



■ Features :

- Universal AC input / Full range
- Built-in constant current limiting circuit with adjustable OCP level
- Protections: Short circuit / Overload / Over voltage
- Fully isolated plastic case with IP64 level
- IP64 design for indoor or outdoor installations
- Optional dimming function : 1-10VDC(D type) or PWM controlled(P type)
- UL1310 Class 2 power unit
- Cooling by free air convection
- 100% full load burn-in test
- Low cost, high reliability
- Suitable for LED lighting and moving sign applications
- 2 years warranty

IP64 CE

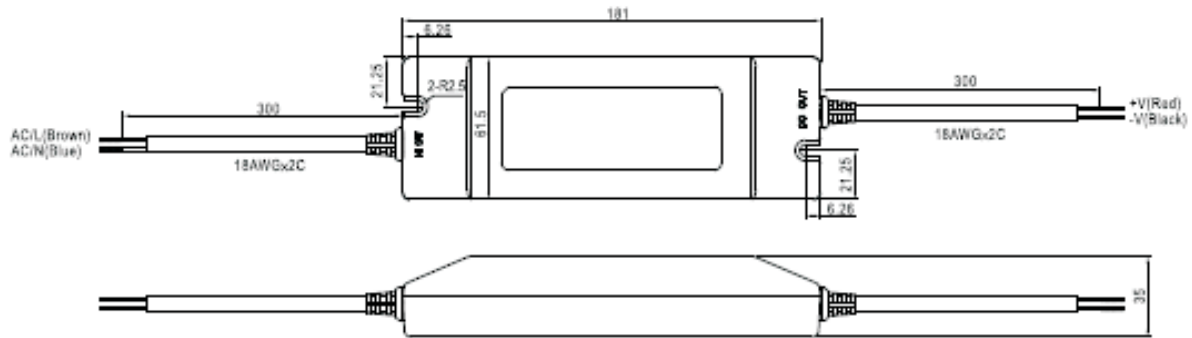
SPECIFICATION

MODEL	666-3597	706-6552	660-0158	660-0167	660-0160	660-0164	
OUTPUT	DC VOLTAGE	9V	12V	15V	24V	27V	48V
	LED OPERATION VOLTAGE Note.4	3 - 9V	3 - 12V	3 - 15V	3 - 24V	3 - 27V	3 - 48V
	RATED CURRENT	5A	5A	4A	2.5A	2.3A	1.3A
	CURRENT RANGE	0 - 5A	0 - 5A	0 - 4A	0 - 2.5A	0 - 2.3A	0 - 1.3A
	RATED POWER	45W	60W	60W	60W	62.1W	62.5W
	RIPPLE & NOISE (max.) Note.2	120mVp-p	120mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p
	VOLTAGE ADJ. RANGE Note.7	8.7 - 10.5V	10.8 - 13.2V	13.5 - 16.5V	21.6 - 26.4V	24.3 - 29.7V	43.2 - 52.8V
	Can be adjusted by internal potentiometer SVR1						
	CURRENT ADJ. RANGE Note.7	-25% - 3%. Can be adjusted by internal potentiometer SVR2					
	VOLTAGE TOLERANCE Note.3	±5.0%					
	LINE REGULATION	±1.0%					
LOAD REGULATION	±2.0%						
SETUP, RISE TIME Note.6	500ms, 30ms / 230VAC 1500ms, 30ms / 115VAC at full load						
HOLD UP TIME (Typ.)	50ms/230VAC 16ms/115VAC at full load						
INPUT	VOLTAGE RANGE Note.5	90 - 264VAC					
	FREQUENCY RANGE	47 - 63Hz					
	EFFICIENCY (Typ.)	82%	85%	86%	87%	87%	88%
	AC CURRENT (Typ.)	1.2A/115VAC 0.7A/230VAC					
	INRUSH CURRENT(max.)	COLD STAR 60A/230VAC					
LEAKAGE CURRENT	0.25mA / 240VAC						
PROTECTION	OVER CURRENT	95 - 110%		130% max.			
	Protection type : Constant current limiting, recovers automatically after fault condition is removed						
OVER VOLTAGE	11 - 13.5V	13.8 - 16V	17.5 - 21V	28 - 32V	31 - 35V	54 - 60V	
	Protection type : Shut down o/p voltage, re-power on to recover						
FUNCTION	DIMMING CONTROL (OPTIONAL) 1 - 10VDC or PWM signal : 100Hz - 3KHz						
ENVIRONMENT	WORKING TEMP.	-20 - +60°C (Refer to output load derating curve)					
	WORKING HUMIDITY	20 - 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 - +60°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	Design refer to UL1310 Class 2, TUV EN60950-1, CAN/CSA C22.2 No. 223-M91(except for 48V), EN61347-2-13; IP64 approved					
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC					
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms/500VDC 25°C 70%RH					
	EMI CONDUCTION & RADIATION	Compliance to 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; EN55024, EN55024, light industry level, criteria A						
OTHERS	MTBF	603Khrs min. MIL-HDBK-217F (25°C)					
	DIMENSION	181*61.5*35mm (L*W*H)					
	PACKING	0.4Kg, 24pcs/11Kg/0.75CUFT					
NOTE	<ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>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.</li> <li>3. Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>4. Derating may be needed under low input voltage. Please check the derating curve for more details.</li> <li>5. The power supply is considered a component which will be installed a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.</li> <li>6. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.</li> <li>7. 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.</li> <li>8. Constant current operation region is within the specified output voltage range above. This is the suitable operation region for LED related applications.</li> </ol>						

