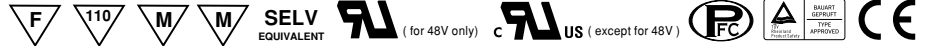




■ Features :

- Universal AC input / Full range
- Fully isolated plastic case with terminal block style of I/O
- Built-in constant current limiting circuit
- Adjustable output voltage and current level
- Protections: Short circuit/Over load/Over voltage/Over temperature
- Built-in active PFC function, comply with EN61000-3-2 class C (Pin ≥ 25W)
- Cooling by free air convection
- 100% full load burn-in test
- High reliability
- Suitable for LED lighting and moving sign applications (Note.2)
- Compliance to worldwide safety regulations for lighting
- 2 years warranty



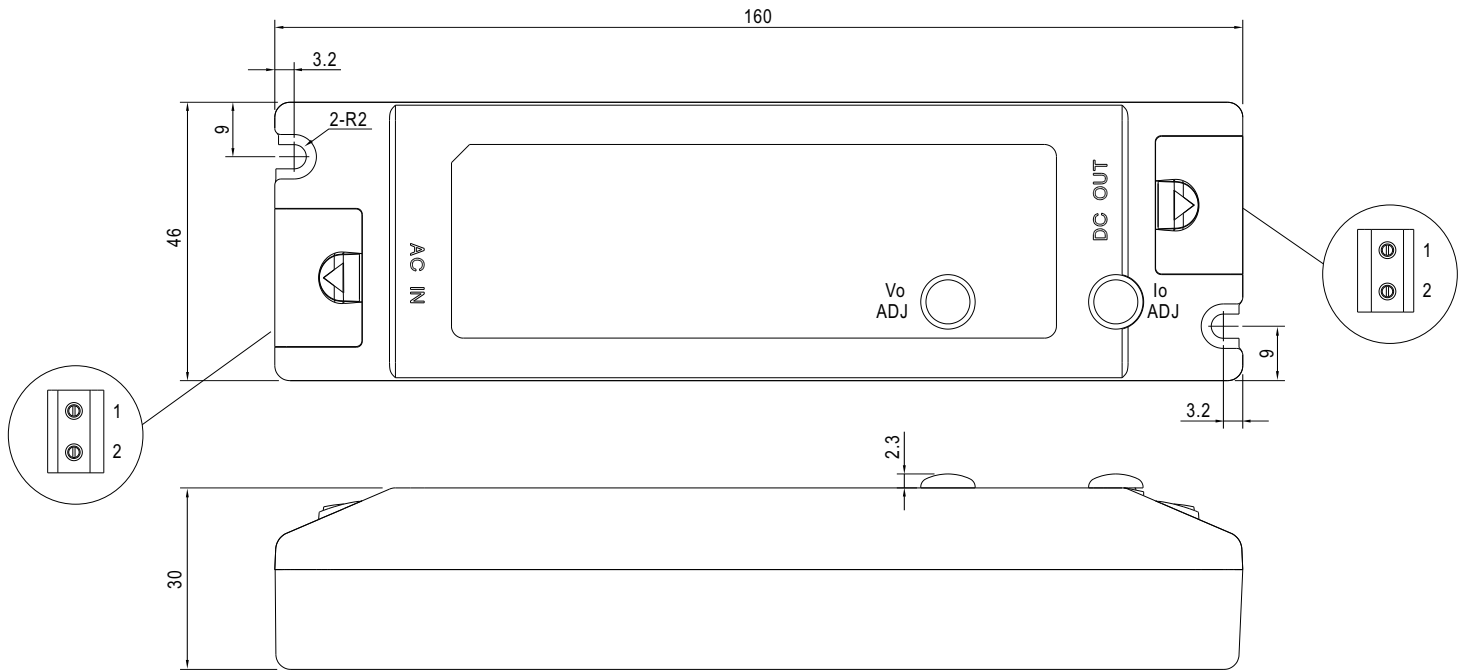
SPECIFICATION

| MODEL | PLC-30-9 | PLC-30-12 | PLC-30-15 | PLC-30-20 | PLC-30-24 | PLC-30-27 | PLC-30-36 | PLC-30-48 | | |
|-----------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------|--------------|----------------|----------------|----------------|---------------|----------------|--|
| OUTPUT | DC VOLTAGE | 9V | 12V | 15V | 20V | 24V | 27V | 36V | 48V | |
| | CONSTANT CURRENT REGION Note.6 | 6.3 ~ 9V | 8.4 ~ 12V | 10.5 ~ 15V | 14 ~ 20V | 16.8 ~ 24V | 18.9 ~ 27V | 25.2 ~ 36V | 33.6 ~ 48V | |
| | RATED CURRENT | 3.3A | 2.5A | 2A | 1.5A | 1.25A | 1.12A | 0.84A | 0.63A | |
| | CURRENT RANGE | 0 ~ 3.3A | 0 ~ 2.5A | 0 ~ 2A | 0 ~ 1.5A | 0 ~ 1.25A | 0 ~ 1.12A | 0 ~ 0.84A | 0 ~ 0.63A | |
| | RATED POWER | 29.7W | 30W | 30W | 30W | 30W | 30.24W | 30.24W | 30.24W | |
| | RIPPLE & NOISE (max.) Note.2 | 2.6Vp-p | 2Vp-p | 2.6Vp-p | 2.6Vp-p | 2.4Vp-p | 2.3Vp-p | 3.6Vp-p | 3.7Vp-p | |
| | VOLTAGE ADJ. RANGE Note.5 | 8.55 ~ 9.9V | 11.4 ~ 13.2V | 14.5 ~ 16.5V | 19 ~ 22V | 22.8 ~ 26.4V | 25.65 ~ 29.7V | 34.2 ~ 39.6V | 45.6 ~ 52.8V | |
| | CURRENT ADJ. RANGE Note.5 | 2.475 ~ 3.399A | 1.875 ~ 2.575A | 1.5 ~ 2.06A | 1.125 ~ 1.545A | 0.938 ~ 1.288A | 0.84 ~ 1.1536A | 0.63 ~ 0.865A | 0.473 ~ 0.649A | |
| | VOLTAGE TOLERANCE Note.3 | ±10% | | | | | | | | |
| | LINE REGULATION | ±3.0% | | | | | | | | |
| LOAD REGULATION | ±5.0% | | | | | | | | | |
| SETUP TIME | 1500ms / 230VAC 3000ms / 115VAC at full load | | | | | | | | | |
