

PLC-100 Series

100W Single Output Switching LED Power Supply



Case: 8915FC
200.5 x 69.5 x 35 mm

Features

- Universal AC input / Full range
- High efficiency up to 88.5%
- Protections: Short Circuit / Over current / Over Voltage / Over Temperature
- Cooling by free air convection
- Built-in active PFC function
- Class 2 power unit
- Pass LPS
- 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

INPUT	Voltage	90 ~ 264VAC 127 ~ 370VDC						
	Frequency	47 ~ 63 Hz						
	Power Factor	PF>0.95/115VAC, PF>0.95/230VAC at full load (please refer to "Power Factor Characteristic" curve)						
	Total Harmonic Distortion	THD<20% when output loading \geq 75% at 115VAC/230VAC input						
	Efficiency	83%	85%	88.5%	88.5%	88%	88%	88.5%
	AC Current	12V: 0.8A/115VAC 0.4A/230VAC 15V: 0.9A/115VAC 0.45A/230VAC 20V~48V: 1.1A/115VAC 0.55A/230VAC						
	Inrush Current (Typ.)	Cold start 40A (twidth=950 μ s measured at 50% Ipeak) at 230VAC						
	Max. No. of PSUs on 16A Circuit Breaker	3 units (circuit breaker of type B) / 5 units (circuit breaker of type C) at 230VAC						
Leakage Current	<0.75mA/240VAC							
OUTPUT	MODEL No.	PLC-100-12	PLC-100-15	PLC-100-20	PLC-100-24	PLC-100-27	PLC-100-36	PLC-100-48
	DC Voltage	12V	15V	20V	24V	27V	36V	48V
	Constant Current Region	9~12V	11.25~15V	15~20V	18~24V	20.25~27V	27~36V	36~48V
	Rated Current	5A	5A	4.8A	4A	3.55A	2.65A	2A
	Current Range	0~5A	0~5A	0~4.8A	0~4A	0~3.55A	0~2.65A	0~2A
	Rated Power	60W	75W	96W	96W	95.85W	95.4W	96W
	R&N	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p
	Voltage Adjustment Range	10.2~12V	12.8~15V	17~20V	20.4~24V	23~27V	30.6~36V	40.8~48V
	Current Adjustment Range	3.75~5A	3.75~5A	3.6~4.8A	3~4A	2.6~3.55A	2~2.65A	1.5~2A
	Voltage Tolerance	\pm 3.0%	\pm 3.0%	\pm 3.0%	\pm 3.0%	\pm 3.0%	\pm 2.0%	\pm 2.0%
	Line Regulation	\pm 1.0%						
	Load Regulation	\pm 2.0%						
	Setup Time	500ms/80ms/230VAC 1200ms, 80ms/115VAC at full load						
Hold Up Time	60ms/230VAC 16ms/115VAC at full load							
ENVIRONMENT	Over Current	95~102% Constant current limiting, recovers automatically after fault condition is removed						
	Over Voltage	13~16V	16.5~20V	22~27V	27~34V	30~36V	39~48V	52~64V
	Over Temperature	Shut down o/p voltage, re-power onto recover						
SAFETY & EMC	Working Temperature	-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	\pm 0.03%/°C (0 ~ 50°C)						
	Vibration	10 ~ 500Hz, 2G 12min./1 cycle, period for 72min. each along X, Y, Z axes						
OTHERS	Safety Standards	UL1310, TUV EN60950-1, EN61347-1, EN61347-2-13, GB19510.14, GB19510.1, CAN/CSA C22.2 No. 223-M91 (except 48V), J61347-1, J61347-2-13 app.						
	Withstand Voltage	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC						
	Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH						
	EMC Emission	Compliance to EN55015, GB17743, GB17625.1, EN55022 (CISPR22) Class B, EN61000-3-2, -3 Class C (\geq 70% load); EN61000-3-3						
OTHERS	EMC Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level (Surge 4KV), criteria A						
	M.T.B.F.	297.9Khrs min. MIL-HDBK-217F (25°C)						
	Packing	0.52Kg; 25pcs/14Kg/0.65CUFT						

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 0.1 μ f & 47 μ f 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 characteristic for more details.
5. This is the maximum possible output current and power. Overload protection maybe activated slightly below this level to comply with the requirement of UL1310 class 2.
6. Safety and EMC design refers to EN60598-1, subject 8750(UL), CNS15233, GB7000.1, FCC part 18.
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.
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without being permanently connected to the mains.

