | WORKING HUMIDITY                             | 20 ~ 90% RH non-condensing  |            |           |           |           |
|              | STORAGE TEMP., HUMIDITY                      | -40 ~ +80°C, 10 ~ 95% RH  |            |           |           |           |
|              | TEMP. COEFFICIENT                            | ±0.06%/°C (0 ~ 50°C)  |            |           |           |           |
|              | VIBRATION                                    | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes   |            |           |           |           |
| SAFETY & EMC | SAFETY STANDARDS                             | IEC61347-1, IEC61347-2-13, TUV EN61347-1, EN61347-2-13, UL8750, IP64 approved                                     |            |           |           |           |
|              | WITHSTAND VOLTAGE                            | I/P-O/P:3.75KVAC  |            |           |           |           |
|              | ISOLATION RESISTANCE                         | I/P-O/P:100M Ohms/500VDC / 25°C/ 70%RH  |            |           |           |           |
|              | EMI CONDUCTION & RADIATION                   | Compliance to EN55015   |            |           |           |           |
|              | HARMONIC CURRENT                             | Compliance to EN61000-3-2 Class C (≧ 75% load);EN61000-3-3  |            |           |           |           |
| OTHERS       | EMS IMMUNITY                                 | Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547, light industry level, criteria A                                  |            |           |           |           |
|              | MTBF   | 643.6Khrs min. MIL-HDBK-217F (25°C)   |            |           |           |           |
|              | DIMENSION                                    | 148.5*38.5*28mm (L*W*H)   |            |           |           |           |
|              | PACKING                                      | 0.18Kg; 60pcs/12.8Kg/0.9CUFT  |            |           |           |           |

NOTE

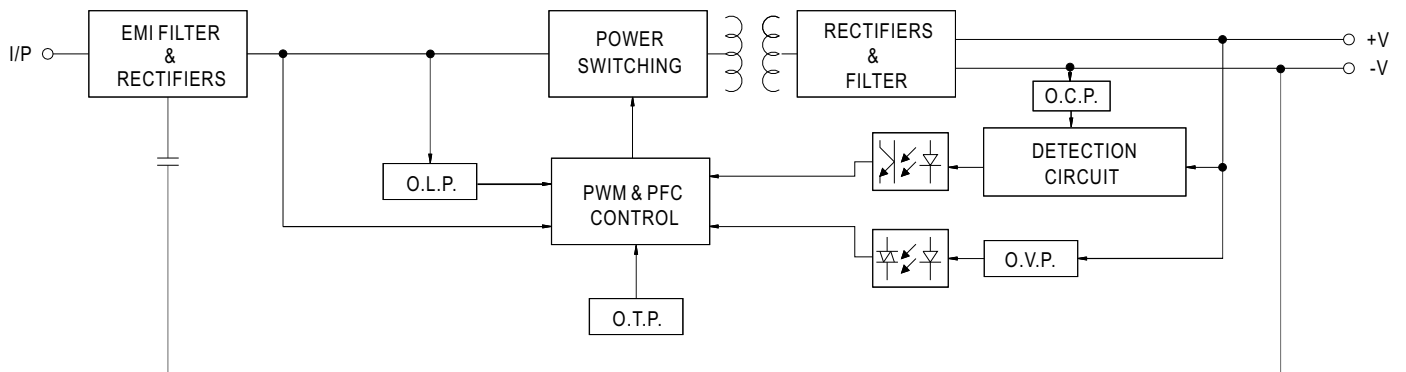
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Derating may be needed under low input voltage, please check the static characteristic for more details.
5. 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.
6. 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**