| INPUT | VOLTAGE RANGE Note.4 | 90 ~ 264VAC | | 127 ~ 370VDC | | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | | | |
| | POWER FACTOR | PF ≥ 0.9 at 75 ~ 100% load, 115VAC / 230VAC | | | | | | | | |
| | EFFICIENCY(Typ.) | 80% | 82.5% | 83.5% | 84% | 84% | 84.5% | 85% | 85.5% | |
| | AC CURRENT | 0.4A/115VAC | | 0.2A/230VAC | | | | | | |
| | INRUSH CURRENT(max.) | 40A/230VAC | | | | | | | | |
| LEAKAGE CURRENT | <0.5mA / 240VAC | | | | | | | | | |
| PROTECTION | OVER CURRENT | 100 ~ 110% | | | | | | | | |
| | SHORT CIRCUIT | Protection type : Constant current limiting, recovers automatically after fault condition is removed. | | | | | | | | |
| | OVER VOLTAGE | 10 ~ 14V | 14 ~ 16V | 17 ~ 22V | 23 ~ 26V | 27 ~ 34V | 31 ~ 35V | 40 ~ 50V | 53 ~ 63V | |
| | OVER TEMPERATURE | 95°C ±10°C (TSW1) | | | | | | | | |
| ENVIRONMENT | WORKING TEMP. | -30 ~ +50°C (Refer to output load derating curve) | | | | | | | | |
| | WORKING HUMIDITY | 20 ~ 95% RH non-condensing | | | | | | | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +80°C, 10 ~ 95% RH | | | | | | | | |
| | TEMP. COEFFICIENT | ±0.06%/°C (0 ~ 50°C) | | | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes | | | | | | | | |
| SAFETY & EMC | SAFETY STANDARDS | UL1310 Class 2, TUV EN61347-1, EN61347-2-13, CAN/CSA C22.2 No. 223-M91(except for 48V) approved | | | | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:3.75KVAC | | | | | | | | |
| | ISOLATION RESISTANCE | I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH | | | | | | | | |
| | EMI CONDUCTION & RADIATION | Compliance to EN55015 | | | | | | | | |
| | HARMONIC CURRENT | Compliance to EN61000-3-2 Class C (Pin ≥ 25W), Class D (>70% load) ; EN61000-3-3 | | | | | | | | |
| OTHERS | EMS IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, EN61547, light industry level, criteria A | | | | | | | | |
| | MTBF | 625.5Khrs min. MIL-HDBK-217F (25°C) | | | | | | | | |
| | DIMENSION | 160*46*30mm (L*W*H) | | | | | | | | |
| | PACKING | 0.2Kg; 70pcs/15Kg/0.96CUFT | | | | | | | | |

