# 12W Single Output LED Power Supply — PLM-12 series

■ Features :

- Universal AC input / Full range(up to 295VAC)
- Protections:Short circuit
- Cooling by free air convection
- Fully isolated plastic case
- Built-in active PFC function
- Small and compact size
- Class Ⅱ power unit, no FG
- 100% full load burn-in test
- No load power consumption <0.5W
- High reliability,low cost
- Suitable for LED lighting and moving sign applications
- 2 years warranty

SELV IP30 (for PLM-12-350) (for PLM-12-500/700/1050)

## SPECIFICATION

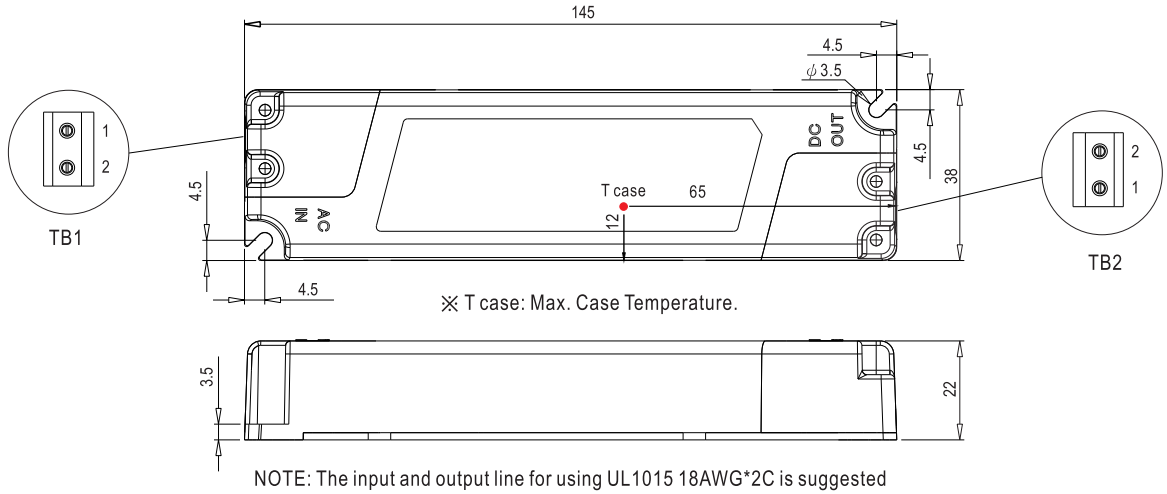
| MODEL | | PLM-12-350 | PLM-12-500 | PLM-12-700 | PLM-12-1050 |
|---|---|---|---|---|---|
| OUTPUT | LED OPERATION VOLTAGE Note.5 | 22 ~ 36V | 15 ~ 24V | 11 ~ 18V | 7 ~ 12V |
| | RATED CURRENT | 0.35A | 0.5A | 0.7A | 1.05A |
| | NO-LOAD OUTPUT VOLTAGE(max.) | 42V | 30V | 22V | 16V |
| | RATED POWER | 12.6W | 12W | 12.6W | 12.6W |
| | RIPPLE & NOISE (max.) Note.2 | 3.6Vp-p | 2.4Vp-p | 2.4Vp-p | 1.8Vp-p |
| | CURRENT ACCURACY Note.3 | ±5.0% | | | |
| | SETUP TIME | 500ms / 115VAC, 230VAC at full load | | | |
| INPUT | VOLTAGE RANGE Note.4 | 110 ~ 295VAC 156 ~ 416VDC | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | |
| | POWER FACTOR | PF ⩾ 0.97/115VAC,PF ⩾ 0.95/230VAC,PF>0.9/277VAC(at full load)(Please refer to "Power Factor Characteristic" curve) | | | |
| | EFFICIENCY(Typ.) | 85% | 84% | 83% | 81% |
| | AC CURRENT | 0.15A/115VAC 0.08A/230VAC 0.07A/277VAC | | | |
| | INRUSH CURRENT(Typ.) | COLD START 15A(twidth=50μs measured at 50% Ipeak) at 230VAC | | | |
| | LEAKAGE CURRENT | 0.25mA / 240VAC | | | |
| PROTECTION | SHORT CIRCUIT | Hiccup mode, recovers automatically after fault condition is removed. | | | |
| ENVIRONMENT | WORKING TEMP. | -30 ~ +50℃ | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +80℃, 10 ~ 95% RH | | | |
| | TEMP. COEFFICIENT | ±0.06%/℃ (0 ~ 50℃) | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes | | | |
| SAFETY & EMC | SAFETY STANDARDS | UL8750, CSA C22.2 No. 250.13-12 (except for PLM-12-350), ENEC EN61347-1, EN61347-2-13, EN62384, IP30 approved | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:3.75KVAC | | | |
| | ISOLATION RESISTANCE | I/P-O/P:100M Ohms/500VDC / 25℃/ 70%RH | | | |
| | EMC EMISSION | Compliance to EN55015,EN61000-3-2 Class C(⩾60% load);EN61000-3-3 | | | |
| | EMC IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547, light industry level, criteria A(surge 2KV) | | | |
| OTHERS | MTBF | 808.162Khrs min. MIL-HDBK-217F (25℃) | | | |
| | DIMENSION | 145*38*22mm (L*W*H) | | | |
| | PACKING | 0.126Kg;60pcs/8.6 Kg/0.48CUFT | | | |

NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ 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. Please see "AC input voltage drop vs. output current characteristics" table.
4. Derating may be needed under low input voltage, please check the static characteristic for more details.
5. Constant current operation region is within 60% ~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.PLM-25 Unit:mm




※ T case: Max. Case Temperature.




NOTE: The input and output line for using UL1015 18AWG*2C is suggested

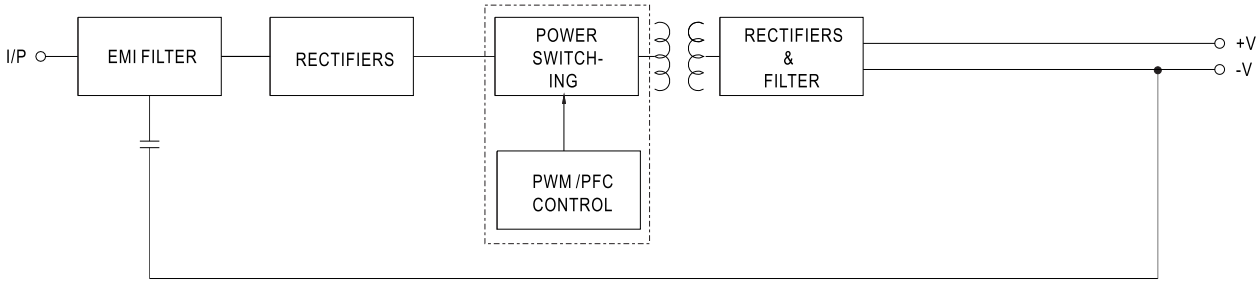
Terminal Pin No. Assignment (TB1) :
SWITCHLAB MWX201-75002EB(GRAY)

| Pin No. | Assignment |
|---|---|
| 1 | AC/L |
| 2 | AC/N |

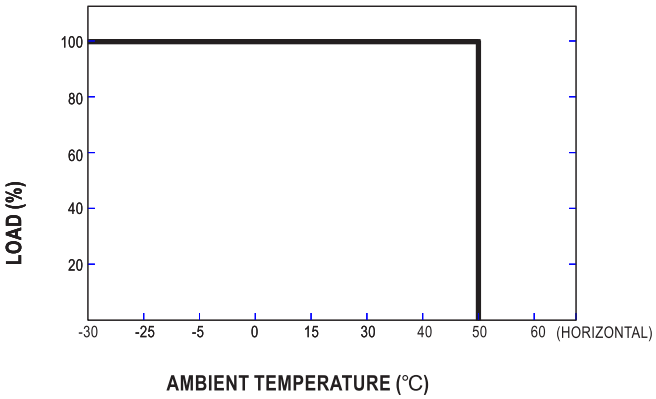
Terminal Pin No. Assignment (TB2) :
SWITCHLAB MWX201-75002B(BLUE)

