



Features:

- Universal AC input / Full range (up to 295VAC)
- High efficiency 89%
- 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
- Pass LPS
- Cooling by free air convection
- 100% full load burn-in test
- High reliability
- Suitable for LED lighting and moving sign applications (Note.2)
- · Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 3 years warranty













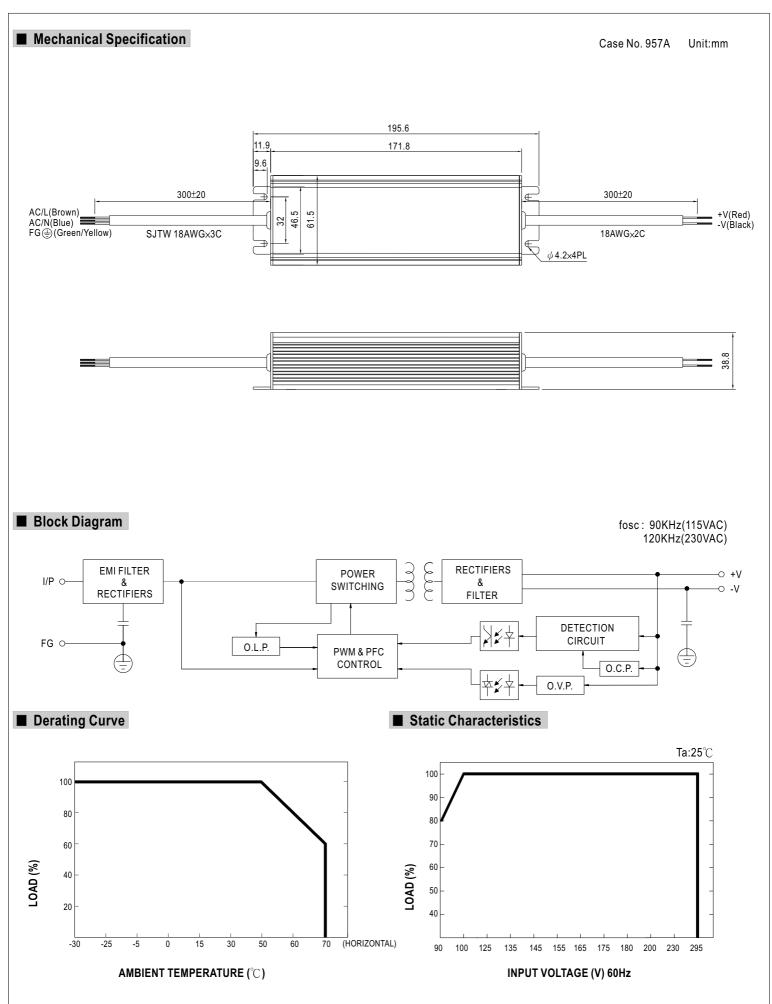


SPECIFICATION

OC VOLTAGE CONSTANT CURRENT REGION Note.5 RATED CURRENT CURRENT RANGE RATED POWER RIPPLE & NOISE (max.) Note.2 VOLTAGE ADJ. RANGE CURRENT ADJ. RANGE VOLTAGE TOLERANCE Note.3 LINE REGULATION COAD REGULATION SETUP TIME VOLTAGE RANGE Note.4 FREQUENCY RANGE POWER FACTOR EFFICIENCY(Typ.)	5A 0 ~ 5A 60W 2Vp-p 11.5 ~ 13V Fixed can be mode ±10% ±3.0% ±5.0% 3000ms / 230VA	C 5000ms / 115\	% ~ -25% rated out	24V 16.8 ~ 24V 2.5A 0 ~ 2.5A 60W 2.7Vp-p 24 ~ 26V	27V 18.9 ~ 27V 2.3A 0 ~ 2.3A 62.1W 2.7Vp-p 25 ~ 30V	36V 25.2 ~ 36V 1.7A 0 ~ 1.7A 61W 3.6Vp-p 32.5 ~ 39V	48V 33.6 ~ 48V 1.3A 0 ~ 1.3A 62.5W 4.6Vp-p 43.6 ~ 51.8V					
RATED CURRENT CURRENT RANGE RATED POWER RIPPLE & NOISE (max.) Note.2 /OLTAGE ADJ. RANGE CURRENT ADJ. RANGE /OLTAGE TOLERANCE Note.3 LINE REGULATION LOAD REGULATION SETUP TIME /OLTAGE RANGE Note.4 REQUENCY RANGE POWER FACTOR	5A 0 ~ 5A 60W 2Vp-p 11.5 ~ 13V Fixed can be mod ±10% ±3.0% ±5.0% 3000ms / 230VAC 90 ~ 295VAC	4A 0 ~ 4A 60W 2.4Vp-p 14.5 ~ 16.2V diffied between the odified between 30 C 5000ms / 115V	3A 0 ~ 3A 60W 1.8Vp-p 19.5 ~ 22V range above % ~ -25% rated out	2.5A 0 ~ 2.5A 60W 2.7Vp-p 24 ~ 26V	2.3A 0 ~ 2.3A 62.1W 2.7Vp-p	1.7A 0 ~ 1.7A 61W 3.6Vp-p	1.3A 0 ~ 1.3A 62.5W 4.6Vp-p					
CURRENT RANGE RATED POWER RIPPLE & NOISE (max.) Note.2 /OLTAGE ADJ. RANGE CURRENT ADJ. RANGE /OLTAGE TOLERANCE Note.3 LINE REGULATION LOAD REGULATION SETUP TIME /OLTAGE RANGE Note.4 REQUENCY RANGE POWER FACTOR	0~5A 60W 2Vp-p 11.5~13V Fixed can be mod ±10% ±3.0% ±5.0% 3000ms / 230VAC	0 ~ 4A 60W 2.4Vp-p 14.5 ~ 16.2V diffied between the odified between 3 ^c	0 ~ 3A 60W 1.8Vp-p 19.5 ~ 22V range above % ~ -25% rated out	0 ~ 2.5A 60W 2.7Vp-p 24 ~ 26V	0 ~ 2.3A 62.1W 2.7Vp-p	0 ~ 1.7A 61W 3.6Vp-p	0 ~ 1.3A 62.5W 4.6Vp-p					
RATED POWER RIPPLE & NOISE (max.) Note.2 /OLTAGE ADJ. RANGE CURRENT ADJ. RANGE /OLTAGE TOLERANCE Note.3 LINE REGULATION LOAD REGULATION SETUP TIME /OLTAGE RANGE Note.4 REQUENCY RANGE POWER FACTOR	60W 2Vp-p 11.5 ~ 13V Fixed can be mod ±10% ±3.0% ±5.0% 3000ms / 230VAC	60W 2.4Vp-p 14.5 ~ 16.2V diffied between the odified between 3°	60W 1.8Vp-p 19.5 ~ 22V range above % ~ -25% rated out	60W 2.7Vp-p 24~26V	62.1W 2.7Vp-p	61W 3.6Vp-p	62.5W 4.6Vp-p					
RIPPLE & NOISE (max.) Note.2 /OLTAGE ADJ. RANGE CURRENT ADJ. RANGE /OLTAGE TOLERANCE Note.3 LINE REGULATION LOAD REGULATION SETUP TIME /OLTAGE RANGE Note.4 REQUENCY RANGE POWER FACTOR	2Vp-p 11.5 ~ 13V Fixed can be mode Fixed. Can be mode ±10% ±3.0% ±5.0% 3000ms / 230VAC 90 ~ 295VAC	2.4Vp-p 14.5 ~ 16.2V diffied between the addified between 3°	1.8Vp-p 19.5 ~ 22V range above % ~ -25% rated out	2.7Vp-p 24 ~ 26V	2.7Vp-p	3.6Vp-p	4.6Vp-p					
