



■ Features :

- Universal AC input / Full range(up to 277VAC)
- Protections:Short circuit/Over current/Over voltage/Over temperature
- Cooling by free air convection
- Built-in constant current limiting circuit with adjustable OCP level
- Fully isolated plastic case
- Built-in active PFC function
- IP64 design for indoor or outdoor installations
- Small and compact size
- Class II power unit, no FG
- 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

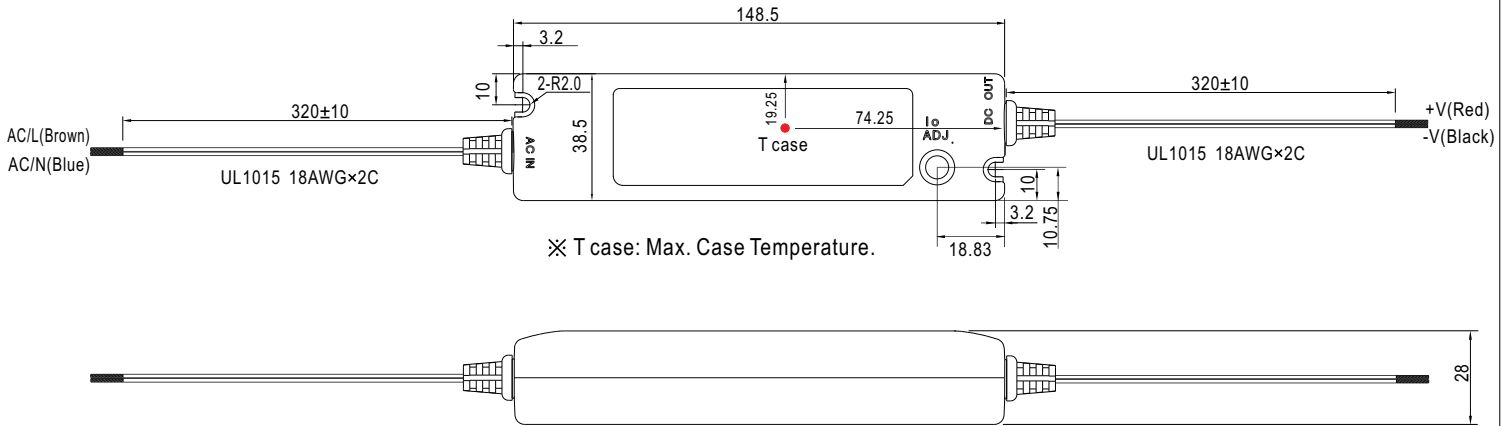
SPECIFICATION



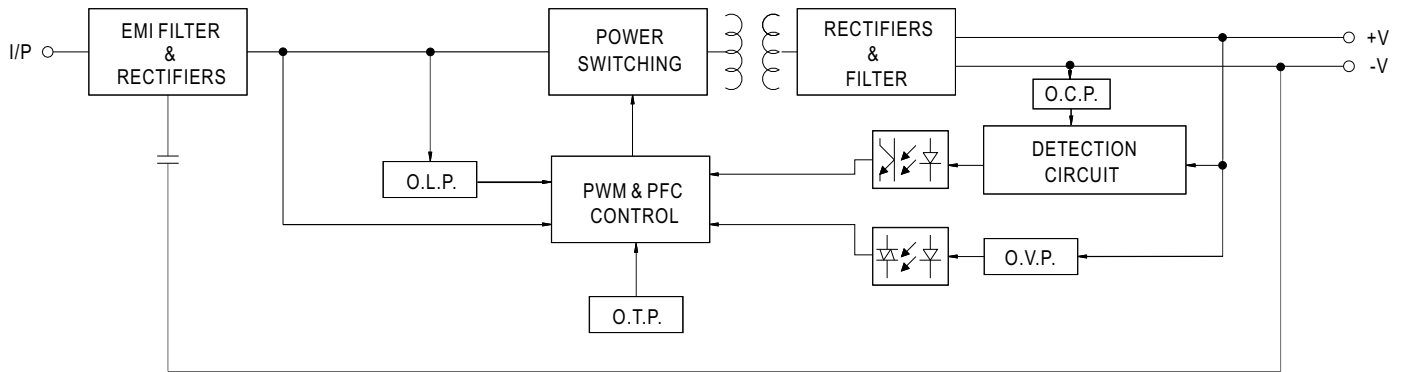
| MODEL | | PLN-20-12 | PLN-20-18 | PLN-20-24 | PLN-20-36 | PLN-20-48 |
|--------------|--|--|-------------|--------------|-----------|-----------|
| OUTPUT | DC VOLTAGE | 12V | 18V | 24V | 36V | 48V |
| | LED OPERATION VOLTAGE Note.5 | 9 ~ 12V | 13.5 ~ 18V | 18 ~ 24V | 27 ~ 36V | 36 ~ 48V |
| | RATED 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;PF≧0.9 at 85~100% load 277VAC (Please refer to "Power Factor Characteristic" curve) | | | | |
| | EFFICIENCY(Typ.) | 80% | 81% | 82% | 83% | 83.5% |
| | AC CURRENT | 0.4A/115VAC | 0.2A/230VAC | 0.15A/277VAC | | |
| | INRUSH CURRENT(max.) | 40A/230VAC | | | | |
| | LEAKAGE CURRENT | 0.5mA / 240VAC | | | | |
| PROTECTION | OVER CURRENT Note.5 | 95 ~ 110% 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) | | | | |
| | | Protection type : Shut down o/p voltage, recovers automatically after temperature goes down | | | | |
| ENVIRONMENT | WORKING TEMP. | -30 ~ +60°C (Refer to "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,CSA C22.2 No. 250.0-08,J61347-1, J61347-2-13, IP64 approved | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:3.75KVAC | | | | |
| | ISOLATION RESISTANCE | I/P-O/P:100M Ohms/500VDC / 25°C/ 70%RH | | | | |
| | EMC EMISSION | Compliance to EN55015,EN61000-3-2 Class C(≧75% load);EN61000-3-3 | | | | |
| | EMC IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547, light industry level, criteria A | | | | |
| OTHERS | 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 | <ol style="list-style-type: none"> 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. 7. Direct connecting to LEDs is suggested, but is not suitable for using additional drivers. | | | | | |

