



■ 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 Dry / Damp locations
- Suitable for LED lighting and moving sign applications
- 2 years warranty

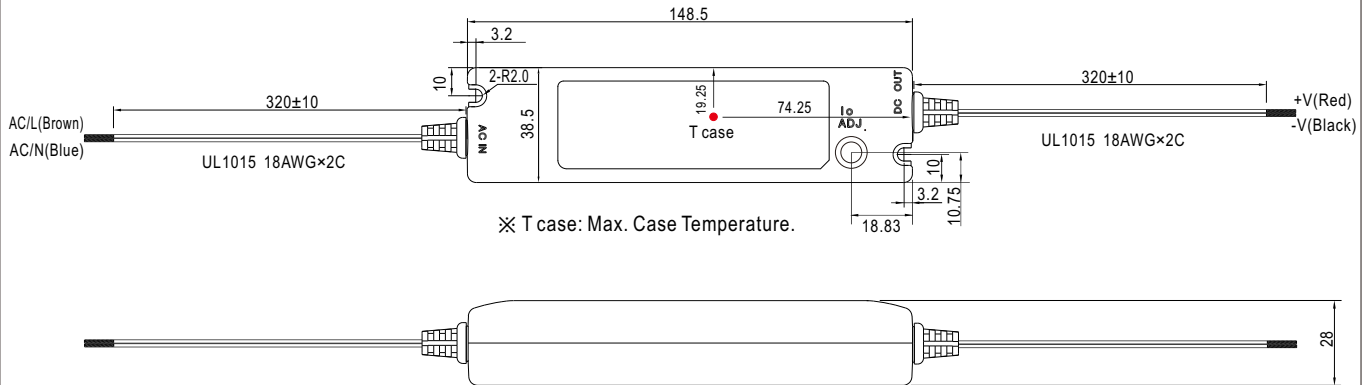
**SPECIFICATION**



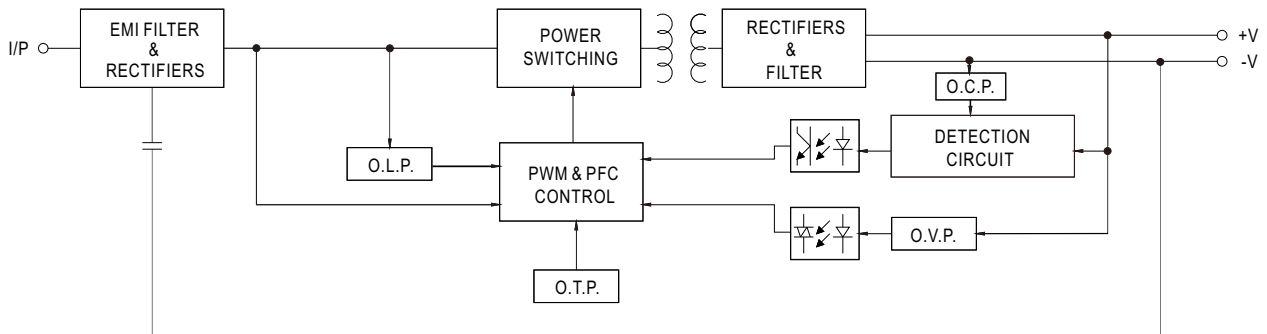
| MODEL        |   | PLN-20-12  | PLN-20-18  | PLN-20-24 | PLN-20-36 | PLN-20-48 |
|--------------|---|--|------------|-----------|-----------|-----------|
| OUTPUT       | DC VOLTAGE                              | 12V  | 18V        | 24V       | 36V       | 48V       |
|              | CONSTANT CURRENT REGION 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                              | 500ms / 230VAC 2000ms / 115VAC at full load  |            |           |           |           |
| INPUT        | VOLTAGE RANGE Note.4                    | 90 ~ 277VAC 127~392VDC   |            |           |           |           |
|              | FREQUENCY RANGE                         | 47 ~ 63Hz  |            |           |           |           |
|              | POWER FACTOR                            | PF ≥ 0.95/115VAC, PF > 0.9/230VAC, PF > 0.9/277VAC at full load (Please refer to "Power Factor Characteristic" curve)  |            |           |           |           |
|              | TOTAL HARMONIC DISTORTION               | THD < 20% when output loading ≥ 75% at 115VAC/230VAC input and output loading ≥ 75% at 277VAC input  |            |           |           |           |
|              | EFFICIENCY(Typ.)                        | 80%  | 81%        | 82%       | 83%       | 83.5%     |
|              | AC CURRENT                              | 0.4A/115VAC 0.2A/230VAC 0.15A/277VAC   |            |           |           |           |
|              | INRUSH CURRENT(Typ.)                    | COLD START 35A(twidth=40μs measured at 50% Ipeak) at 230VAC  |            |           |           |           |
|              | MAX. No. of PSUs on 16A CIRCUIT BREAKER | 98 units (circuit breaker of type B) / 98 units (circuit breaker of type C) at 230VAC  |            |           |           |           |
| PROTECTION   | LEAKAGE CURRENT                         | 0.5mA / 240VAC   |            |           |           |           |
|              | 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  |
|              |   | Protection type : Shut off o/p voltage, clamping by zener diode  |            |           |           |           |
| ENVIRONMENT  | OVER TEMPERATURE                        | Shut down o/p voltage, recovers automatically after temperature goes down  |            |           |           |           |
|              | 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)   |            |           |           |           |
| SAFETY & EMC | VIBRATION                               | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes  |            |           |           |           |
|              | 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, EAC TP TC 004, GB19510.1, GB19510.14, 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, GB17743 and GB17625.1, EAC TP TC 020   |            |           |           |           |
| OTHERS       | EMC IMMUNITY                            | Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11; EN61547, light industry level, criteria A, EAC TP TC 020   |            |           |           |           |
|              | MTBF                                    | 643.6Khrs min. MIL-HDBK-217F (25°C)  |            |           |           |           |
|              | DIMENSION                               | 148.5*38.5*28mm (L*W*H)  |            |           |           |           |
| NOTE         | PACKING                                 | 0.18Kg; 60pcs/12.8Kg/0.9CUFT   |            |           |           |           |
|              |   | <p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>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.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Derating may be needed under low input voltage, please check the static characteristic for more details.</p> <p>5. Please refer to "DRIVING METHODS OF LED MODULE".</p> <p>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-quality EMC Directive on the complete installation again.</p> <p>7. Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.</p> <p>8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains.</p> <p>9. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</p> |            |           |           |           |

