



## ■ Features :

- Universal AC input / Full range
- Adjustable output voltage and current level
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- Built-in constant current limiting circuit
- Fully isolated plastic case with terminal block style of I/O
- Built-in active PFC function, comply with EN61000-3-2 class C (Pin≥25W)
- Class II power unit, no FG
- Class 2 power unit
- 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

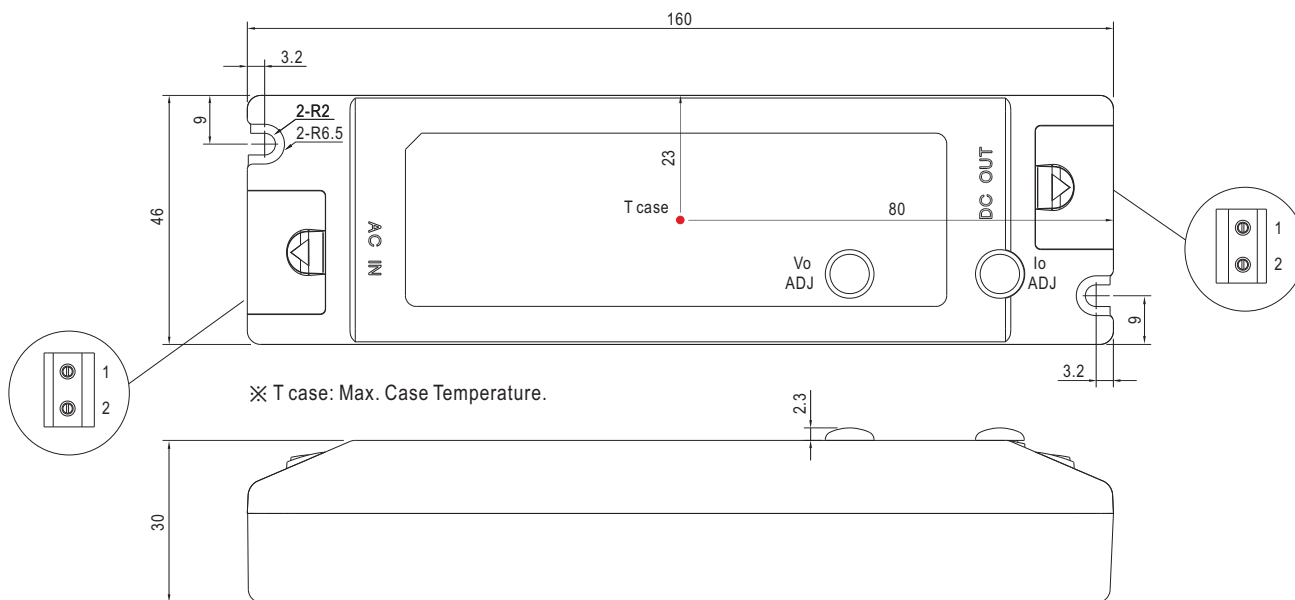


## SPECIFICATION

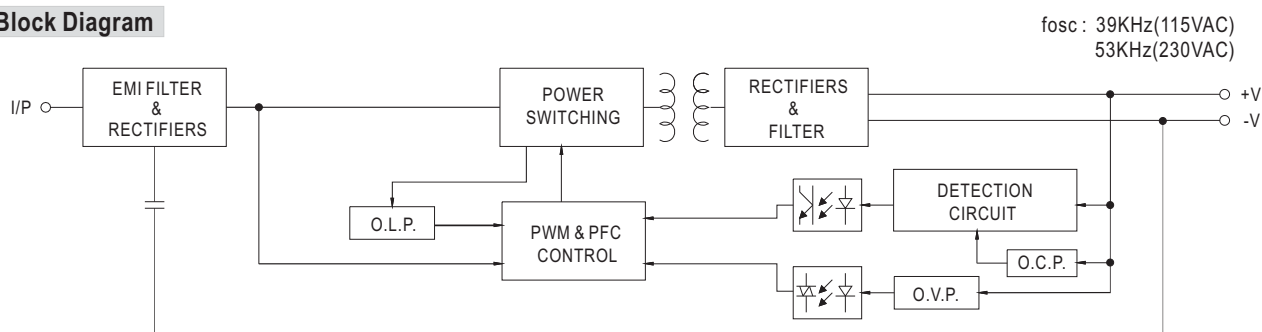
| MODEL        |                                                | PLC-30-9                                                                                                                             | PLC-30-12      | PLC-30-15    | PLC-30-20      | PLC-30-24      | PLC-30-27      | PLC-30-36     | PLC-30-48      |
|--------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------|----------------|----------------|----------------|---------------|----------------|
| OUTPUT       | DC VOLTAGE                                     | 9V                                                                                                                                   | 12V            | 15V          | 20V            | 24V            | 27V            | 36V           | 48V            |
|              | CONSTANT CURRENT REGION <small>Note.6</small>  | 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.) <small>Note.2</small>    | 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 <small>Note.5</small>       | 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 <small>Note.5</small>       | 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 <small>Note.3</small>        | ±10%                                                                                                                                 |                |              |                |                |                |               |                |
|              | LINE REGULATION                                | ±3.0%                                                                                                                                |                |              |                |                |                |               |                |
|              | LOAD REGULATION                                | ±5.0%                                                                                                                                |                |              |                |                |                |               |                |
| SETUP TIME   | 500ms / 230VAC    3000ms / 115VAC at full load |                                                                                                                                      |                |              |                |                |                |               |                |
| INPUT        | VOLTAGE RANGE <small>Note.4</small>            | 90 ~ 264VAC                                                                                                                          |                | 127 ~ 370VDC |                |                |                |               |                |
|              | FREQUENCY RANGE                                | 47 ~ 63Hz                                                                                                                            |                |              |                |                |                |               |                |
|              | POWER FACTOR (Typ.)                            | PF>0.95/115VAC, PF>0.9/230VAC at full load (Please refer to "Power Factor Characteristic" curve)                                     |                |              |                |                |                |               |                |
|              | TOTAL HARMONIC DISTORTION                      | THD< 20% when output loading≥70% at 115VAC/230VAC input                                                                              |                |              |                |                |                |               |                |
