Enhance Electronics
13100 Alondra Blvd., Unit 106, Cerritos, CA 90703
Tel: 562-677-1268 Fax: 562-677-1269 Website: www.enhanceusa.com

100W, A3V100 Series

- power to last for life time -

LED Lighting Driver

Features

- Wide range input voltages with **90 ~ 305VAC**
  Constant Voltage output, suitable for remote locations.
- Fully encapsulated with waterproof **IP67** level compliant,
- Reliability **Protections:** short circuit/over current / over voltage
- **High Efficiency,** 88% @ 115Vac and 90% @ 230Vac, Full Load
- 100% full load QC burn-in test
- High reliability, **MTBF 50,000 hrs** @ 25°C, full load, nominal input
- **3-year** manufacturer warranty

Model No.	Output Voltage (V)	Output Current (A)	OVP (Vmax.)	OCP Hicuup (%)	Efficiency (%)
A3V100M12M833-11	12	8.33	16	110 -180	90
A3V100M24M405-11	24	4.05	34	110 -180	90
A3V100M36M275-11	36	2.75	50	110 -180	90
A3V100M42M225-11	42	2.25	57	110 -180	90
A3V100M48M195-11	48	1.95	63	110 -180	90
A3V100M54M175-11	54	1.75	75	110 -180	90
A3V100M81M123-11	81	1.23	100	110 -180	90
A3V100M105M095-11	105	0.95	140	110 -180	90

Part Number Info

XXX XXX X XX X XXX - XX
① ② ③ ④ ⑤ ⑥ ⑦

① (Input Voltage Type)(Range)(Constant Voltage/Current)
② Output Wattage (w) ③ Reserved
④ Output Voltage (v) ⑤ Housing Type
⑥ Output Current (x10mA)
⑦ (Output Channel)(Isolated Class)

Input Specification					
Parameter	Conditions/ Description	Min.	Normal	Max.	units
Input Voltgae Range	Universal Input	90	100 - 277	305	Vac
Input Frequency Range		47		63	Hz
Input Current	100Vac in, 100W output			1.5	A
Power Factor	At 100 - 220Vac Input	0.95			
Inrush Current	At 277Vac Input, 25°C cold star			100	A

Output Specification					
Parameter	Conditions/ Description	Min.	Normal	Max.	units
Line Regulation				±1	%
Load Regulation				±5	%
Voltage Accuracy	%of Vout			±5	%
Ripple and Noise	20MHz Bandwidth, refer Note-1			2	%pk-pk
Dynamic Response	Output Deviation R/ S: 1A/ uS; settign time load: 25%~75%full load			5%Vo; 10mS	
Overshoot	when power turn on or off			5	%
Turn-On Delay	Measured at 100Vac - 277Vac Input and Full Load			5	S

General Specification					
Parameter	Conditions/ Description	Min.	Normal	Max.	units
Isolation Voltage	Input to output Refer to Note-2; Input to Chassis	3000; 1500			Vac; Vac
Efficiency	Refer to individual models		90		%
MTBF	Telecordia SR-33, 25°C		50,000		Hours
Operating/ Storage Temperature		-35/ -40		60/ 80	°C
Relative Humidity	Non-Condensing (operating)	10		100	%RH
Weight			950		g
Safety Agency Approval	UL8750, EN61347-2-13:2006, IEC61347-2-13				

EMC					
Parameter	Standard		Level		
Emissions					
Conducted	EN55015		B		
Radiated	EN55015		B		
Harmonic Distortion, Current Emission	EN61000-3-2		Compliant		
Voltage Flicker and Fluctuation	EN61000-3-3		Compliant		
Electrostatic Discharge (ESD)	EN61000-4-2		4		
Radiated RFI	EN61000-4-3		3		
Fast Transients - burst	EN61000-4-4		4		
Input Line Surge Immunity	EN61000-4-5		4		
Conducted RFI	EN61000-4-6		Compliant		
Power Freq Magnetic Field	EN61000-4-8		Compliant		
Voltage Dips	EN61000-4-11		Compliant		
Electromagnetic Compatbity (EMC) P6-1	EN61000-6-1		Compliant		
Electromagnetic Compatbity (EMC) P6-3	EN61000-6-3		Compliant		

