



■ Features :

- Universal AC input / Full range(up to 305VAC)
- Protections:Short circuit/Over load/Over voltage/Over temperature
- Built-in active PFC function
- High efficiency up to 90%
- Cooling by free air convection
- IP65 design for indoor and outdoor installations
- Small and compact size
- High reliability,low cost
- Suitable for LED lighting and moving sign applications
- 3 years warranty

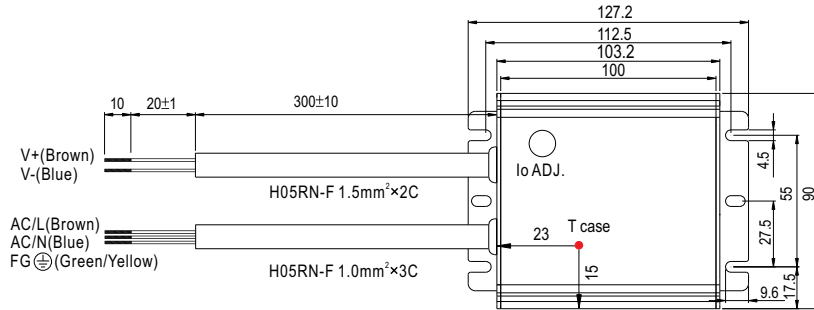


**SPECIFICATION**

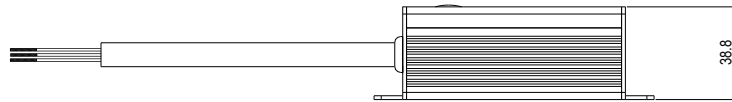
MODEL		HSG-70-12	HSG-70-18	HSG-70-24	HSG-70-36	HSG-70-48
OUTPUT	DC VOLTAGE	12V	18V	24V	36V	48V
	CONSTANT CURRENT REGION Note.5	7.7 ~ 12V	11.3 ~ 18V	15.5 ~ 24V	22.1 ~ 36V	29.3 ~ 48V
	RATED CURRENT	5.0A	4.0A	3.0A	2.0A	1.5A
	RATED POWER	60W	72W	72W	72W	72W
	CURRENT ADJ. RANGE	Can be adjusted by internal potentiometer				
		3 ~ 5A	2.4 ~ 4A	1.8 ~ 3A	1.2 ~ 2A	0.9 ~ 1.5A
	RIPPLE & NOISE (max.) Note.2	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p
	VOLTAGE TOLERANCE Note.3	±2.5%	±2.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±1.5%	±0.5%	±0.5%	±0.5%
SETUP, RISE TIME Note.7	2000ms,80ms / 115VAC 1000ms,80ms / 230VAC at full load					
HOLD UP TIME	16ms at full load 230VAC/115VAC					
INPUT	VOLTAGE RANGE Note.4	90 ~ 305VAC 127~431VDC				
	FREQUENCY RANGE	47 ~ 63Hz				
	POWER FACTOR(Typ.)	PF≧0.96/115VAC, PF≧0.96/230VAC,PF>0.92/277VAC at full load(please refer to "Power Factor characteristic curve")				
	EFFICIENCY(Typ.)	88%	89%	89%	90%	90%
	AC CURRENT	0.85A/115VAC	0.425A/230VAC	0.4A/277VAC		
	INRUSH CURRENT(Typ.)	Cold start 70A/230VAC				
LEAKAGE CURRENT	<0.75mA / 277VAC					
PROTECTION	OVER CURRENT Note.5	95 ~ 108% Protection type : Constant current limiting, recovers automatically after fault condition is removed				
	SHORT CIRCUIT	Protection type : Hiccup mode, recovers automatically after fault condition is removed.				
	OVER VOLTAGE	14 ~ 17V	21 ~ 25V	28 ~ 34V	41 ~ 48V	54 ~ 63V
		Protection type : Shut down o/p voltage, re-power on to recover				
	OVER TEMPERATURE	100°C±10°C (RTH2) Protection type : Shut down o/p voltage, re-power on to recover				
ENVIRONMENT	WORKING TEMP.	-40 ~ +70°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, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes				
SAFETY & EMC	SAFETY STANDARDS	IP65 approved; design refer to TUV EN61347-1, EN61347-2-13, UL8750				
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:1.88KVAC 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,EN61000-3-2 Class C(≧65% 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	338.2Khrs min. MIL-HDBK-217F (25°C)				
	DIMENSION	127.2*90*38.8mm (L*W*H)				
	PACKING	0.76Kg;16pcs/ 12.3Kg/0.57CUFT				
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 0.1uf &amp; 47uf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Derating may be needed under low input voltage, please check the static characteristics for more details.</p> <p>5. Constant current operation region is within 65% ~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-quality EMC Directive on the complete installation again.</p> <p>7. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.</p>					

