



■ Features

- 230VAC only or Full range (up to 295VAC) models available
- Built-in active PFC function
- Constant current design
- Protections: Short circuit
- Cooling by free air convection
- Fully isolated plastic case
- Class II power unit, no FG
- Class 2 power unit (for PLM-25-500/700/1050)
- No load power consumption <0.5W
- High reliability, low cost
- 2 years warranty

■ Applications

- Indoor LED lighting
- LED office lighting
- LED commercial lighting
- LED decorative lighting

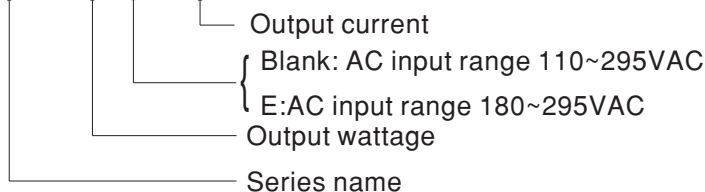
■ Description

PLM-25 is a 25W economical AC/DC LED power supply series. Incorporating a built-in active PFC design, PLM-25 provides a high Power Factor value greater than 0.9. In addition, with the low no load power consumption below 0.5W, and the setup time less than 500ms, PLM-25 is complied with the ErP regulation required by European Union for lighting fixtures.

PLM-25 is a class II (without FG pin) power unit housed with the UL 94V-0 rated flame retardant plastic case. The I/O terminals are designed with screw-less clamp style terminal block that greatly simplifies the wiring installation. Two types of models with different input voltage range are offered: PLM-25 series, which operates from 110~295VAC, and PLM-25E series, which operates from 180~295VAC. These two series are both constant current output design, supplying models with the current of 350mA, 500mA, 700mA and 1050mA, respectively.

