

# 300W, A3V300 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**, 89% @ 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 Hiccup (%)	Efficiency (%)
A3V300M 12M 2290-11	12	22.90*	18	110 -180	92
A3V300M 24M 1250-11	24	12.50	35	110 -180	93
A3V300M 36M 833-11	36	8.33	50	110 -180	93
A3V300M 42M 714-11	42	7.14	55	110 -180	93
A3V300M 48M 625-11	48	6.25	61	110 -180	93
A3V300M 52M 577-11	52	5.77	66	110 -180	93
A3V300M 54M 555-11	54	5.55	69	110 -180	93
A3V300M 56M 535-11	56	5.35	75	110 -180	93
A3V300M 60M 500-11	60	5.00	78	110 -180	93
A3V300M 84M 357-11	84	3.57	105	110 -180	93
A3V300M 105M 285-11	105	2.85	130	110 -180	93
A3V300M 150M 200-11	150	2.00	185	110 -180	93

## 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)

Parameter	Conditions/ Description	Min.	Normal	Max.	units
Input Voltage Range	Universal Input	90	100 - 277	305	Vac
Input Frequency Range		47		63	Hz
Input Current	100Vac in, 300W output			4	A
Power Factor	At 100 - 277Vac Input	0.95			
Inrush Current	At 305Vac Input, 25°C cold star			180	A

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	
Over shoot	when power tur n on or of f			5	%
Tur n-On Delay	Measur ed at 100Vac - 277Vac Input and Full Load			5	S

Parameter	Conditions/ Description	Min.	Normal	Max.	units
Isolation Voltage	Input to output Ref er to Note-2; Input to Chassis	3000; 1500			Vac; Vac
Efficiency	Ref er to individual models		91		%
Leakage Current	Measur ed at 305Vac / 50Hz			0.75	A
MTBF	Telecor dia SR-33, 25°C		50,000		Hour s
Operating/ Storage Temperature		-35/ -40		60/ 80	°C
Relative Humidity	Non-Condensing (oper ating)	10		100	%RH
Safety Agency Approval	UL8750, EN61347-2-13:2006, IEC61347-2-13				

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 Fr eq Magnetic Field	EN61000-4-8	Compliant
Voltage Dips	EN61000-4-11	Compliant
Electromagnetic Compatibility (EMC) P6-1	EN61000-6-1	Compliant
Electromagnetic Compatibility (EMC) P6-3	EN61000-6-3	Compliant