| Pin No. | Assignment |
|---|---|
| 1 | +V |
| 2 | -V |

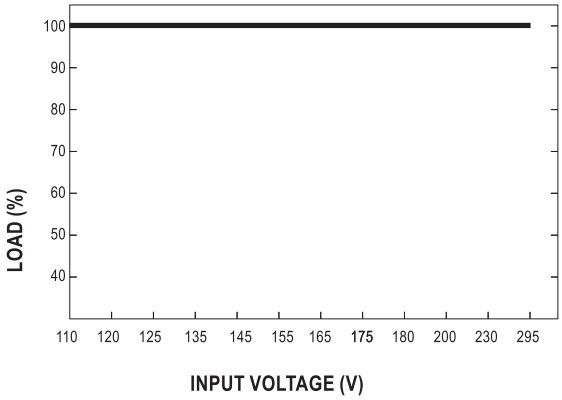
## ■ Block Diagram



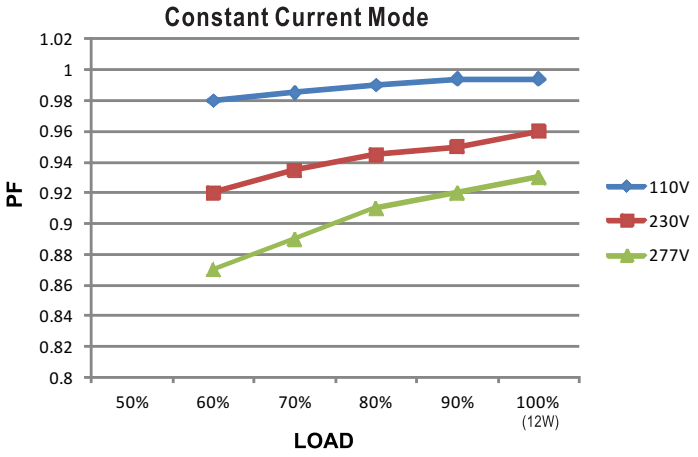

## ■ Derating Curve



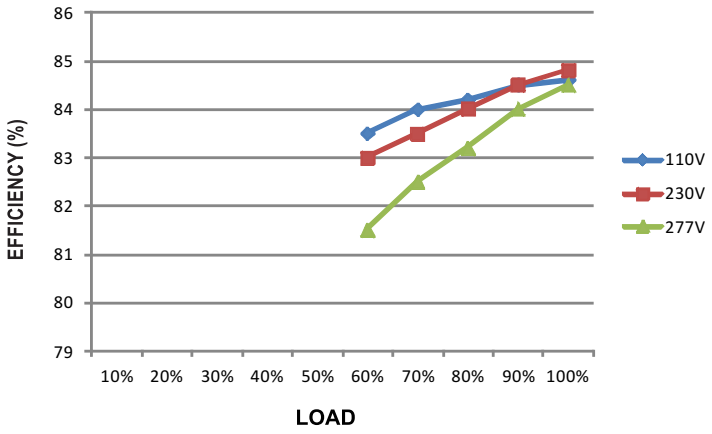

## ■ Static Characteristics



## ■ Power Factor Characteristic




## ■ EFFICIENCY vs LOAD (500mA Model)




## ■ AC input voltage drop vs. output current characteristics

| AC input drop | 10% | 8% | 5% | 3% |
|---|---|---|---|---|
| Io drop | <15% | <11% | <7% | <6% |

NOTE: Output current will return to the rated value within 50ms