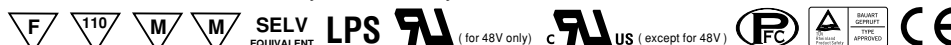




■ Features :

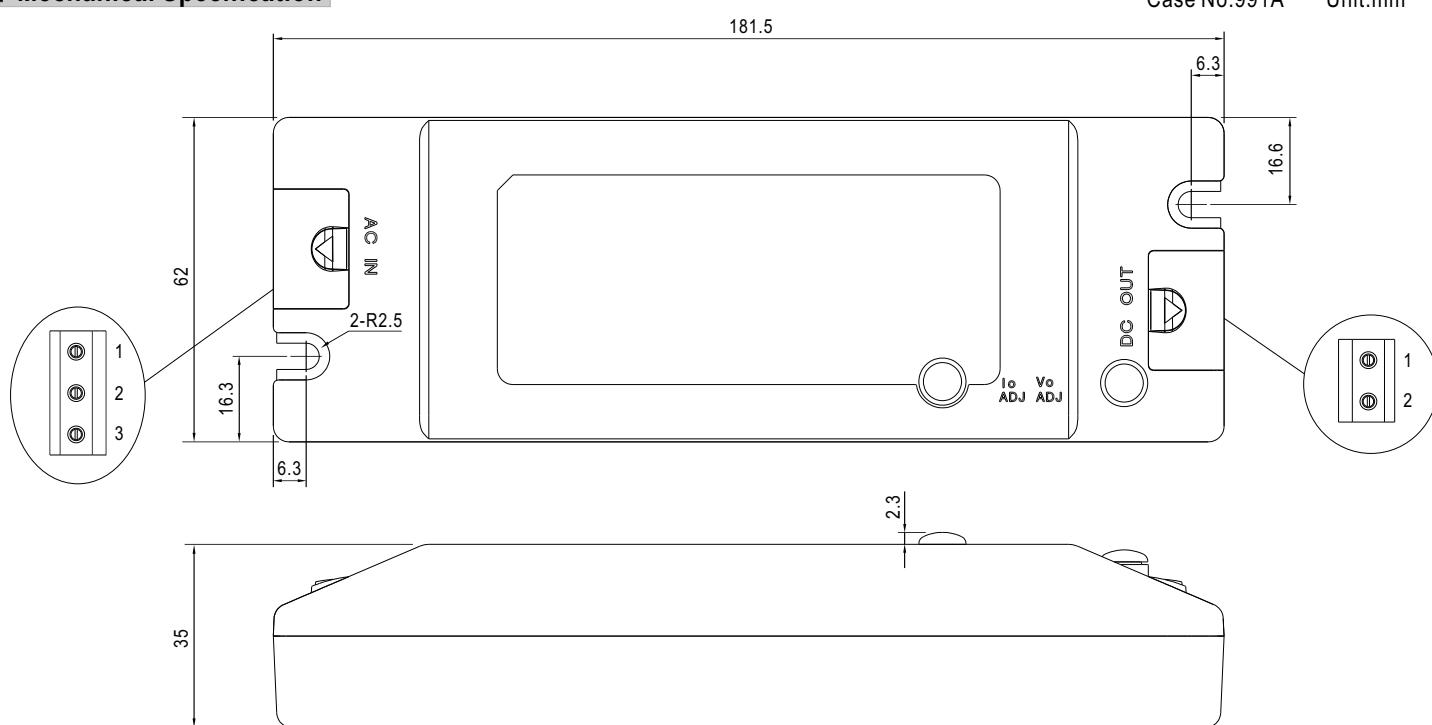
- Universal AC input / Full range
- Fully isolated plastic case with terminal block style of I/O
- Built-in constant current limiting circuit
- Adjustable output voltage and current level
- Protections: Short circuit/Over load/Over voltage/Over temperature
- Built-in active PFC function, comply with EN61000-3-2 class C ($\geq 75\%$ load)
- UL1310 class 2 power unit
- Pass LPS
- Cooling by free air convection
- 100% full load burn-in test
- High reliability
- Suitable for LED lighting and moving sign applications
- Compliance to worldwide safety regulations for lighting
- 2 years warranty