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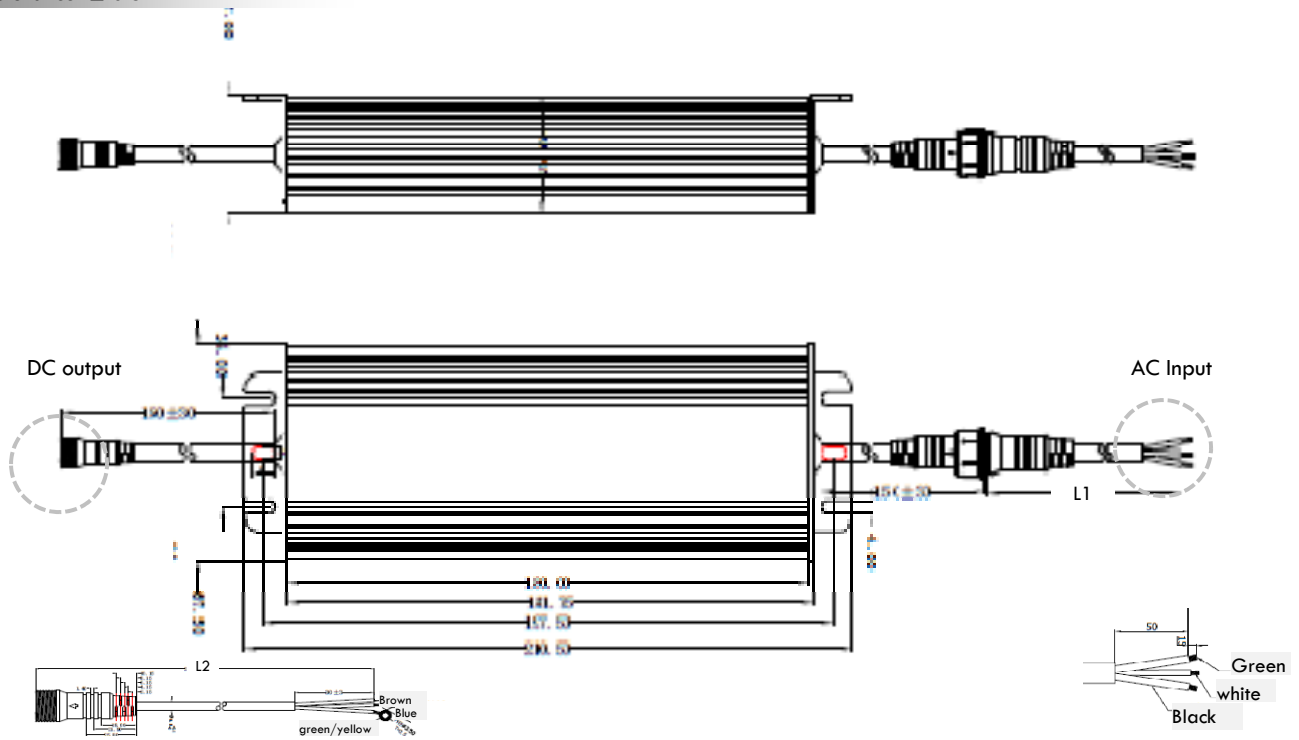
Mechanical Layout

Dimension:
- 180.0 (L) x 67.5 (W) x 36.5 (H) mm
- tolerance: ± 0.5 mm

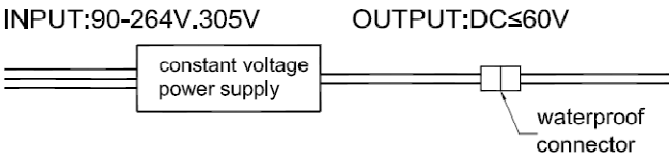


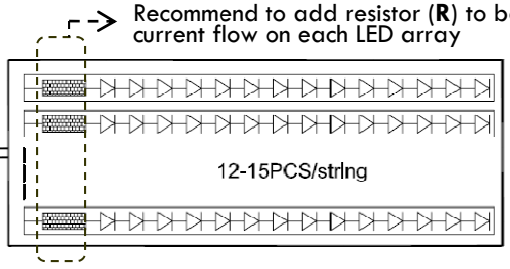
output wiring assembly – SJTW 18AWG 2C
- Brown(+), Blue (-), green/yellow (GND)
- L2: 150±30mm

Input wiring assembly – SJTW 18AWG 3C
- White(N), Black (L), Green(G)
- L1: 600±20mm

Design Reference

water proof constant voltage power supply :





R = [Vdc – (Vf1 + Vf2 + ... + Vfn)] / If
Vdc = Driver Rated DC output voltage
Vf = LED's forward voltage
If = LED's forward current

Case Study:
LED Driver : A3V100M36M275-11 (36V/2.75A)
Total 12 LEDs connected in series on each array
Total 4 blanches connected in parallel
Vf =1.5V, If = 0.8A

R= [36 – (12 x 1.5)] / [4.17/(0.8 x 4)] = 13.85 Ohms

Notes

1. Output connected in parallel with 0.1uF ceramic capacitor and 10uF electrolytic capacitor.
2. Primary to Secondary Isolation test not to be carried on power supply.

• Last Update: 1/11/2010