



# 12W Single Output LED Power Supply

# PLM-12E series



### ■ Features :

- Protections: Short circuit
- Cooling by free air convection
- Fully isolated plastic case
- Built-in active PFC function
- Small and compact size
- Class II power unit, no FG
- 100% full load burn-in test
- No load power consumption <0.5W
- High reliability, low cost
- Suitable for LED lighting and moving sign applications
- 2 years warranty



### SPECIFICATION

MODEL	PLM-12E-350	PLM-12E-500	PLM-12E-700	PLM-12E-1050	
OUTPUT	LED OPERATION VOLTAGE Note.5	22 ~ 36V	15 ~ 24V	11 ~ 18V	7 ~ 12V
	RATED CURRENT	0.35A	0.5A	0.7A	1.05A
	NO-LOAD OUTPUT VOLTAGE(max.)	42V	30V	22V	16V
	RATED POWER	12.6W	12W	12.6W	12.6W
	RIPPLE & NOISE (max.) Note.2	5.5Vp-p	3.6Vp-p	3.6Vp-p	2.7Vp-p
	CURRENT ACCURACY Note.3	±5.0%			
SETUP TIME	500ms / 230VAC at full load				
INPUT	VOLTAGE RANGE Note.4	180 ~ 295VAC	254 ~ 416VDC		
	FREQUENCY RANGE	47 ~ 63Hz			
	POWER FACTOR	PF ≥ 0.95/230VAC, PF ≥ 0.9/277VAC (at full load)(Please refer to "Power Factor Characteristic" curve)			
	EFFICIENCY(Typ.)	85%	84%	83%	81%
	AC CURRENT	0.08A/230VAC	0.07A/277VAC		
	INRUSH CURRENT(Typ.)	COLD START 15A(twidth=50μs measured at 50% Ipeak) at 230VAC			
LEAKAGE CURRENT	0.25mA / 240VAC				
PROTECTION	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed.			
ENVIRONMENT	WORKING TEMP.	-30 ~ +50°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	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 &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μf &amp; 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-qualify 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>				