CURRENT ADJ. RANGE CURRENT ADJ. RANGE COLTAGE TOLERANCE Note.3 LINE REGULATION LOAD REGULATION SETUP TIME COLTAGE RANGE COURT RANGE COWER FACTOR	11.5 ~ 13V Fixed can be mod Fixed. Can be mod ±10% ±3.0% ±5.0% 3000ms / 230VAC 90 ~ 295VAC	14.5 ~ 16.2V diffied between the bidfied between 3°	19.5 ~ 22V range above % ~ -25% rated out	24 ~ 26V								
CURRENT ADJ. RANGE /OLTAGE TOLERANCE Note.3 LINE REGULATION LOAD REGULATION SETUP TIME /OLTAGE RANGE Note.4 REQUENCY RANGE POWER FACTOR	Fixed can be mod Fixed. Can be mod ±10% ±3.0% ±5.0% 3000ms / 230VAC 90 ~ 295VAC	diffied between the brighted between 3° C 5000ms / 115\	range above % ~ -25% rated out		25 ~ 30V	32.5 ~ 39V	43.6 ~ 51.8V					
CURRENT ADJ. RANGE /OLTAGE TOLERANCE Note.3 LINE REGULATION LOAD REGULATION SETUP TIME /OLTAGE RANGE Note.4 REQUENCY RANGE POWER FACTOR	Fixed. Can be mo ±10% ±3.0% ±5.0% 3000ms / 230VAO 90 ~ 295VAC	odified between 39	% ~ -25% rated out	put voltage								
OLTAGE TOLERANCE Note.3 LINE REGULATION LOAD REGULATION SETUP TIME OLTAGE RANGE Note.4 REQUENCY RANGE OWER FACTOR	±3.0% ±3.0% ±5.0% 3000ms / 230VAC 90 ~ 295VAC	C 5000ms / 115\		put voltage								
INE REGULATION OAD REGULATION SETUP TIME OLTAGE RANGE Note.4 REQUENCY RANGE OWER FACTOR	±3.0% ±5.0% 3000ms / 230VA0 90 ~ 295VAC											
OAD REGULATION SETUP TIME OLTAGE RANGE Note.4 REQUENCY RANGE OWER FACTOR	±5.0% 3000ms / 230VA0 90 ~ 295VAC					±10%						
SETUP TIME /OLTAGE RANGE Note.4 REQUENCY RANGE POWER FACTOR	3000ms / 230VA0 90 ~ 295VAC				±3.0%							
OLTAGE RANGE Note.4 REQUENCY RANGE POWER FACTOR	90 ~ 295VAC			±5.0%								
REQUENCY RANGE POWER FACTOR		127 ~ 417VDC	3000ms / 230VAC 5000ms / 115VAC at full load									
POWER FACTOR	47 ~ 63Hz	90 ~ 295VAC 127 ~ 417VDC										
		47 ~ 63Hz										
FFICIENCY(Typ.)	PF≥0.9 at 75 ~ 100% load, 115VAC / 230VAC											
	85%	86%	87.5%	87%	88%	89%	89%					
AC CURRENT	0.8A/115VAC	0.4A/230VAC			·		·					
NRUSH CURRENT(max.)	40A/230VAC											
EAKAGE CURRENT	<0.75mA / 240VAC											
OVER CURRENT	95 ~ 110%											
	Protection type: Constant current limiting, recovers automatically after fault condition is removed											
SHORT CIRCUIT	Hiccup mode, re-	covers automatica	ally after fault cond	ition is removed								
OVER VOLTAGE OVER TEMPERATURE	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											
	12V: 90°C ±10°C (TSW1) detect on heatsink of power transistor											
	$15V \sim 48V: 85^{\circ}\text{C} \pm 10^{\circ}\text{C}$ (TSW1) detect on heatsink of power transistor											
	Protection type: Shut down o/p voltage, recovers automatically after temperature goes down											
VORKING TEMP.	-30 ~ +70°C (Refer to output load derating curve)											
VORKING HUMIDITY	20 ~ 95% RH non-condensing											
STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH											
EMP. COEFFICIENT	±0.03%/°C (0~50°C)											
/IBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes											
SAFETY STANDARDS	UL879, UL8750, UL1310 Class 2, TUV EN61347-1, EN61347-2-13 independent, CAN/CSA C22.2 No. 223-M91(except for 48V)											
	J61347-1, J61347-2-13(20~27only), IP67 approved											
VITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:1.88KVAC O/P-FG:0.5KVAC											
SOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH											
MI CONDUCTION & RADIATION												