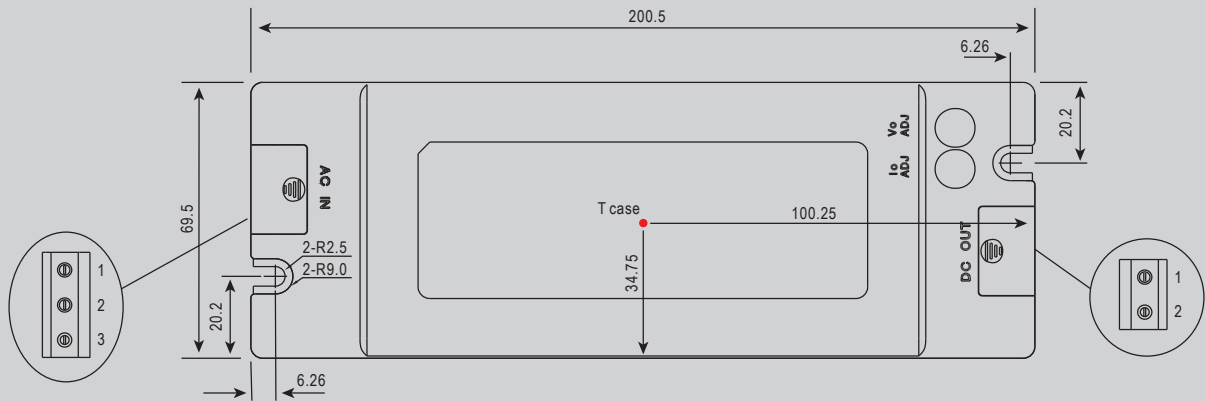
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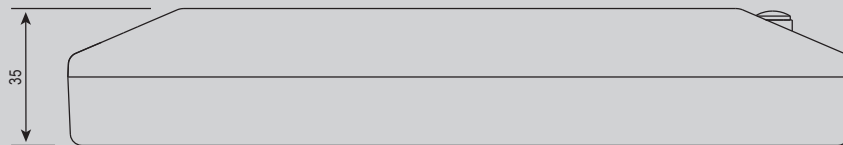


Mechanical Specification

Case No.981A Unit:mm



T case: Max. Case Temperature.



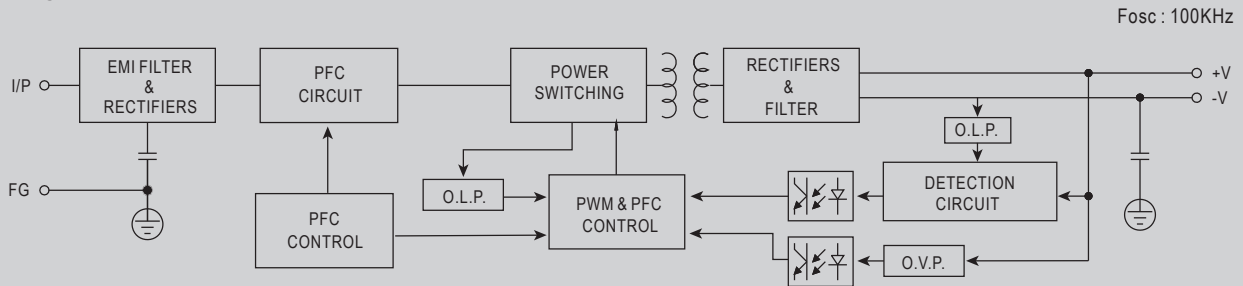
Terminal Pin No. Assignment (TB1):
SWITCHLAB MB310-75003