■ Mechanical Specification

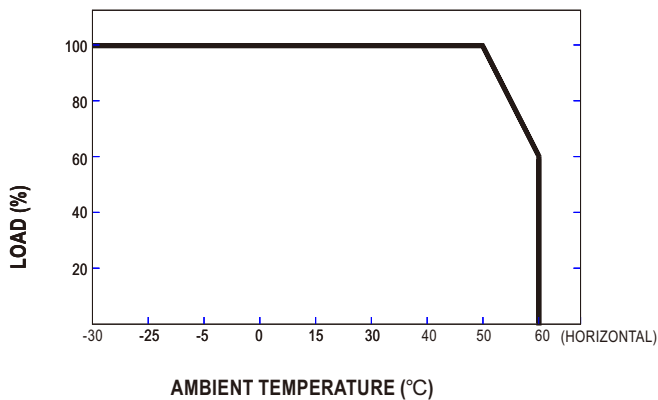
Case No.989B Unit:mm



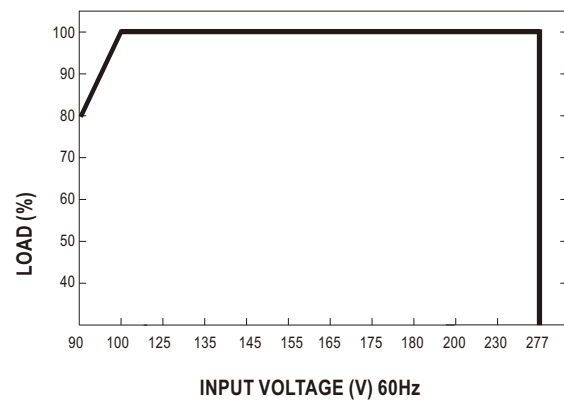
■ Block Diagram



■ Derating Curve



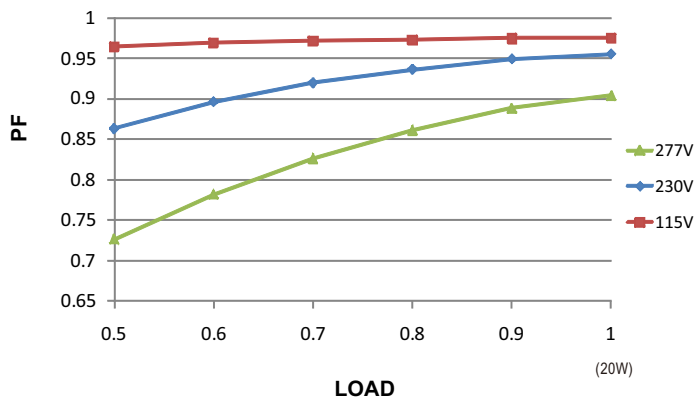
■ Static Characteristics



### Power Factor Characteristic

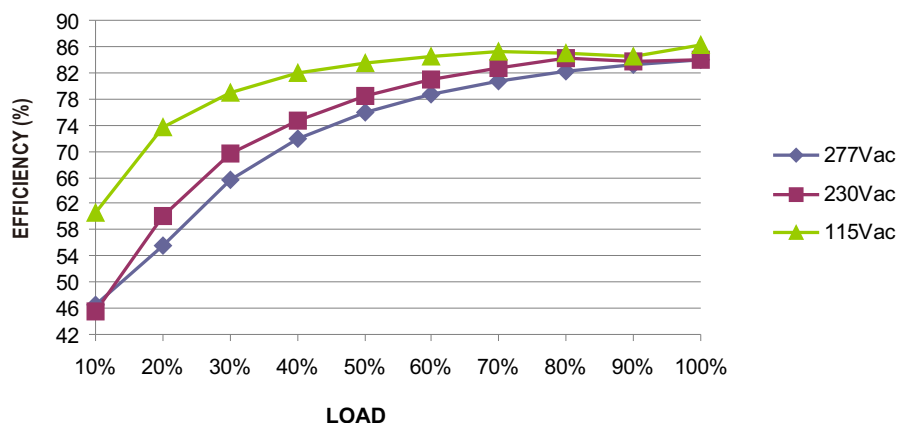
Power factor will be higher than 0.9 when output loading is 75% or higher.

#### Constant Current Mode



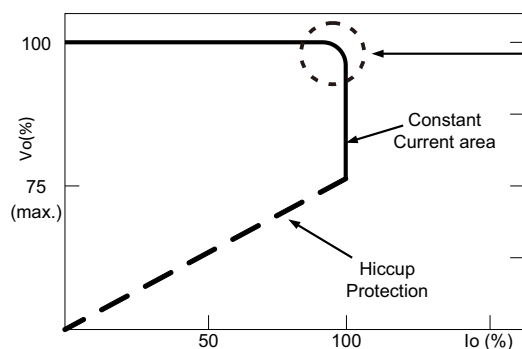
### EFFICIENCY vs LOAD (48V Model)

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

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.  
Should there be any compatibility issues, please contact MEAN WELL.