Mechanical Specification

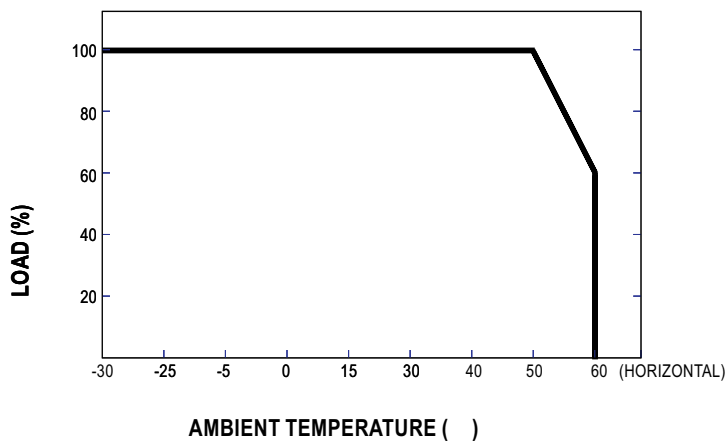
Case No.989B Unit:mm



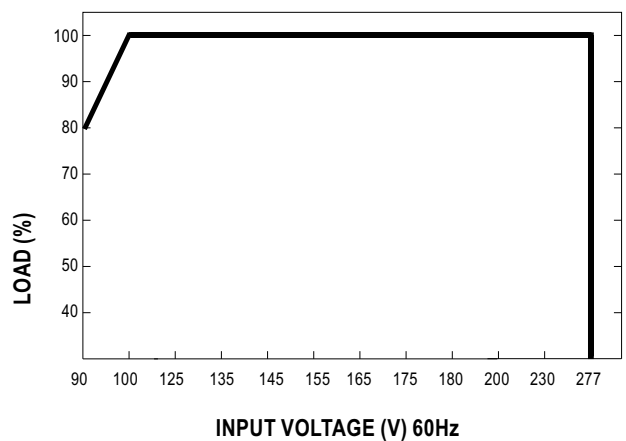
Block Diagram



Derating Curve



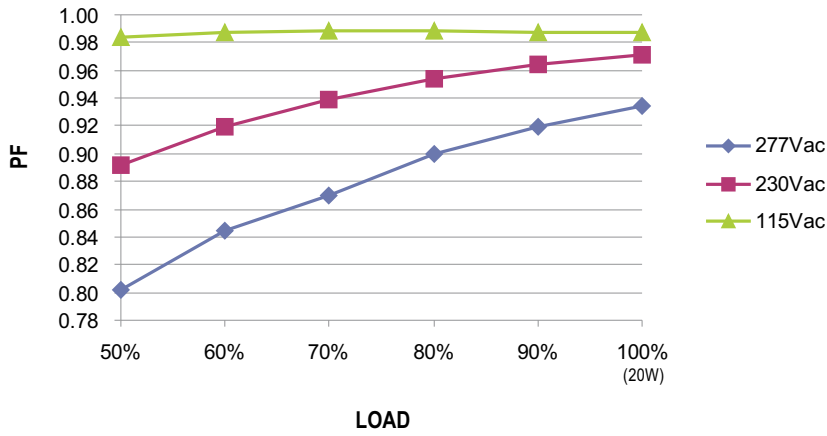
Static Characteristics



Power Factor Characteristic

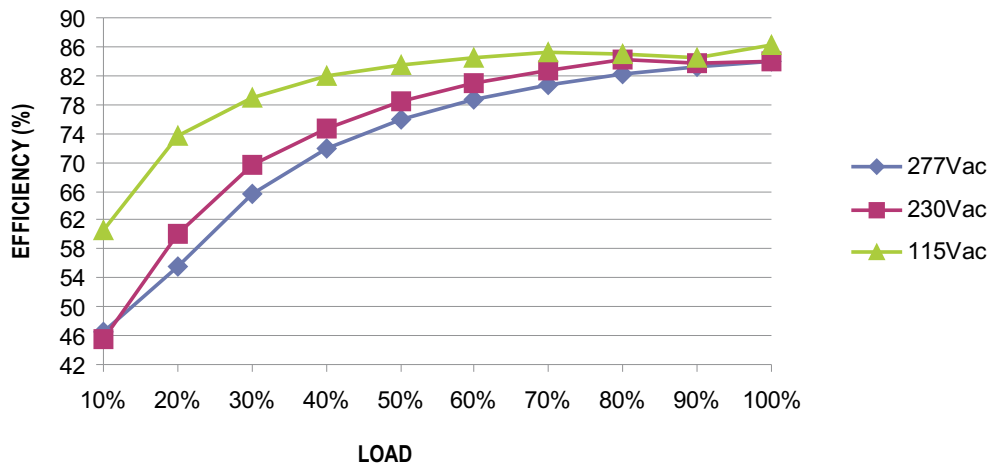
Power factor will be higher than 0.9 when output loading is 75% or higher.

Constant Current Mode



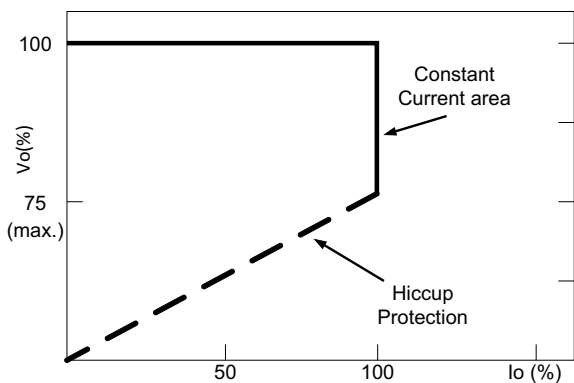
EFFICIENCY vs LOAD (48V Model)

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



DRIVING METHODS OF LED MODULE

This LED power supply is suggested to work in constant current mode area (CC) to drive the LEDs.



Typical LED power supply I-V curve