SPECIFICATION

MODEL		PLC-45-12	PLC-45-15	PLC-45-20	PLC-45-24	PLC-45-27	PLC-45-36	PLC-45-48
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	27V	36V	48V
	CONSTANT CURRENT REGION <small>Note.6</small>	9 ~ 12V	11.25 ~15V	15 ~ 20V	18 ~24V	20.25 ~27V	27 ~ 36V	36 ~ 48V
	RATED CURRENT	3.8A	3A	2.3A	1.9A	1.7A	1.25A	0.95A
	CURRENT RANGE	0 ~ 3.8A	0 ~ 3A	0 ~ 2.3A	0 ~ 1.9A	0 ~ 1.7A	0 ~ 1.25A	0 ~ 0.95A
	RATED POWER	45.6W	45W	46W	45.6W	45.9W	45W	45.6W
	RIPPLE & NOISE (max.) <small>Note.2</small>	2Vp-p	2.4Vp-p	1.8Vp-p	2.7Vp-p	2.7Vp-p	3.6Vp-p	4.6Vp-p
	VOLTAGE ADJ. RANGE <small>Note.5</small>	11.5 ~ 13V	14.5 ~ 16.2V	19.5 ~ 22V	24 ~ 26V	25 ~ 30V	32.5 ~ 39V	43.6 ~ 51.8V
	CURRENT ADJ. RANGE <small>Note.5</small>	2.85 ~ 3.914A	2.25 ~ 3.1A	1.725 ~ 2.37A	1.425 ~1.957A	1.275 ~ 1.75A	0.938 ~ 1.288A	0.713 ~ 0.979A
	VOLTAGE TOLERANCE <small>Note.3</small>	±10%						
	LINE REGULATION	±3.0%						
	LOAD REGULATION	±5.0%						
SETUP TIME	1500ms / 230VAC 3000ms / 115VAC at full load							
INPUT	VOLTAGE RANGE <small>Note.4</small>	90 ~ 264VAC 127 ~ 370VDC						
	FREQUENCY RANGE	47 ~ 63Hz						
	POWER FACTOR	PF ≥ 0.9 at 75 ~ 100% load, 115VAC / 230VAC						
	EFFICIENCY(Typ.)	83.5%	85%	86.5%	86.5%	86.5%	87.5%	87.5%
	AC CURRENT	0.55A/115VAC 0.25A/230VAC						
	INRUSH CURRENT(max.)	40A/230VAC						
LEAKAGE CURRENT	<0.75mA / 240VAC							
PROTECTION	OVER CURRENT	95 ~ 110%	110% (max) 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	13.8 ~ 16V	17.5 ~ 21V	22.8 ~ 25V	28 ~ 32V	31 ~ 35V	41 ~ 46V	54 ~ 60V
	OVER TEMPERATURE	95℃ ±10℃ (TSW1) detect on heatsink of power transistor						
		Protection type : Shut down o/p voltage, recovers automatically after temperature goes down						
ENVIRONMENT	WORKING TEMP.	-30 ~ +50℃ (Refer to output load derating curve)						
	WORKING HUMIDITY	20 ~ 95% RH non-condensing						
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH						
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)						
	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 I/P-FG:1.88KVAC O/P-FG:0.5KVAC						
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃ / 70% RH						
	EMI CONDUCTION & RADIATION	Compliance to EN55015, EN55022 (CISPR22) Class B						
	HARMONIC CURRENT	Compliance to EN61000-3-2 Class C (≥ 75% 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	515Khrs min. MIL-HDBK-217F (25℃)						
	DIMENSION	181.5*62*35mm (L*W*H)						
	PACKING	0.41Kg; 30pcs/13.3Kg/0.67CUFT						

