



60W Single Output Switching Power Supply

CLG-60 series



■ Features :

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in active PFC function
- IP67 design for indoor or outdoor installations
- UL1310, Class 2 power unit
- Cooling by free air convection
- 100% full load burn-in test
- Suitable for LED lightening and moving sign applications.
- High reliability
- 3 years warranty

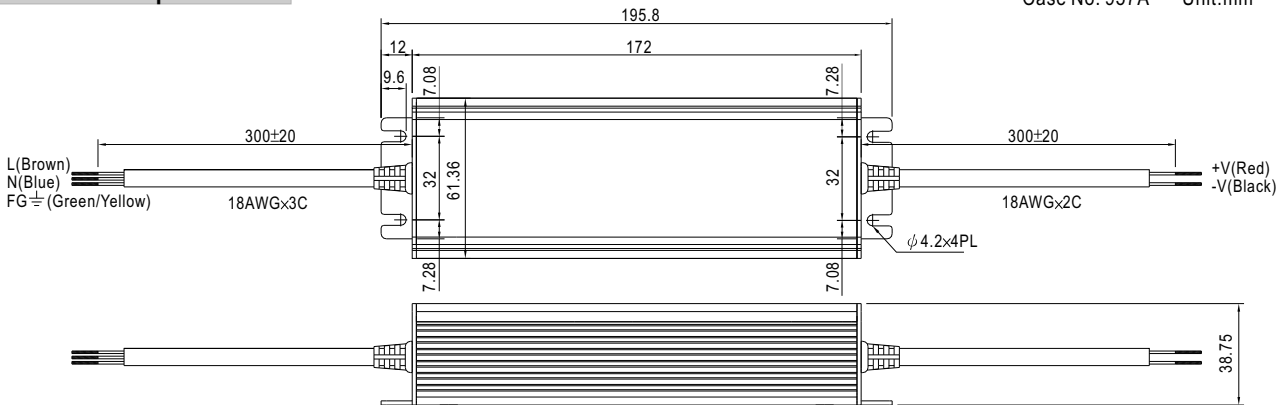


SPECIFICATION

MODEL		CLG-60-12	CLG-60-15	CLG-60-20	CLG-60-24	CLG-60-27	CLG-60-36	CLG-60-48	
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	27V	36V	48V	
	RATED CURRENT	5A	4A	3A	2.5A	2.3A	1.7A	1.3A	
	CURRENT RANGE	0 ~ 5A	0 ~ 4A	0 ~ 3A	0 ~ 2.5A	0 ~ 2.3A	0 ~ 1.7A	0 ~ 1.3A	
	RATED POWER	60W	60W	60W	60W	62.1W	61W	62.5W	
	RIPPLE & NOISE (max.) Note.2	2Vp-p	2.4Vp-p	1.8Vp-p	2.7Vp-p	2.7Vp-p	3.6Vp-p	4.6Vp-p	
	VOLTAGE ADJ. RANGE	11 ~ 13V	13.8 ~ 16.2V	18 ~ 22V	22 ~ 26V	25 ~ 30V	32.5 ~ 39V	43.6 ~ 51.8V	
		Fixed can be modified between the range above							
	CURRENT ADJ. RANGE	Fixed can be modified between 3% ~ 25% rated output current							
	VOLTAGE TOLERANCE Note.3	±10%							
	LINE REGULATION	±4.0%							
LOAD REGULATION	±10%								
SETUP, RISE TIME	1500ms, 100ms / 230VAC 3000ms, 100ms / 115VAC at full load								
INPUT	VOLTAGE RANGE Note.5	90 ~ 264VAC							
	FREQUENCY RANGE	47 ~ 63Hz							
	POWER FACTOR	PF>0.9/230VAC PF>0.98/115VAC at full load							
	EFFICIENCY(Typ.)	83%	84.5%	86.5%	86.5%	87%	87%	88%	
	AC CURRENT	0.8A/115VAC		0.4A/230VAC					
	INRUSH CURRENT(max.)	40A/230VAC							
	LEAKAGE CURRENT	0.5mA / 240VAC							
PROTECTION	OVER CURRENT	95 ~ 110%	130% (max)						
		Protection type : Constant current limiting, recovers automatically after fault condition is removed							
	SHORT CIRCUIT Note.4	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	
	Protection type : Shut down o/p voltage, re-power on to recover								
OVER TEMPERATURE	12V: 90°C ±10°C (TSW1) Detect on heatsink of power transistor								
	15V ~ 48V: 85°C ±10°C (TSW1) Detect on heatsink of power transistor								
	Protection type : Shut down o/p voltage, recovers automatically after temperature goes down								
ENVIRONMENT	WORKING TEMP.	-30 ~ +70°C (Refer to output load derating curve)							
	WORKING HUMIDITY	20 ~ 90% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH							
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)							
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes							
SAFETY & EMC	SAFETY STANDARDS	UL1310 Class 2, CAN/CSA C22.2 No. 223-M91(except for 48V), EN61347-1, EN61347-2-13, IP67 Approved							
	WITHSTAND VOLTAGE	I/P-O/P:4.25KVDC							
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms/500VDC							
	EMI CONDUCTION & RADIATION	Compliance to EN55015, EN55022 (CISPR22) Class B							
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3							
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, EN61547 Light industry level, criteria A							
OTHERS	MTBF	495.7Khrs min. MIL-HDBK-217F (25°C)							
	DIMENSION	172*61.5*39mm (L*W*H)							
	PACKING	0.86Kg; 16pcs/14.8Kg/0.54CUFT							
NOTE	<ol style="list-style-type: none"> 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 OLP characteristics. 5. Derating may be needed under low input voltage. Please check the derating curve for more details. 								