|              | EFFICIENCY (Typ.)                              | 80%                                                                                                                                  | 82.5%          | 83.5%        | 84%            | 84%            | 84.5%          | 85%           | 85.5%          |
|              | AC CURRENT (Typ.)                              | 0.4A/115VAC                                                                                                                          |                | 0.2A/230VAC  |                |                |                |               |                |
|              | INRUSH CURRENT (Typ.)                          | COLD START 35A(twidth=25μs measured at 50% Ipeak) at 230VAC                                                                          |                |              |                |                |                |               |                |
|              | MAX. No. of PSUs on 16A CIRCUIT BREAKER        | 64 units (circuit breaker of type B) / 64 units (circuit breaker of type C) at 230VAC                                                |                |              |                |                |                |               |                |
|              | LEAKAGE CURRENT                                | <0.5mA / 240VAC                                                                                                                      |                |              |                |                |                |               |                |
| PROTECTION   | OVER CURRENT                                   | 100 ~ 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                                   | 10 ~ 14V                                                                                                                             | 14 ~ 17V       | 17 ~ 22V     | 23 ~ 26V       | 27 ~ 34V       | 31 ~ 35V       | 40 ~ 50V      | 53 ~ 63V       |
|              |                                                | Protection type : Shut down o/p voltage, re-power on to recover                                                                      |                |              |                |                |                |               |                |
|              | OVER TEMPERATURE                               | Shut down o/p voltage, re-power on to recover                                                                                        |                |              |                |                |                |               |                |
| ENVIRONMENT  | WORKING TEMP.                                  | -30 ~ +50°C (Refer to "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, TUV EN61347-1, EN61347-2-13, GB19510.14,GB19510.1, CAN/CSA C22.2 No. 223-M91(except for 48V), J61347-1, J61347-2-13 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, GB17743, GB17625.1,EN61000-3-2 Class C (Pin≥25W), Class D (>70% load) ; EN61000-3-3                           |                |              |                |                |                |               |                |
|              | EMC IMMUNITY                                   | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN61547, light industry level, criteria A                                           |                |              |                |                |                |               |                |
| OTHERS       | MTBF                                           | 625.5Khrs min.    MIL-HDBK-217F (25°C)                                                                                               |                |              |                |                |                |               |                |
|              | DIMENSION                                      | 160*46*30mm (L*W*H)                                                                                                                  |                |              |                |                |                |               |                |
|              | PACKING                                        | 0.2Kg; 70pcs/15Kg/0.96CUFT                                                                                                           |                |              |                |                |                |               |                |