Mechanical Specification



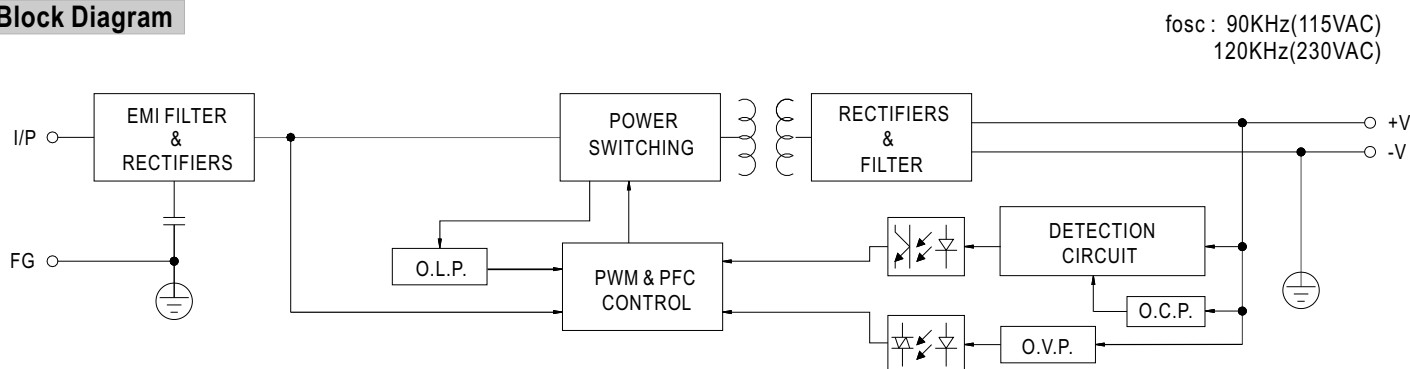
Terminal Pin No. Assignment (TB1):
SWITCHLAB MB310-75003