IARMONIC CURRENT	Compliance to EN61000-3-2 Class C (≥75% load); EN61000-3-3											
MS IMMUNITY	Compliance to E	N61000-4-2,3,4,5	,6,8,11; ENV50204	1, EN55024, EN6	1547, light industry	level (surge 4KV),	criteria A					
MTBF	495.7Khrs min. MIL-HDBK-217F (25°C)											
DIMENSION	195.6*61.5*38.8mm (L*W*H)											
ACKING	0.86Kg; 16pcs/14.8Kg/0.54CUFT											
							_					
STORE MATERIAL PROPERTY OF THE	CER VOLTAGE VER TEMPERATURE DRKING TEMP. DRKING HUMIDITY ORAGE TEMP., HUMIDITY MP. COEFFICIENT BRATION JETY STANDARDS THSTAND VOLTAGE DLATION RESISTANCE I CONDUCTION & RADIATION JETY STANDARDS THSTAND VOLTAGE DLATION RESISTANCE I CONDUCTION & RADIATION JETY STANDARDS THSTAND VOLTAGE DLATION RESISTANCE JETY STANDARDS THSTANDARDS THST	Protection type :	Protection type : Constant current Protection type : Constant current	Protection type : Constant current limiting, recovers a IORT CIRCUIT Hiccup mode, recovers automatically after fault cond 13.8 ~ 16V 17.5 ~ 21V 22.8 ~ 25V Protection type : Shut down o/p voltage, re-power on 12V: 90°C ±10°C (TSW1) detect on heatsink of pow. 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of protection type : Shut down o/p voltage, recovers a 15V ~ 48V:	Protection type: Constant current limiting, recovers automatically after fault condition is removed 13.8 ~ 16V 17.5 ~ 21V 22.8 ~ 25V 28 ~ 32V Protection type: Shut down o/p voltage, re-power on to recover 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 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of power transistor 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of power transistor 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of power transistor 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of power transistor 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of power transistor 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of power transistor 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of power transistor 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of power transistor 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of power transistor 15V ~ 48V: 85°C ±10°C (TSW1) detect on heatsink of power transistor 15V ~ 48V: 85°C ±10°C (Refer to output load derating curve) 15V ~ 48V: 85°C ±10°C (Refer to output load derating curve) 15V ~ 48V: 85°C ±10°C (Refer to output load derating curve) 15V ~ 48V: 85°C ±10°C (Refer to output load derating curve) 10V ~ 40°C ±10°C (Refer to output load derating curve) 10V ~ 40°C ±10°C (Refer to output load derating curve) 10V ~ 40°C ±10°C (Refer to output load derating curve) 10V ~ 40°C ±10°C (Refer to output load derating curve) 10V ~ 40°C ±10°C (Refer to output load derating curve) 10V ~ 40°C ±10°C (Refer to output load derating curve) 10V ~ 40°C ±10°C (Refer to output load derating curve) 10V ~ 40°C ±10°C (Refer to output load derating curve) 10V ~ 40°C ±10°C (Refer to output load derating curve) 10V ~ 40°C ±10°C ±10	Protection type : Constant current limiting, recovers automatically after fault condition is a licenter of the control of the	Protection type : Constant current limiting, recovers automatically after fault condition is removed Protection Hiccup mode, recovers automatically after fault condition is removed					