■ Model Encoding

PLM - 25 E - 350



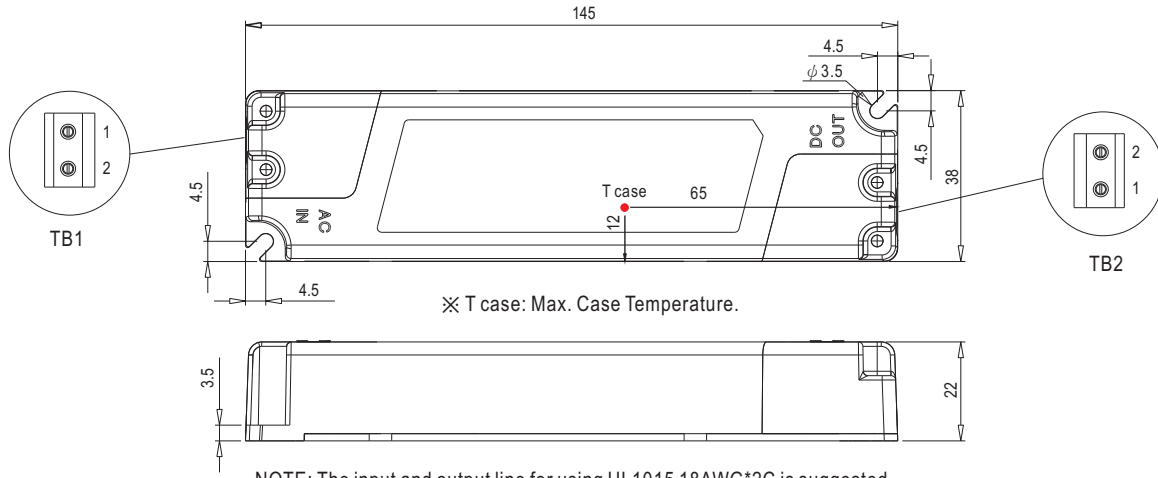


SPECIFICATION

| MODEL | | PLM-25□-350 | PLM-25□-500 | PLM-25□-700 | PLM-25□-1050 | |
|---|---|---|--|-------------|--------------|---------|
| OUTPUT | CONSTANT CURRENT REGION <small>Note.5</small> | 42 ~ 72V | 30 ~ 50V | 21 ~ 36V | 14 ~ 24V | |
| | RATED CURRENT | 0.35A | 0.5A | 0.7A | 1.05A | |
| | NO LOAD OUTPUT VOLTAGE _(max.) | 80V | 56V | 42V | 28V | |
| | RATED POWER | 25.2W | 25W | 25.2W | 25.2W | |
| | RIPPLE & NOISE <small>(max.) Note.2</small> | Blank type | 7.2Vp-p | 5.0Vp-p | 3.6Vp-p | 2.4Vp-p |
| | | E type | 9Vp-p | 7.5Vp-p | 5.4Vp-p | 3.6Vp-p |
| | CURRENT ACCURACY _{Note.3} | ±5.0% | | | | |
| | SETUP TIME | Blank type: 500ms / 115VAC, 230VAC at full load; E type: 500ms / 230VAC at full load | | | | |
| INPUT | VOLTAGE RANGE <small>Note.4</small> | Blank type: 110 ~ 295VAC 156 ~ 417VDC; E type: 180 ~ 295VAC 254 ~ 417VDC | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | |
| | POWER FACTOR | Blank type | PF ≥ 0.97/115VAC, PF ≥ 0.95/230VAC, PF > 0.9/277VAC (at full load) (Please refer to "Power Factor Characteristic" curve) | | | |
| | | E type | PF ≥ 0.95/230VAC, PF ≥ 0.9/277VAC (at full load) (Please refer to "Power Factor Characteristic" curve) | | | |
| | TOTAL HARMONIC DISTORTION | Blank type | THD < 20% when output loading ≥ 60% at 115VAC/230VAC input and output loading ≥ 75% at 277VAC input | | | |
| | | E type | THD < 20% when output loading ≥ 60% at 230VAC input and output loading ≥ 75% at 277VAC input | | | |
| | EFFICIENCY (Typ.) | Blank type | 87% | 86% | 86% | 85% |
| | | E type | 86% | 85% | 85% | 82% |
| | AC CURRENT | Blank type: 0.3A/115VAC 0.15A/230VAC 0.12A/277VAC; E type: 0.15A/230VAC 0.12A/277VAC | | | | |
| | INRUSH CURRENT(Typ.) | COLD START 15A (twidh=50μs measured at 50% Ipeak) at 230VAC | | | | |
| MAX. No. of PSUs on 16A CIRCUIT BREAKER | 80 units (circuit breaker of type B) / 80 units (circuit breaker of type C) at 230VAC | | | | | |
| LEAKAGE CURRENT | 0.25mA / 240VAC | | | | | |
| PROTECTION | SHORT CIRCUIT | Hiccup mode, recovers automatically after fault condition is removed. | | | | |
| ENVIRONMENT | WORKING TEMP. | -30 ~ +45°C | | | | |
| | 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 | UL8750, CSA C22.2 No. 250.13-12 (for Blank type only); 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°C / 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 B (surge 2KV) | | | | |
| OTHERS | MTBF | 808.162Khrs min. MIL-HDBK-217F (25°C) | | | | |
| | DIMENSION | 145*38*22mm (L*W*H) | | | | |
| | PACKING | 0.126Kg; 60pcs/8.6 Kg/0.48CUFT | | | | |
| NOTE | <p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</p> <p>3. Please see "AC input voltage drop vs. output current characteristics" table.</p> <p>4. Derating may be needed under low input voltage, please check the static characteristic for more details.</p> <p>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.</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> | | | | | |

■ Mechanical Specification

Case No. PLM-25 Unit: mm



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

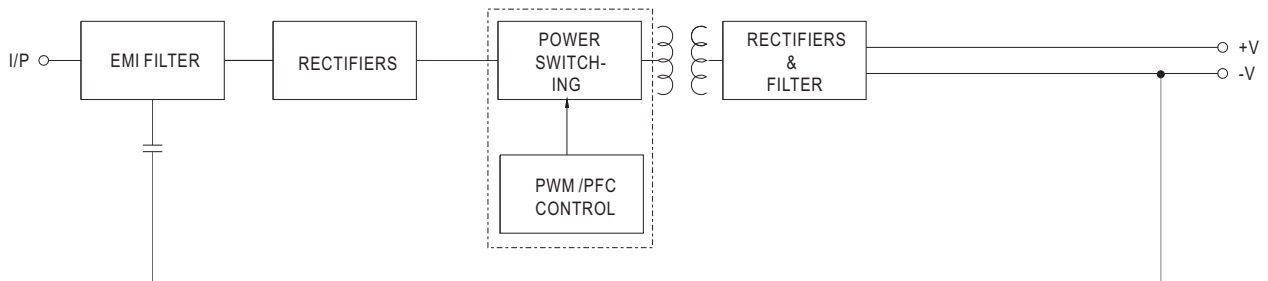
Terminal Pin No. Assignment (TB1):
SWITCHLAB MWX201-75002EB (GRAY)

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

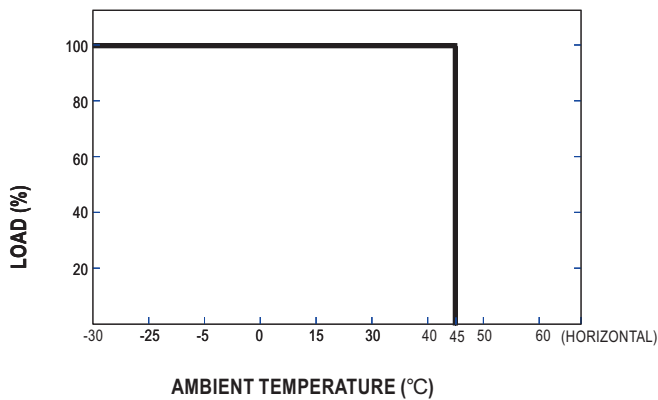
Terminal Pin No. Assignment (TB2):
SWITCHLAB MWX201-75002B (BLUE)