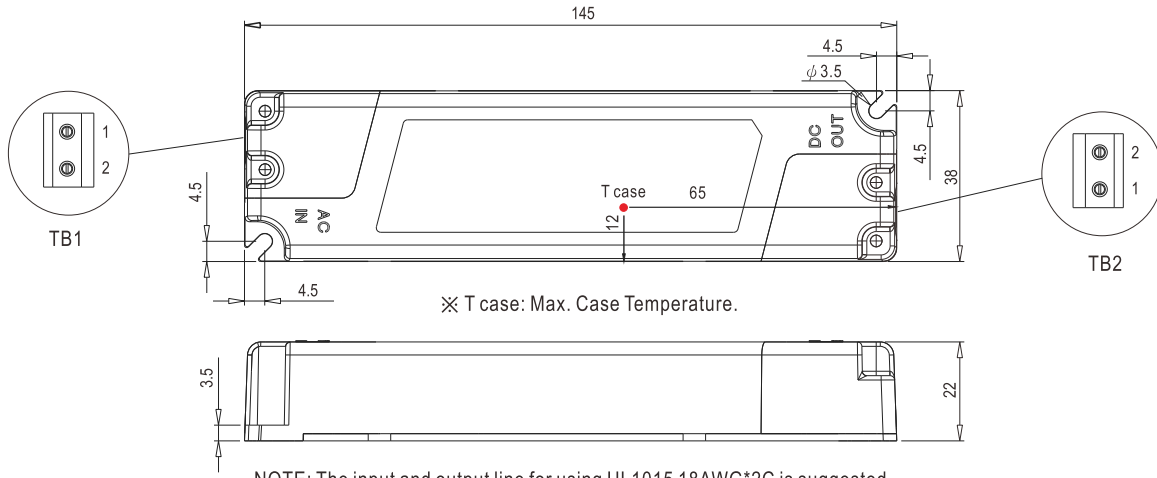


File Name: PLM-12E-SPEC 2014-12-23



**Mechanical Specification**

Case No. PLM-25 Unit: mm



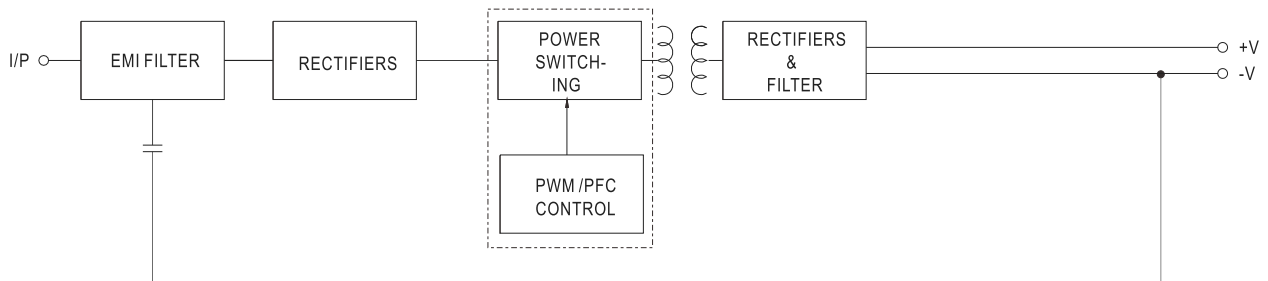
Terminal Pin No. Assignment (TB1):  
SWITCHLAB MWX201-75002EB (GRAY)

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

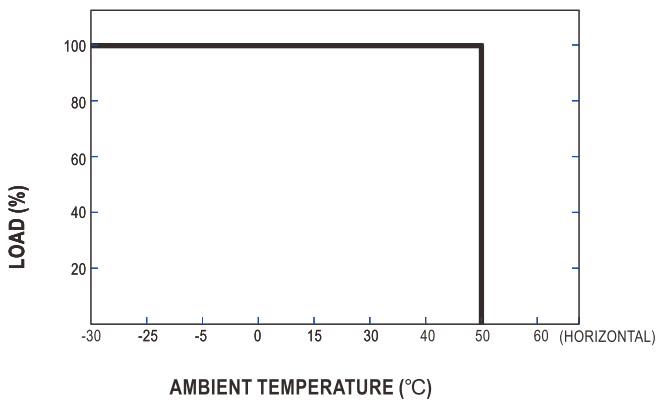
Terminal Pin No. Assignment (TB2):  
SWITCHLAB MWX201-75002B (BLUE)

Pin No.	Assignment
1	+V
2	-V

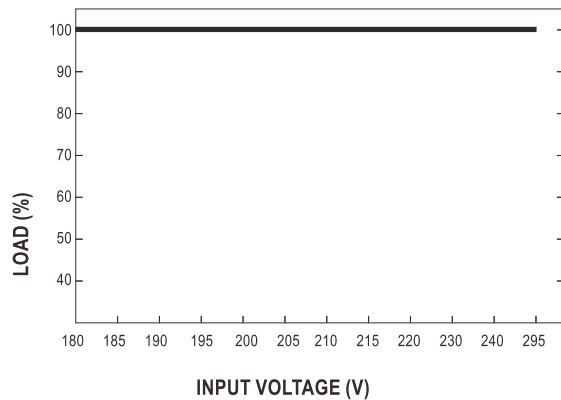
**Block Diagram**



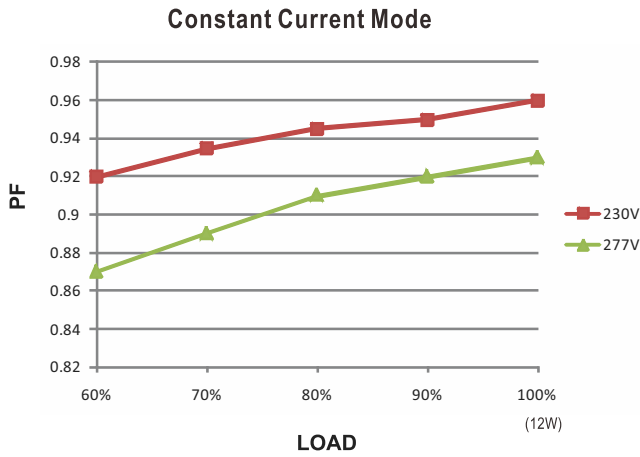
**Derating Curve**



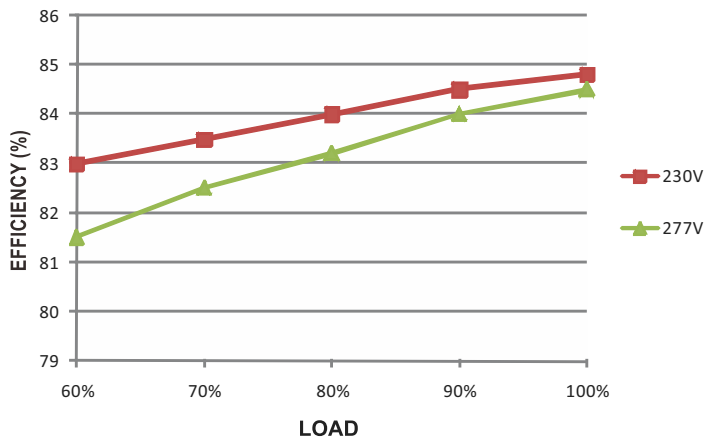
**Static Characteristics**



■ 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	<15%	<11%	<7%	<6%

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