## Mechanical Specification

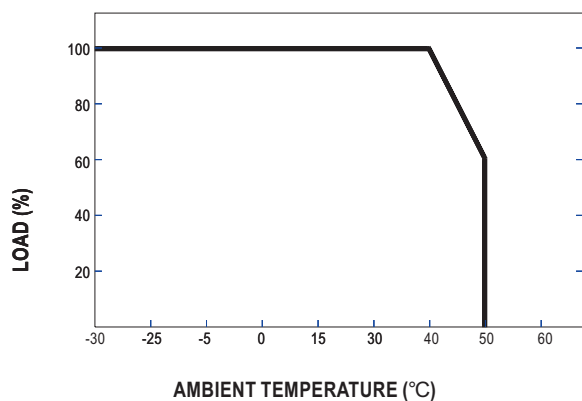
Case No. 990A Unit:mm



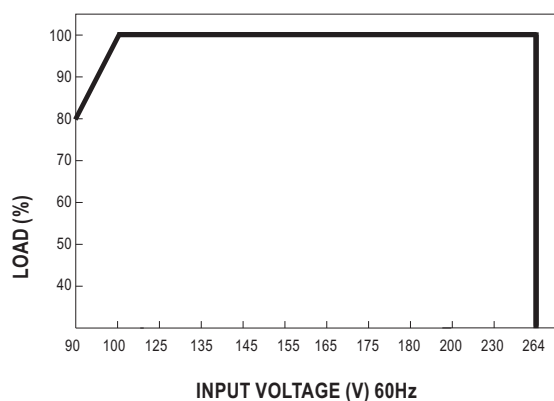
## Block Diagram



## Derating Curve

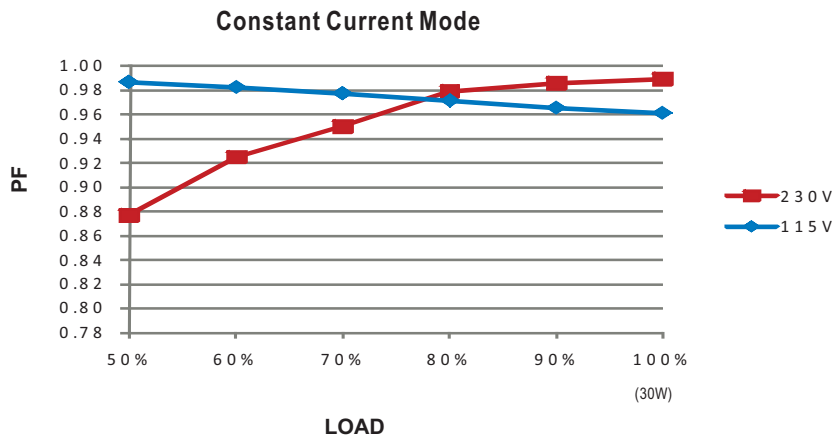


## Static Characteristics



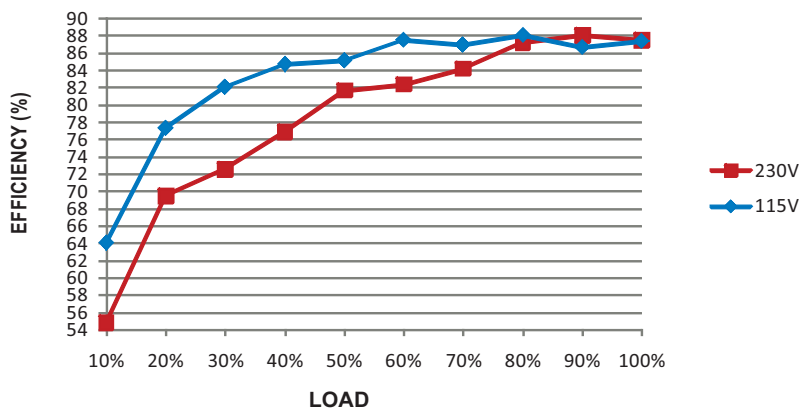
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## Power Factor Characteristic



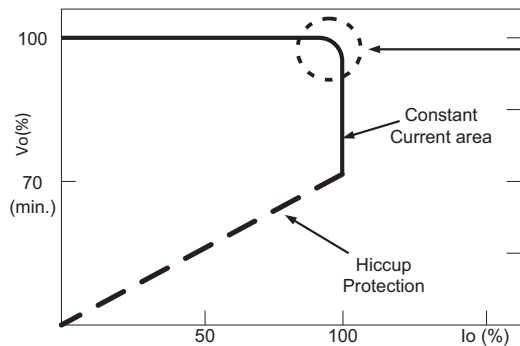
## EFFICIENCY vs LOAD (48V Model)

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



## DRIVING METHODS OF LED MODULE

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.