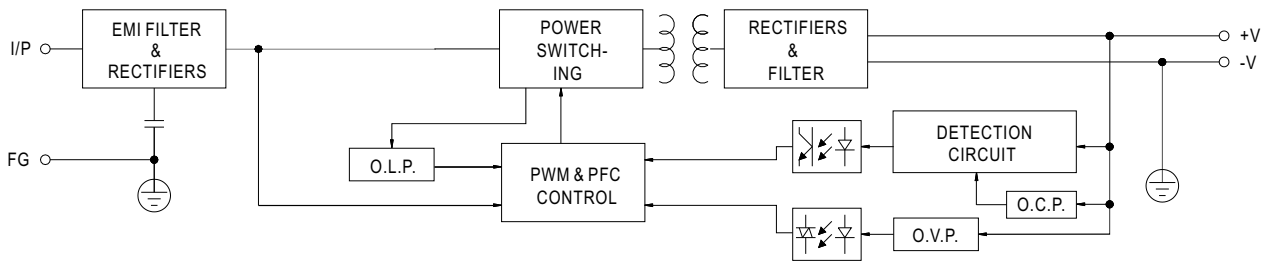
Mechanical Specification

Case No. 957A Unit:mm

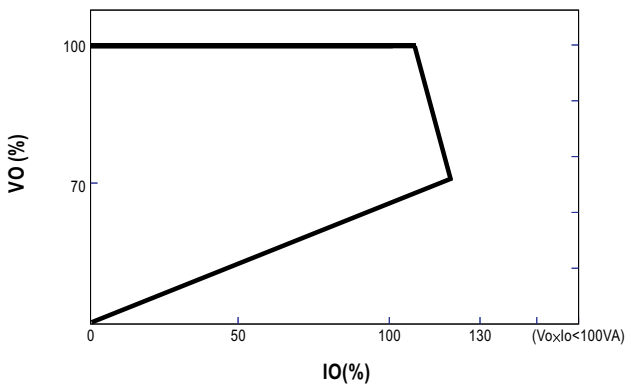


Block Diagram

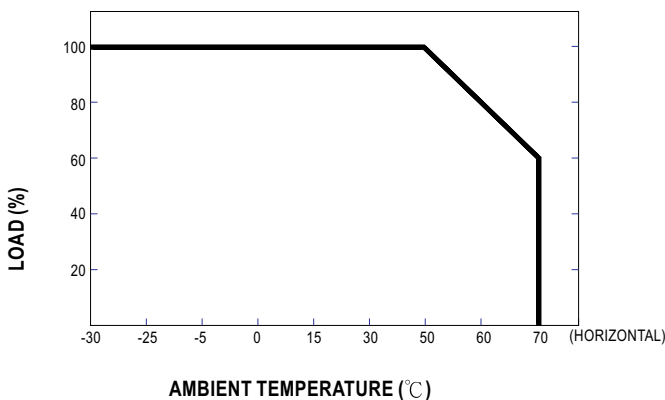
fosc : 90KHz(115VAC)
120KHz(230VAC)