- Direct connecting to LEDs is not suggested for models with "RIPPLE & NOISE" >±10% and using additional drivers is highly recommended.
- 3. Tolerance: includes set up tolerance, line regulation and load regulation.
- 4. Derating may be needed under low input voltage. Please check the static characteristics for more details.
- 5. Constant current operation region is within 70% ~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.
- 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.

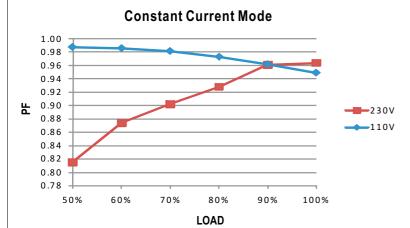






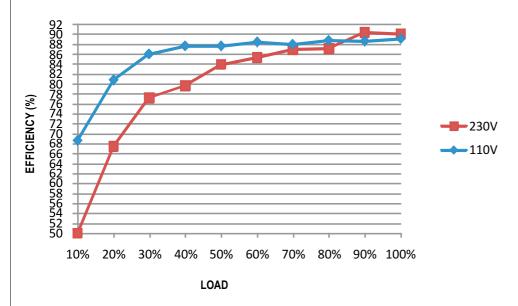
■ Power Factor Characteristic

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



■ EFFICIENCY vs LOAD (48V Model)

CLG-60 series possess superior working efficiency that up to 89% can be reached in field applications.

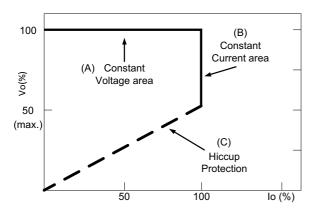


■ DRIVING METHODS OF LED MODULE

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