| 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. Direct connecting to LEDs is not suggested for models with "RIPPLE & NOISE" >±10% and using additional drivers is highly recommended. |
| 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. | Output voltage can be adjusted through the SVR1 on the PCB; limit of output constant current level can be adjusted through the SVR2 on the PCB. |
| 6. | Constant current operation region is within 70% ~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. |
| 7. | 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. |

Mechanical Specification

Case No. 990A Unit:mm



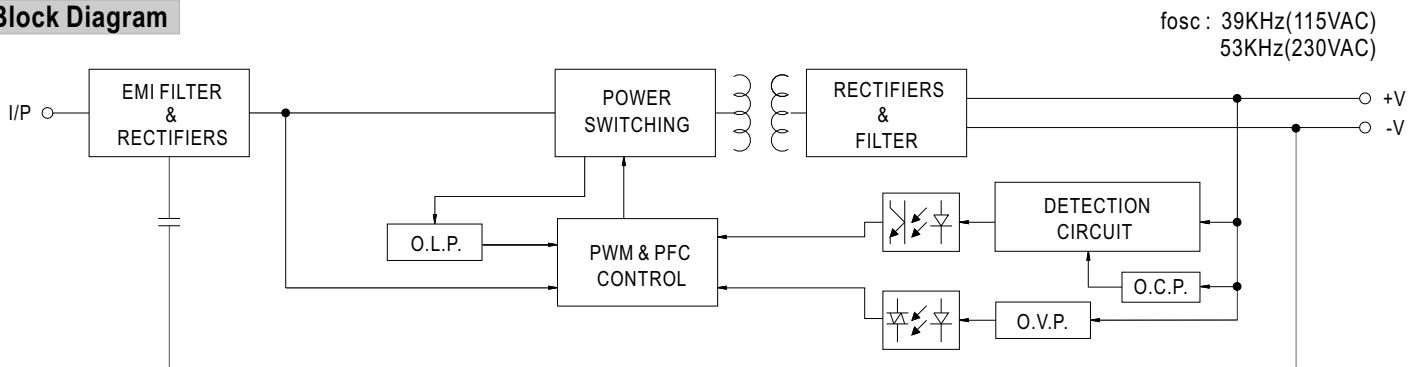
Terminal Pin No. Assignment (TB1):
SWITCLAB MB310-75002

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

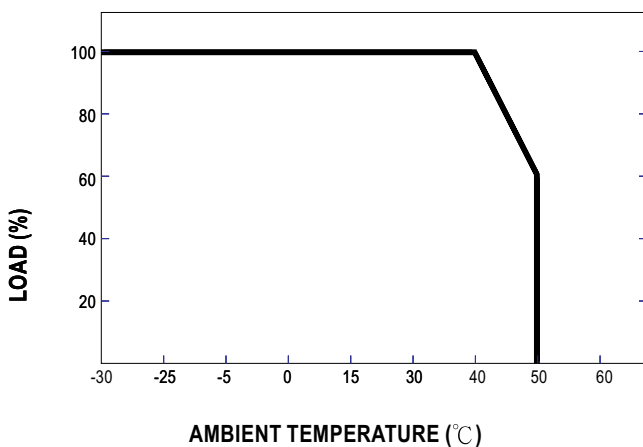
Terminal Pin No. Assignment (TB2):
SWITCLAB MB310-75002