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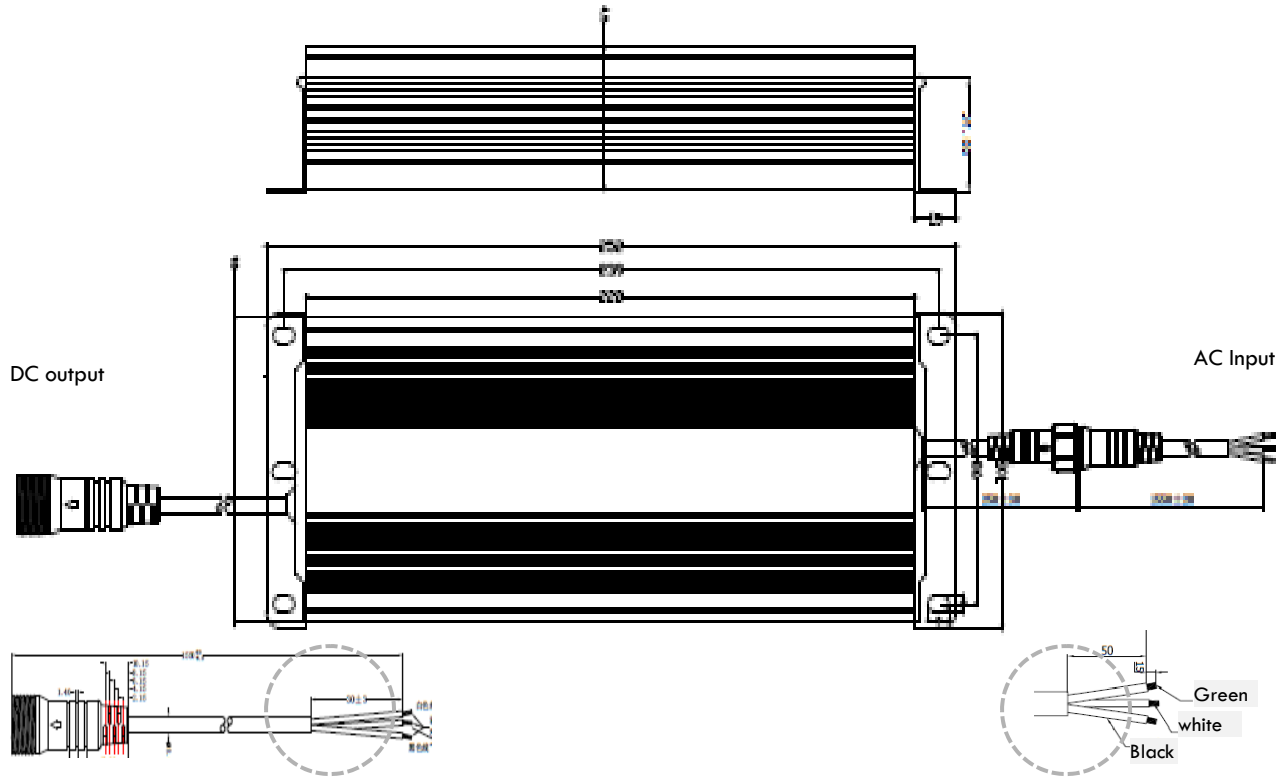
- power to last for life time -

LED Lighting Driver

## Mechanical Layout

**Dimension:**

- 222.0 (L) x 101.0(W) x 44.5 (H) mm

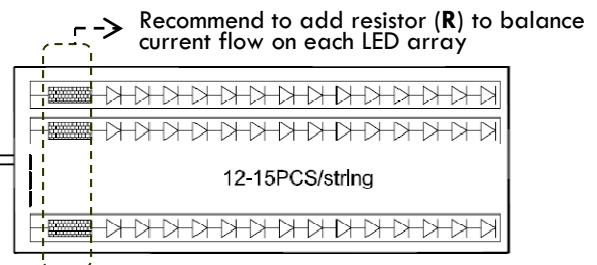
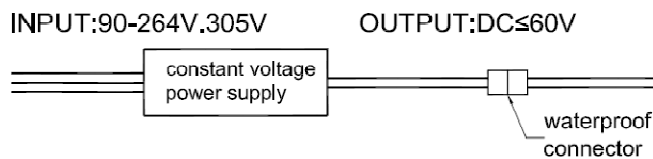


**output wiring assembly – SJTW 18AWG 2C**  
 • Brown(+), Blue (-), Green/yellow (GND) – 600±30mm

**Input wiring assembly – SJTW 18AWG 3C**  
 • White(N), Black (L), Green(G) – 200±30mm

## Design Reference

water proof constant voltage power supply :



$$R = [ V_{dc} - (V_{f1} + V_{f2} + \dots + V_{fn}) ] / I_f$$

- V<sub>dc</sub> = Driver Rated DC output voltage
- V<sub>f</sub> = LED's forward voltage
- I<sub>f</sub> = LED's forward current

Case Study:  
 LED Driver : A3V300M36M833-11 (36V/8.33A )  
 Total 12 LEDs connected in series on each array  
 Total 4 branches connected in parallel  
 V<sub>f</sub> = 1.5V, I<sub>f</sub> = 1.0A

$$R = [ 36 - (12 \times 1.5) ] / ( 8.33 / 4 ) = 8.65 \text{ Ohms}$$

## 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.
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  - Last Update: 1/11/2010