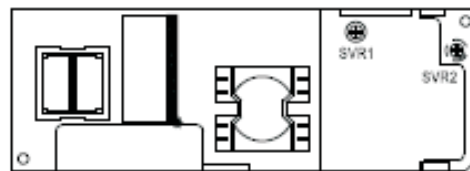


**Mechanical Specification**

Case No.960A Unit:mm



Output voltage and current adjustment: remove the upper case and adjust through SVR1 & SVR2 shown in the diagram.



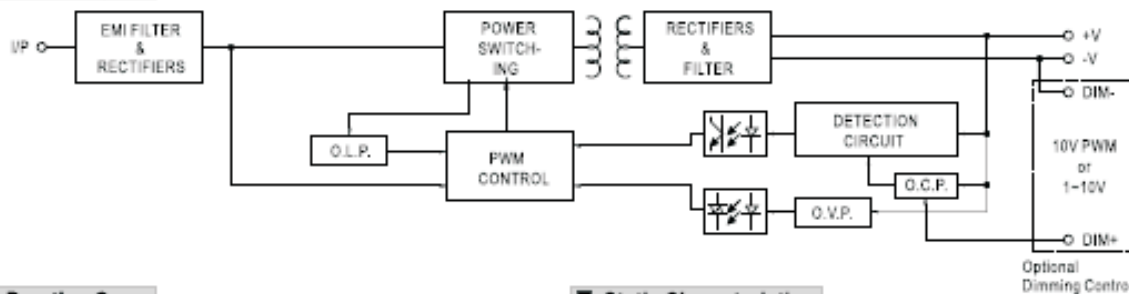
SVR1	Output voltage adjustment
SVR2	Output current adjustment

OUTPUT (with optional dimming function)

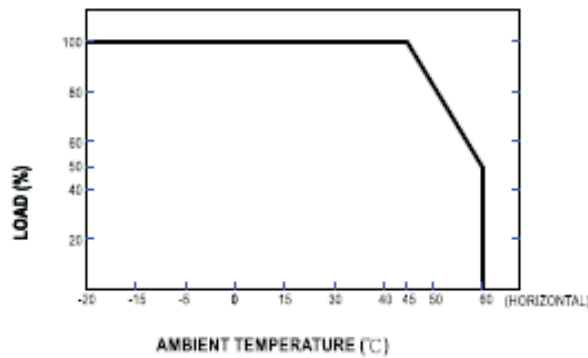


**Block Diagram**

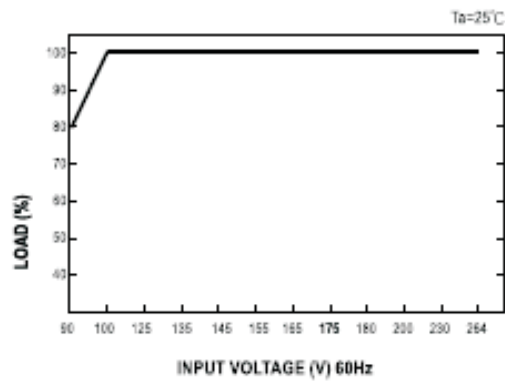
fosc : 60KHz



**Derating Curve**



**Static Characteristics**

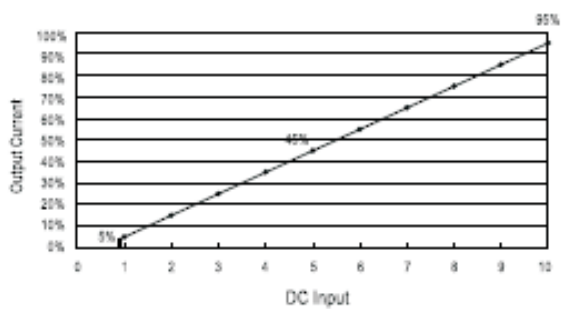
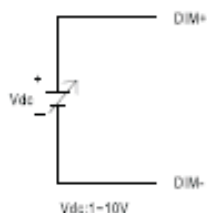




