

Professionally approved products.

Datasheet

Constant Voltage LED Driver 95.85W 27V 3.55A RS

RS Stock number 706-6647



■ 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

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MODEL		PLC-100-12	PLC-100-15	PLC-100-20	PLC-100-24	PLC-100-27	PLC-100-36	PLC-100-48
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	27V	36V	48V
	CONSTANT CURRENT REGION Note.4	9 ~ 12V	11.25 ~ 15V	15 ~ 20V	18 ~ 24V	20.25 ~ 27V	27 ~ 36V	36 ~ 48V
	RATED CURRENT Note.6	5A	5A	4.8A	4A	3.55A	2.65A	2A
	CURRENT RANGE Note.6	0 ~ 5A	0 ~ 5A	0 ~ 4.8A	0 ~ 4A	0 ~ 3.55A	0 ~ 2.65A	0 ~ 2A
	RATED POWER Note.6	60W	75W	96W	96W	95.85W	95.4W	96W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE(V_o ADJ)	10.2 ~ 12V	12.8 ~ 15V	17 ~ 20V	20.4 ~ 24V	23 ~ 27V	30.6 ~ 36V	40.8 ~ 48V
	CURRENT ADJ. RANGE(I_o ADJ)	3.75 ~ 5A	3.75 ~ 5A	3.6 ~ 4.8A	3 ~ 4A	2.6 ~ 3.55A	2 ~ 2.65A	1.5 ~ 2A
	VOLTAGE TOLERANCE Note.3	±3.0%	±3.0%	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%
	LINE REGULATION	±1.0%						
	LOAD REGULATION	±2.0%						
	SETUP, RISE TIME	500ms, 80ms/230VAC 1200ms, 80ms/115VAC at full load						
	HOLD UP TIME (Typ.)	60ms/230VAC 16ms/115VAC at full load						
INPUT	VOLTAGE RANGE Note.5	90 ~ 264VAC 127 ~ 370VDC						
	FREQUENCY RANGE	47 ~ 63Hz						
	POWER FACTOR (Typ.)	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≥75% at 115VAC/230VAC input						
	EFFICIENCY (Typ.)	83%	85%	88.5%	88.5%	88%	88%	88.5%
	AC CURRENT (Typ.)	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=950μs 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						
PROTECTION	OVER CURRENT (Typ.) Note.4	95 ~ 102% Protection type : 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
		Protection type : Shut down and latch off 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	±0.03%/°C (0 ~ 50°C)						
	VIBRATION	10 ~ 500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes						
SAFETY & EMC	SAFETY STANDARDS Note.7	UL1310, TUV EN60950-1, EN61347-1, EN61347-2-13, CAN/CSA C22.2 No. 223-M91(except for 48V), J61347-1, J61347-2-13 approved						
	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, EN55022 (CISPR22) Class B, EN61000-3-2,-3, Class C (≥70% load) ; EN61000-3-3						
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level, (surge 4KV), criteria A						
OTHERS	MTBF	297.9Khrs min. MIL-HDBK-217F (25°C)						
	DIMENSION	200.5*69.5*35mm (L*W*H)						
	PACKING	0.52Kg; 25pcs/14Kg/0.65CUFT						
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. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Please refer to "DRIVING METHODS OF LED MODULE". 5. Derating may be needed under low input voltage. Please check the static characteristics for more details. 6. This is the maximum possible output current and power. Over load protection may be activated slightly below this level to comply with the requirement of UL1310 class 2. 7. Safety and EMC design refer to EN60598-1, subject 8750(UL), CNS15233, GB7000.1, FCC part18. 8. 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-quality EMC Directive on the complete installation again. 9. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains.						

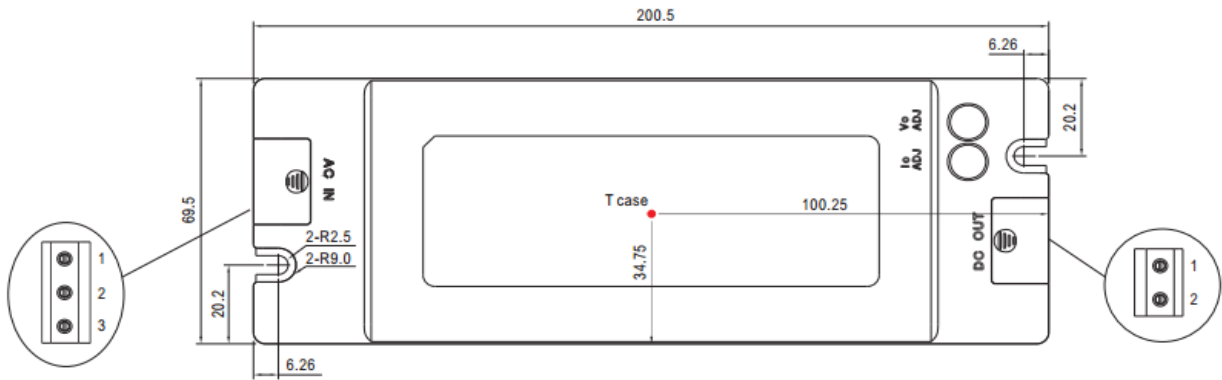
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Mechanical Specification

Case No.981A

Unit:mm



※ T case: Max. Case Temperature.



