### SPECIFICATION

#### 100W Single Output Switching Power Supply

**Model:** PLN-100 series

**Features:**
- Universal AC input / Full range (up to 295VAC)
- High efficiency up to 98.5%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- Built-in active PFC function
- Fully isolated plastic case with IP64 level
- Pass LPS
- Class 2 power unit
- 100% full load burn-in test
- High reliability
- Suitable for LED lighting and moving sign applications
- Suitable for dry / damp locations
- Compliance to worldwide safety regulations for lighting
- 2 years warranty

#### OUTPUT

- **DC VOLTAGE**
  - PLN-100-12: 12V
  - PLN-100-15: 15V
  - PLN-100-20: 20V
  - PLN-100-24: 24V
  - PLN-100-27: 27V
  - PLN-100-36: 36V
  - PLN-100-48: 48V
- **CURRENT ADJ. RANGE (SVR2)**
  - 0.6A
- **RIPPLE & NOISE (max.)**
  - Note.2
- **THD**
  - 20% when output loading 75% at 115VAC/230VAC input and output loading 75% at 277VAC input

#### INPUT

- **VOLTAGE RANGE**
  - Note.4
- **FREQUENCY RANGE**
  - 47 ~ 63Hz
- **POWER FACTOR (Typ.)**
  - PF>0.95/115VAC, PF>0.95/230VAC, PF>0.92/277VAC at full load
  (Please refer to “Power Factor Characteristic” curve)
- **FREQUENCY RANGE**
  - 47 ~ 63Hz
- **FACTOR RANGE**
  - 3.75 ~ 5A
- **CURRENT ADJ. RANGE (SVR2)**
  - 0.6A
- **RIPPLE & NOISE (max.)**
  - Note.2

#### PROTECTION

- **OVER CURRENT**
  - 95 ~ 102%
  - Protection type: Constant current limiting, recovers automatically after fault condition is removed
- **SHORT CIRCUIT**
  - Hiccup mode, recovers automatically after fault condition is removed
- **THD**
  - 20% when output loading 275% at 115VAC/230VAC input and output loading 275% at 277VAC input
- **AC CURRENT (Typ.)**
  - 12V: 0.8/115VAC
  - 230VAC: 0.4A/230VAC, 0.3A/277VAC
  - 15V: 0.9A/115VAC
  - 0.45A/230VAC
  - 0.35A/277VAC
  - Protection type: Shut down and latch off o/p voltage, re-power on to recover
- **LEAKAGE CURRENT**
  - <0.75mA / 240VAC

#### ENVIRONMENT

- **WORKING TEMP.**
  - -30 ~ +50°C (Refer to "Derating Curve")
- **WORKING HUMIDITY**
  - 20 ~ 95% RH non-condensing
- **TEMP. COEFFICIENT**
  - ±0.03%/°C (0 ~ 50°C)
- **VIBRATION**
  - 10 ~ 500Hz, 2G, 12min./1cycle, period for 72min. each along X, Y, Z axes

#### SAFETY & EMC

- **SAFETY STANDARDS**
  - Note.7
  - UL6179, UL1310, UL8750, CSA C22.2 No. 207-M89 (except for 48V), TUV EN61347-1, EN61547, EN55024, light industry level (surge 4KV), criteria A
  - Compliance to EN55015, EN55022 (CISPR22) Class B, EN61000-3-2 Class C (>75% load); EN61000-3-3
  - Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, EN61347, UNI2027, GB12163, GB7000.1, FCC part 18.
  - Protection type: Shut down and latch off o/p voltage, re-power on to recover

#### OTHERS

- **MTBF**
  - 303Khrs min.
- **DIMENSION**
  - 200x70.5x35mm (LxWxH)
- **PACKING**
  - 0.52Kg; 20pcs/12.5Kg/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 characteristics for more details.
5. This is the maximum possible output current and power. Over load protection may be activated slightly below this level to comply with the requirement of UL1310 class 2.
6. Please refer to “DRIVING METHODS OF LED MODULE”.
7. Safety and EMC design refer to EN60950-1, subject 8750(UL), CNS15203, GB7000.1, FCC part 18.
8. 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.
9. To fulfill requirements of the latest EEp regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains.

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100W Single Output Switching Power Supply

**PLN-100 series**

### Mechanical Specification

- **Case No. 955A**
- **Unit:mm**
- **Fosc:** 100KHz
- **AMBIENT TEMPERATURE (℃)**
- **INPUT VOLTAGE (V) 60Hz**

### Block Diagram

- **EMI FILTER & RECTIFIERS**
- **PFC CIRCUIT**
- **POWER SWITCHING**
- **RECTIFIERS & FILTER**
- **PWM & PFC CONTROL**
- **DETECTION CIRCUIT**
- **O.V.P.**
- **O.L.P.**
- **FG**
- **AC/L(Brown)**
- **AC/N(Blue)**
- **FG(Green/Yellow)**

### Derating Curve

- **LOAD (%) vs. AMBIENT TEMPERATURE (℃)**
- **LOAD (%) vs. INPUT VOLTAGE (V) 60Hz**

**Note:**

- **T case:** Max. Case Temperature.
- **SVR1** Output voltage adjustment
- **SVR2** Output current adjustment

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**Load Range:**

- Input: 230VAC
- Output: 90V-295V

**Derating Curve:**

- **Load (%)**
- **Temperature (℃)**

**Static Characteristics:**

- **Input Voltage (V) 60Hz**
- **Load (%)**

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PLN-100 series possess superior working efficiency that up to 88.5% 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)].

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.
Mouser Electronics

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