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

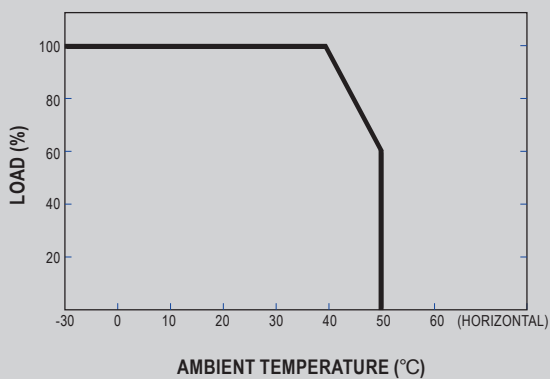
Terminal Pin No. Assignment (TB2):
SWITCHLAB MB310-75002

Pin No.	Assignment
1	+V
2	-V

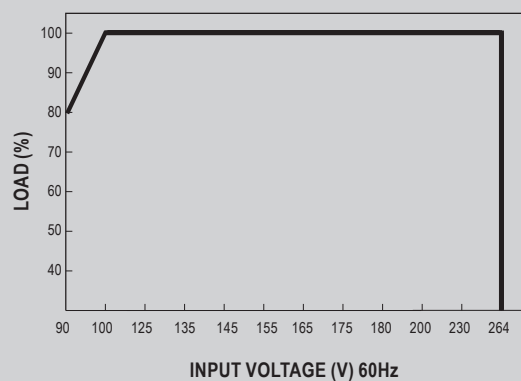
Block Diagram



Derating Curve



Static Characteristics

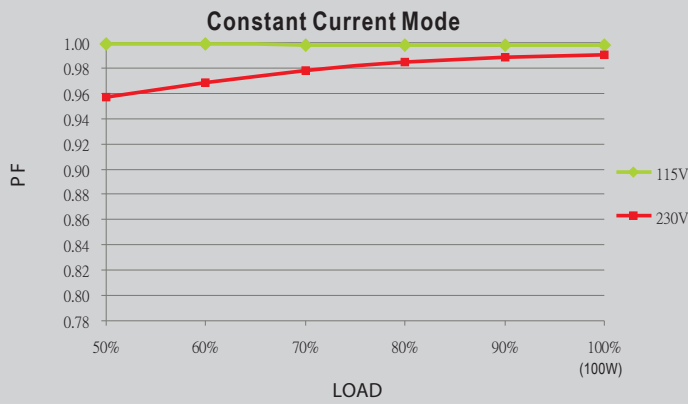


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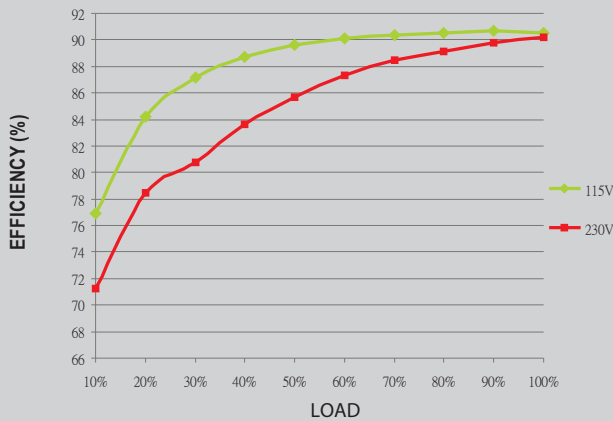


Power Factor Characteristic



Efficiency vs Load (500mA Model)

PLC-100 series possess superior working efficiency that up to 88.5% can be reached in field applications.

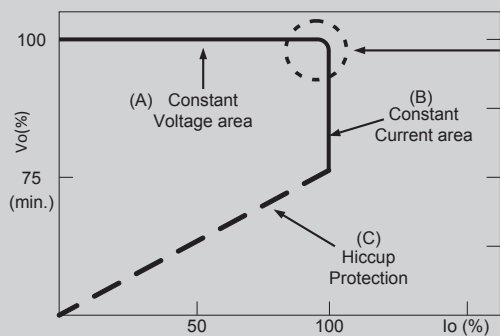


AC input voltage drop vs. output current characteristics

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

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.