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

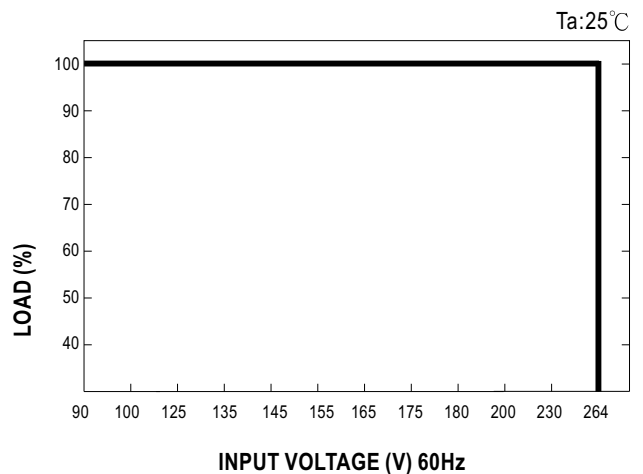
Block Diagram



Derating Curve



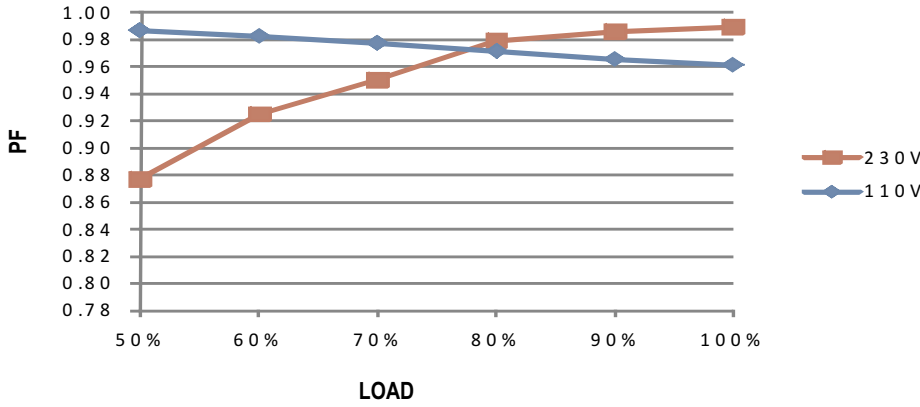
Static Characteristics



Power Factor Characteristic

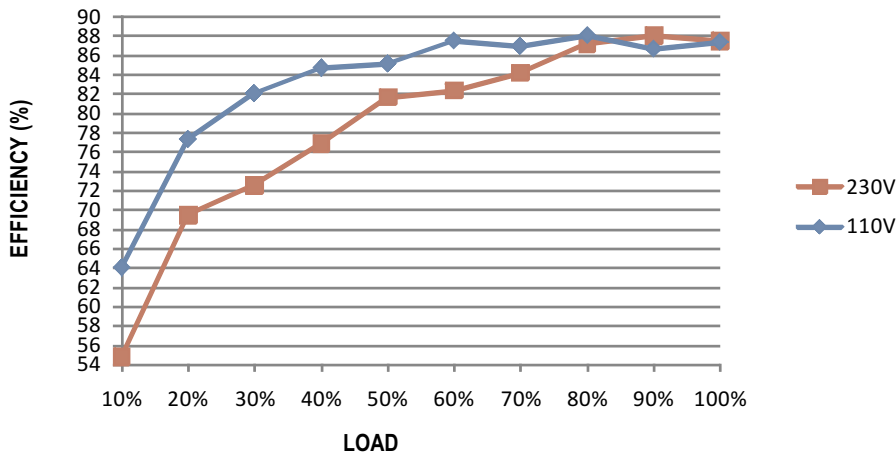
Power factor will be higher than 0.9 when output loading is 75% or higher.

Constant Current Mode



EFFICIENCY vs LOAD (48V Model)

PLC-30 series possess superior working efficiency that up to 85.5% can be reached in field applications.

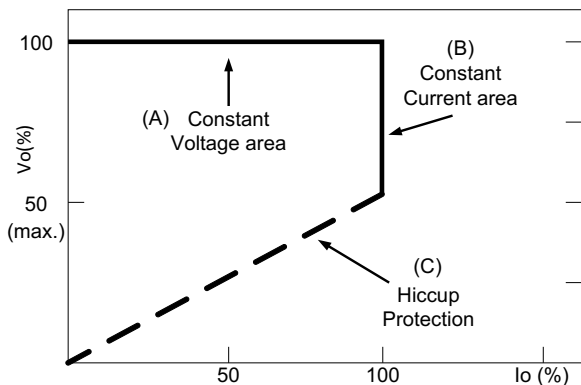


DRIVING METHODS OF LED MODULE

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)].



Typical LED power supply I-V curve