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

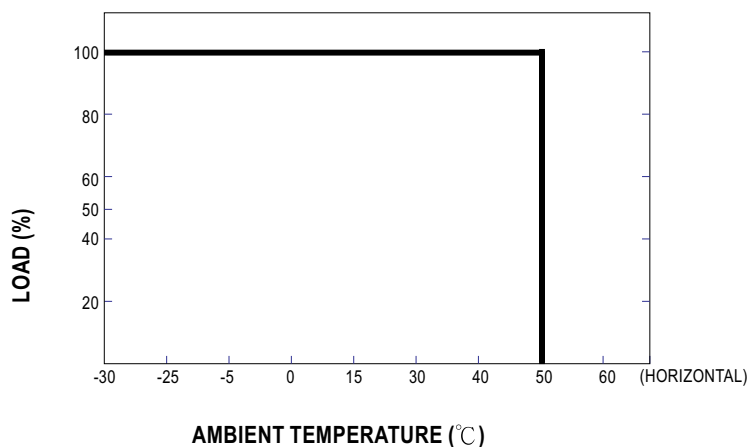
Pin No.	Assignment
1	AC/L
2	AC/N
3	FG

Pin No.	Assignment
1	+V
2	-V

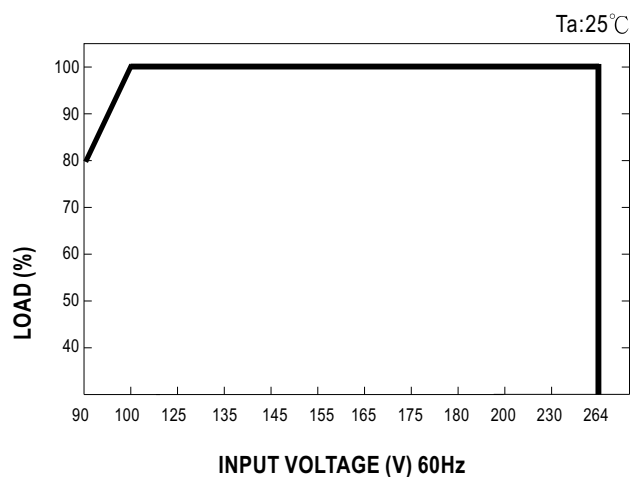
Block Diagram



Derating Curve

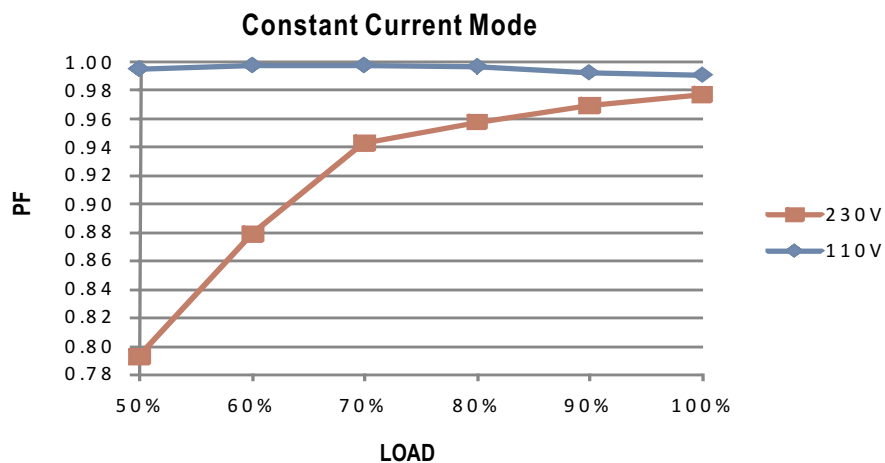


Static Characteristics



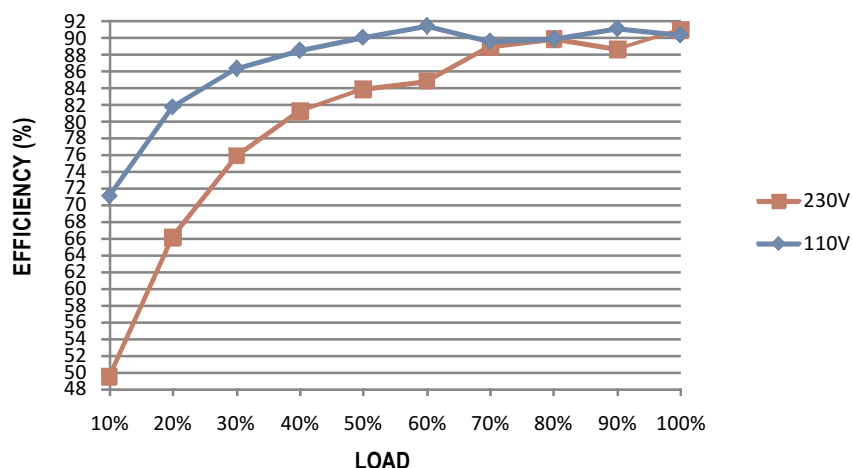
Power Factor Characteristic

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



EFFICIENCY vs LOAD (48V Model)

PLC-45 series possess superior working efficiency that up to 87.5% can be reached in field applications.

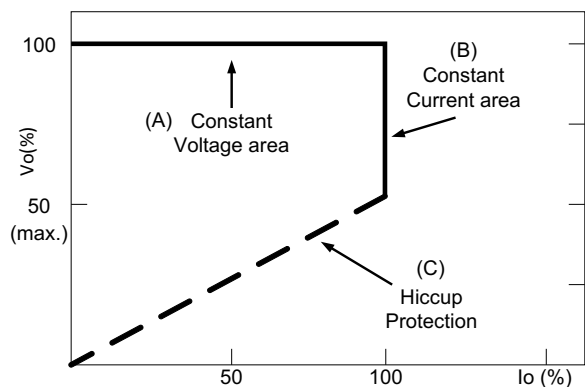


DRIVING METHODS OF LED MODULE

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