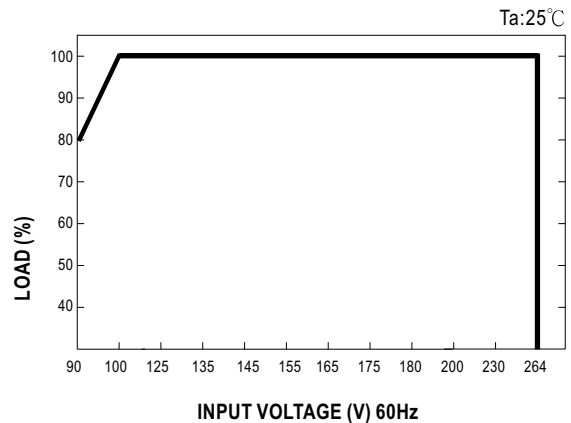
OLP Characteristics



Derating Curve



Static Characteristics





■ Features :

- Universal AC input / Full range
- Fully isolated plastic case with IP64 level
- Built-in constant current limiting circuit with adjustable OCP level
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in active PFC function
- IP64 design for indoor or outdoor installations
- UL1310, Class 2 power unit
- Cooling by free air convection
- 100% full load burn-in test
- Suitable for LED lightening and moving sign applications
- High reliability
- 2 years warranty

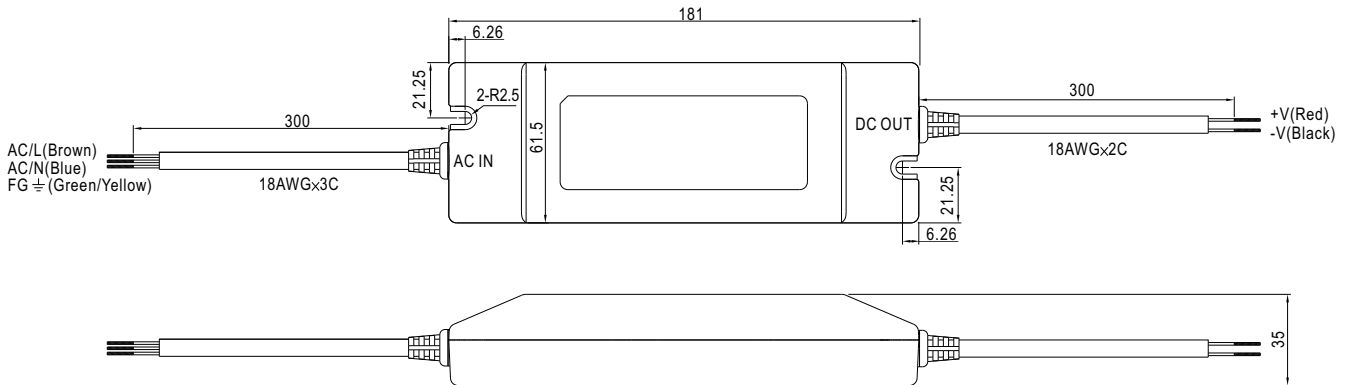


SPECIFICATION

MODEL	PLN-60-12	PLN-60-15	PLN-60-20	PLN-60-24	PLN-60-27	PLN-60-36	PLN-60-48	
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	27V	36V	48V
	RATED CURRENT	5A	4A	3A	2.5A	2.3A	1.7A	1.3A
	CURRENT RANGE	0 ~ 5A	0 ~ 4A	0 ~ 3A	0 ~ 2.5A	0 ~ 2.3A	0 ~ 1.7A	0 ~ 1.3A
	RATED POWER	60W	60W	60W	60W	62.1W	61W	62.5W
	RIPPLE & NOISE (max.) Note.2	2Vp-p	2.4Vp-p	1.8Vp-p	2.7Vp-p	2.7Vp-p	3.6Vp-p	4.6Vp-p
	VOLTAGE ADJ. RANGE Note.6	11 ~ 13V	13.8 ~ 16.2V	18 ~ 22V	22 ~ 26V	25 ~ 30V	32.5 ~ 39V	43.6 ~ 51.8V
	CURRENT ADJ. RANGE Note.6	3% ~ -25%						
	VOLTAGE TOLERANCE Note.3	±10%						
	LINE REGULATION	±4.0%						
	LOAD REGULATION	±10%						
SETUP, RISE TIME	1500ms, 100ms / 230VAC 3000ms, 100ms / 115VAC at full load							
INPUT	VOLTAGE RANGE Note.5	90 ~ 264VAC						
	FREQUENCY RANGE	47 ~ 63Hz						
	POWER FACTOR	PF>0.9/230VAC PF>0.98/115VAC at full load						
	EFFICIENCY(Typ.)	83%	84.5%	86.5%	86.5%	87%	87%	88%
	AC CURRENT	0.8A/115VAC		0.4A/230VAC				
	INRUSH CURRENT(max.)	40A/230VAC						
	LEAKAGE CURRENT	0.5mA / 240VAC						
PROTECTION	OVER CURRENT	95 ~ 110%	130% (max)					
	SHORT CIRCUIT Note.4	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°C ±10°C (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°C (Refer to output load derating curve)						
	WORKING HUMIDITY	20 ~ 90% RH non-condensing						
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH						
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)						
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes						
SAFETY & EMC	SAFETY STANDARDS	UL1310 Class 2, CAN/CSA C22.2 No. 223-M91(except for 48V), EN61347-1, EN61347-2-13, IP64 Approved						
	WITHSTAND VOLTAGE	I/P-O/P:4.25KVDC						
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	EMI CONDUCTION & RADIATION	Compliance to EN55015, EN55022 (CISPR22) Class B						
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3						
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, EN61547 Light industry level, criteria A						
OTHERS	MTBF	497.8Khrs min. MIL-HDBK-217F (25°C)						
	DIMENSION	181*61.5*35mm (L*W*H)						
	PACKING	0.5Kg; 24pcs/13Kg/0.75CUFT						
NOTE	<ol style="list-style-type: none"> 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 OLP characteristics. 5. Derating may be needed under low input voltage. Please check the derating curve for more details. 6. Output voltage can be adjusted through the SVR1 on the PCB ; limit of output constant current level can be adjusted through the SVR2 on the PCB. 							