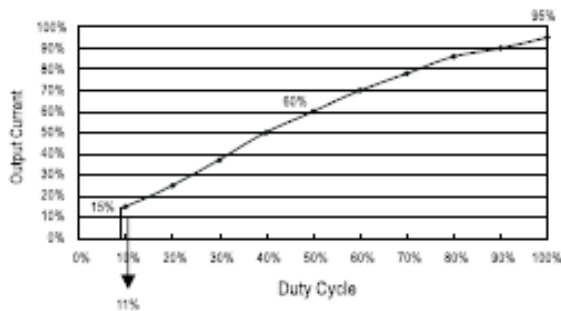
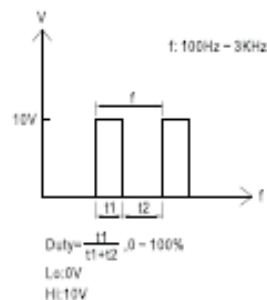
■ Dimming Control (Optional)

Level of output current can be adjusted through the dimming control function.

(1) 1-10V

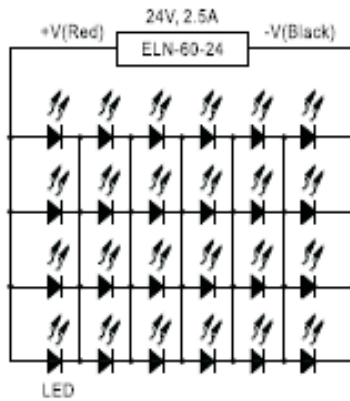


(2) PWM

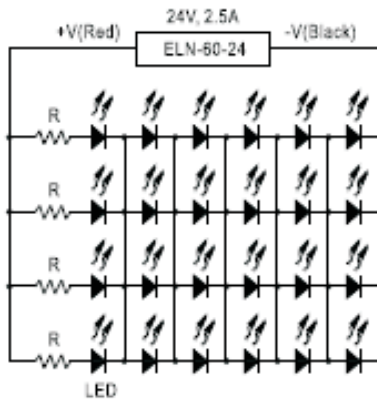




■ Recommend Application Deployment (24V)



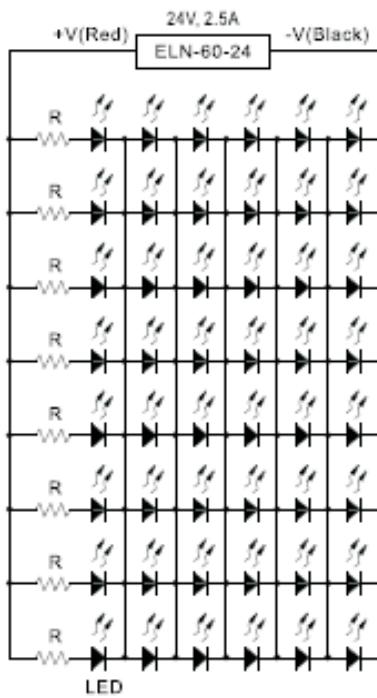
1 to 6 LEDs // 4 strips  
This configuration is based on LED with the following parameters :  
 $V_f = 3.0\text{--}3.5\text{V}$      $I_f = 600\text{--}700\text{mA}$



6 LEDs // 1 to 4 strips  
This configuration is based on LED with the following parameters :  
 $V_f = 3.0\text{--}3.5\text{V}$      $I_f = 600\text{--}700\text{mA}$   
 $R = 10\ \Omega$ , 10W



1 to 6 LEDs // 8 strips  
This configuration is based on LED with the following parameters :  
 $V_f = 3.0\text{--}3.5\text{V}$      $I_f = 300\text{--}350\text{mA}$



6 LEDs // 1 to 8 strips  
This configuration is based on LED with the following parameters :  
 $V_f = 3.0\text{--}3.5\text{V}$      $I_f = 300\text{--}350\text{mA}$   
 $R = 20\ \Omega$ , 3W