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

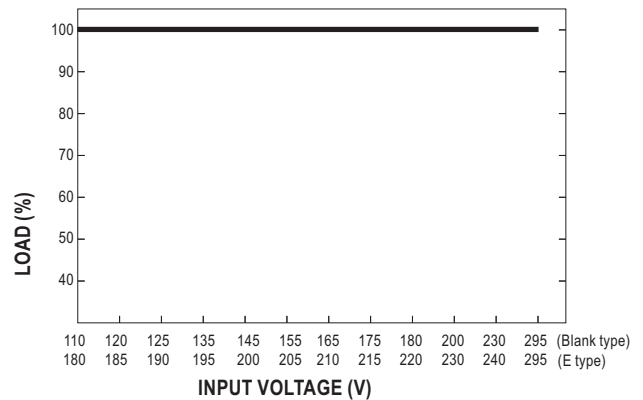
■ Block Diagram



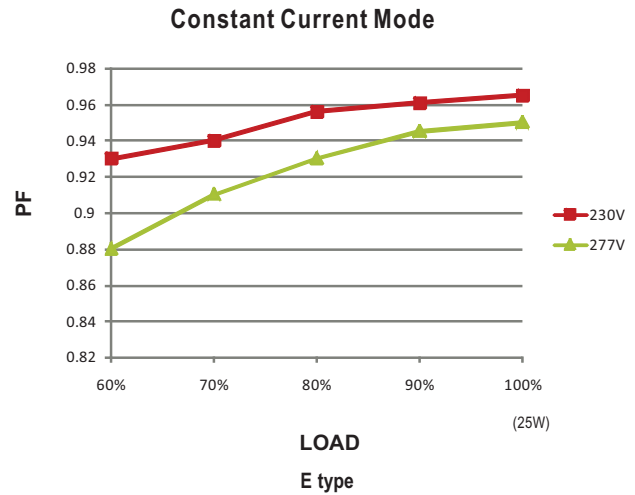
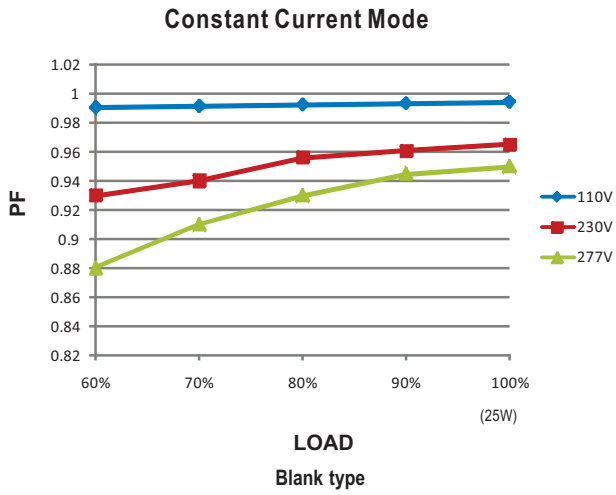
■ Derating Curve



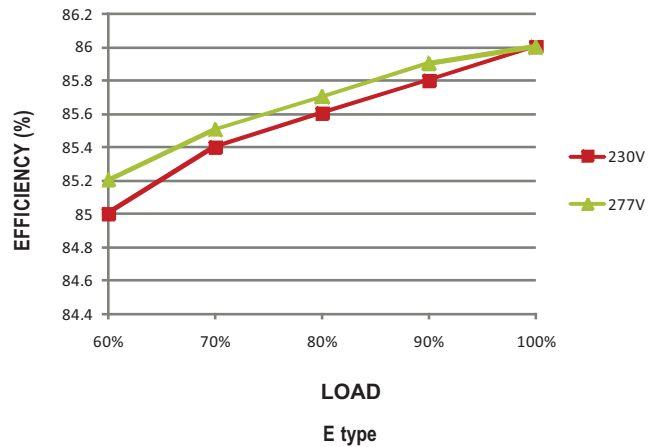
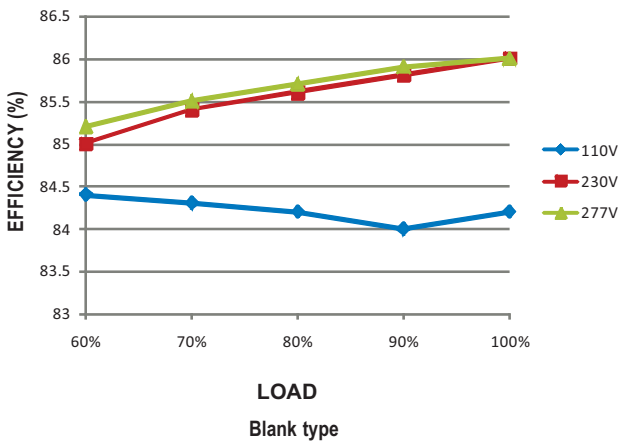
■ Static Characteristics



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 | <16% | <12% | <8% | <7% |

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