## Mechanical Specification

Case No. HSG-70 Unit: mm

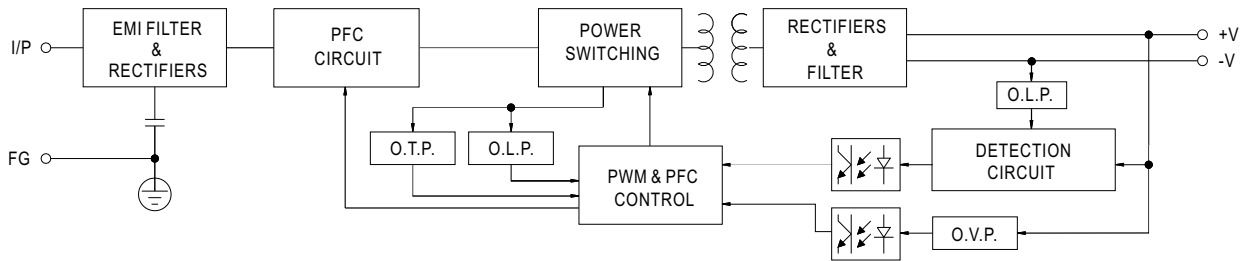


※ T case: Max. Case Temperature

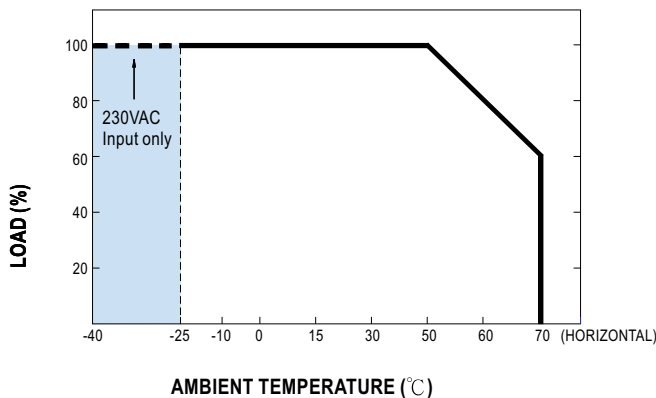


※ IP65 rated. Constant current level can be adjusted through internal potentiometer.  
 (Can access by removing the rubber stopper on the case.)

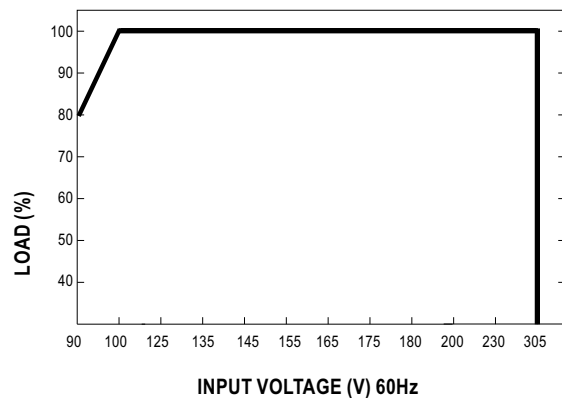
## Block Diagram



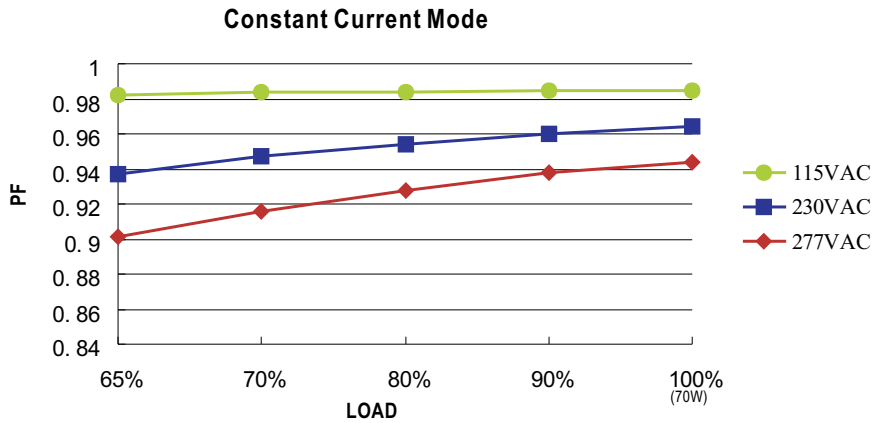
## Derating Curve



## Static Characteristics

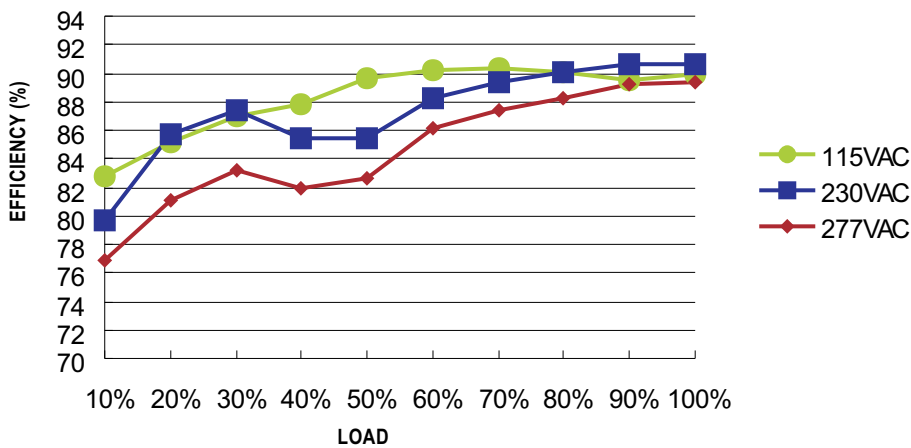


### Power Factor Characteristic



### EFFICIENCY vs LOAD (48V Model)

HSG-70 series possess superior working efficiency that up to 90% 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)).