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

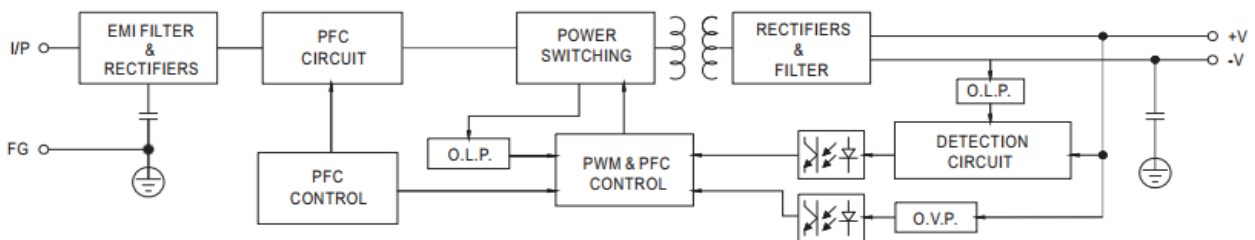
Pin No.	Assignment
1	FG ⊕
2	AC/N
3	AC/L

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

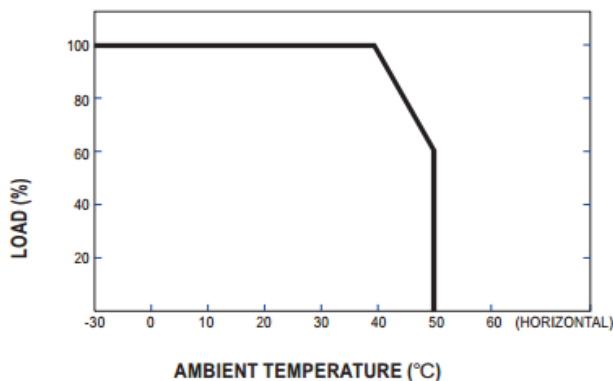
Pin No.	Assignment
1	+V
2	-V

Block Diagram

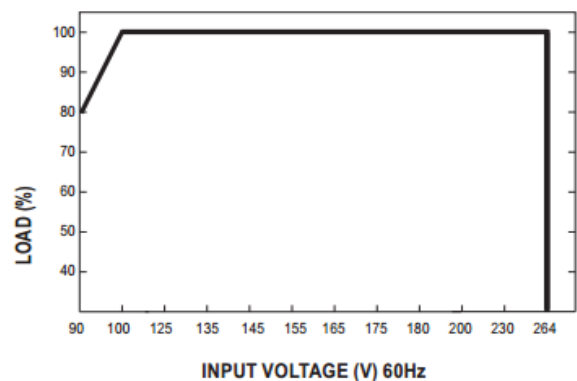
Fosc : 100KHz



Derating Curve

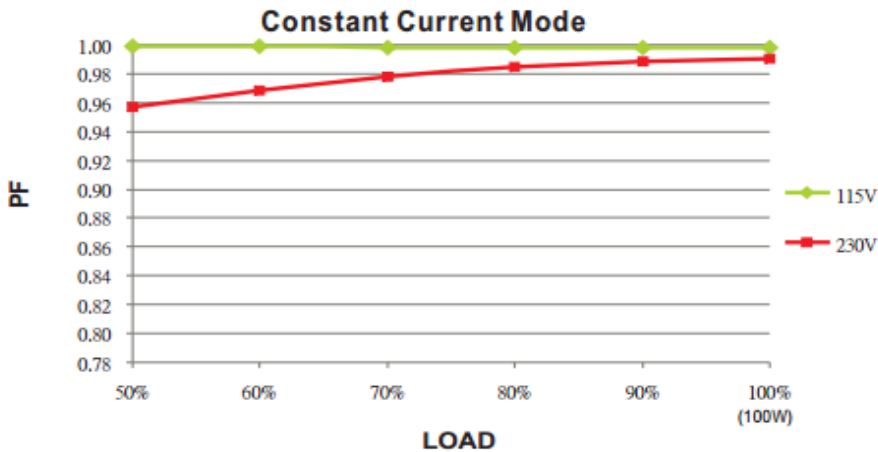


Static Characteristics



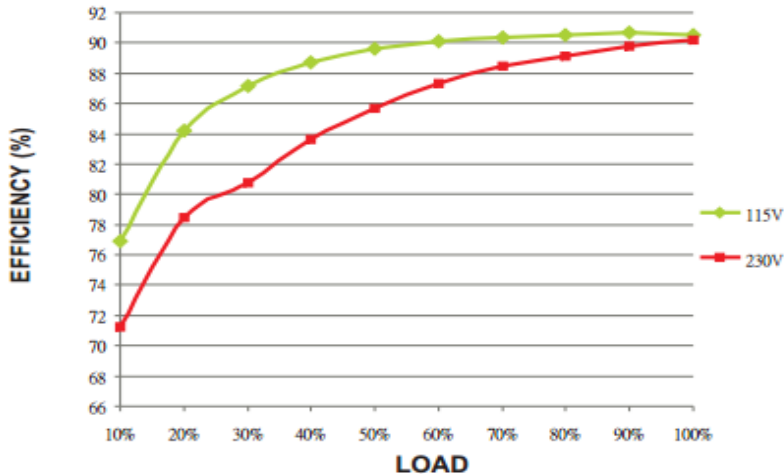
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Power Factor Characteristic

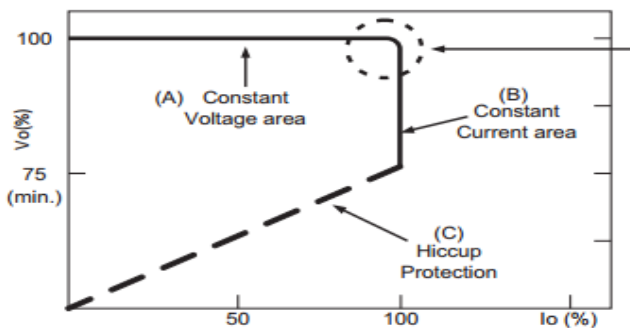


EFFICIENCY vs LOAD (48V Model)

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



DRIVING METHODS OF LED MODULE



Typical LED power supply I-V curve