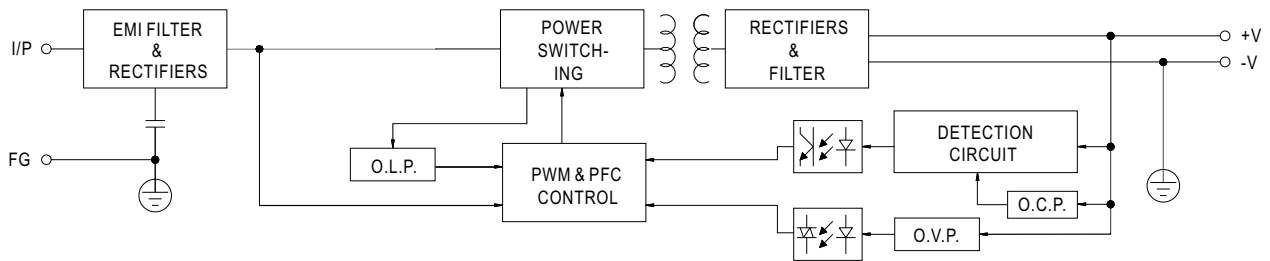
Case No.960A Unit:mm

Mechanical Specification

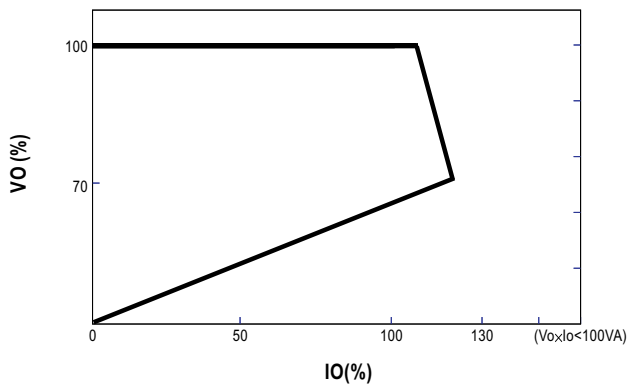


Block Diagram

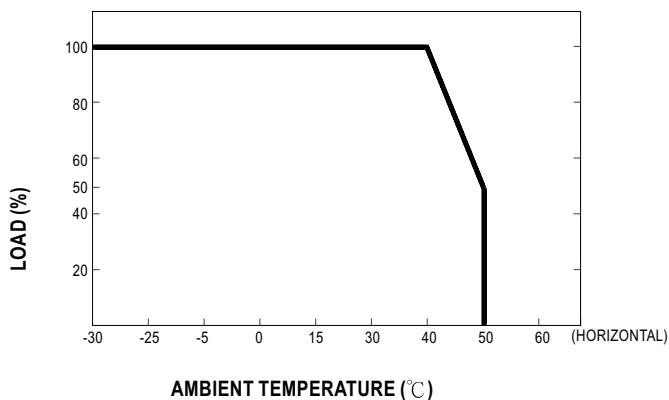
fosc : 90KHz(115VAC)
120KHz(230VAC)



OLP Characteristics



Derating Curve



Static Characteristics