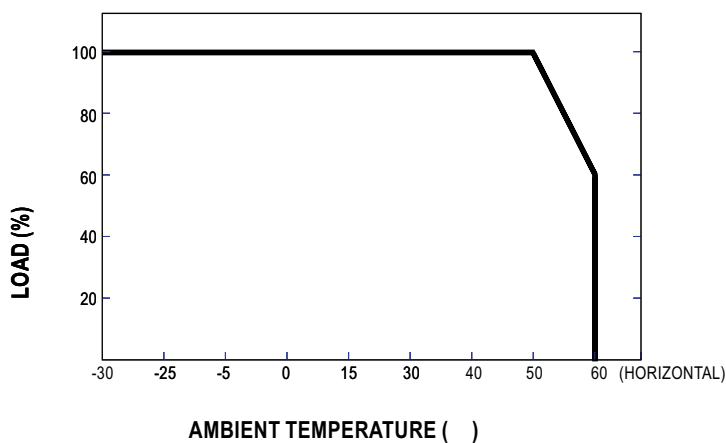
Case No.989B Unit:mm



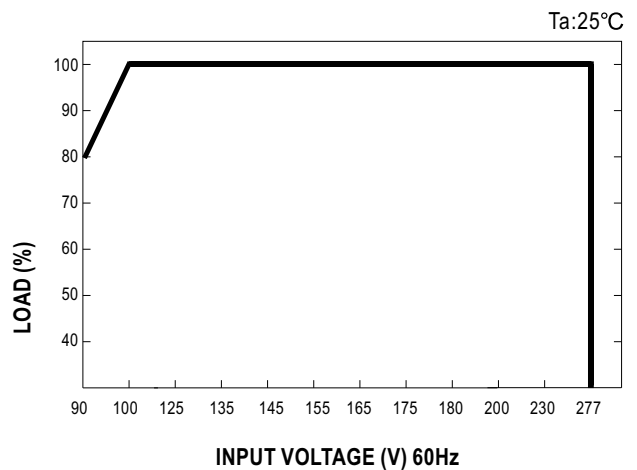
**Block Diagram**



**Derating Curve**



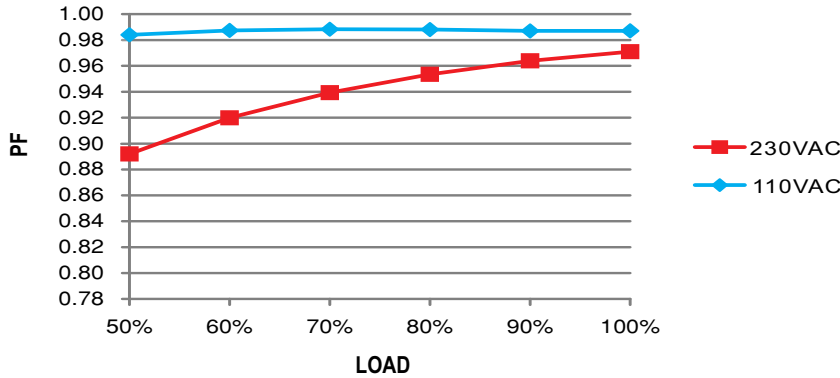
**Static Characteristics**



**Power Factor Characteristic**

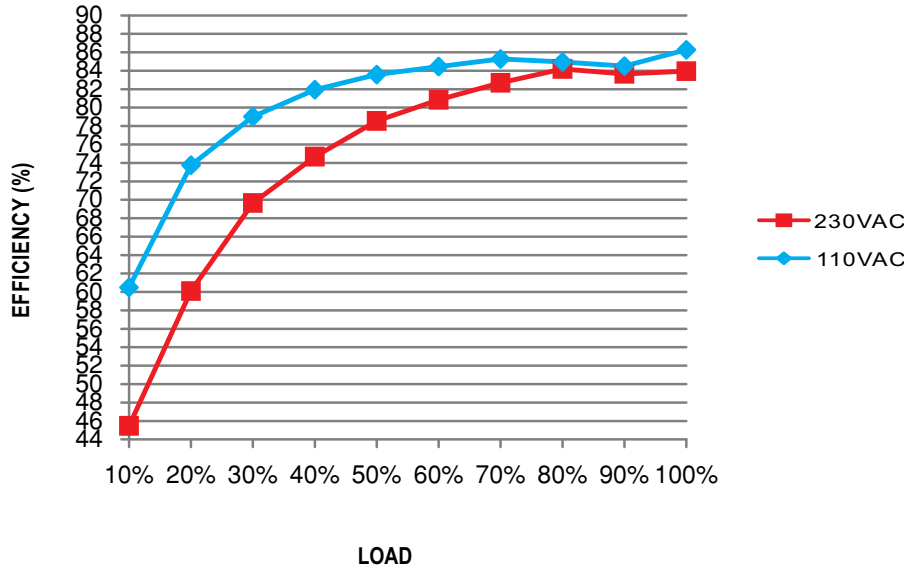
Power factor will be higher than 0.9 when output loading is 75% or higher.

**Constant Current Mode**



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

PLN-20 series possess superior working efficiency that up to 83.5% can be reached in field applications.

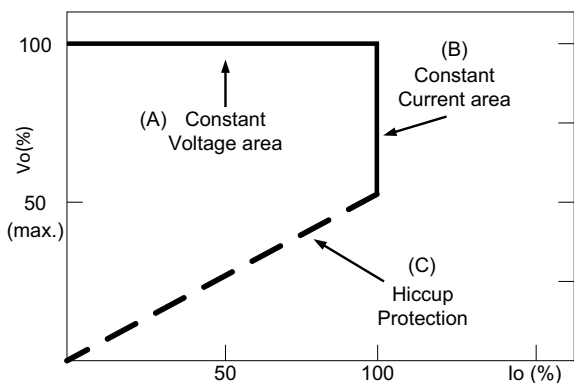


**DRIVING METHODS OF LED MODULE**

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