

50W, A2V50 Series

- power to last for life time -

LED Lighting Driver

Features

- Wide range input voltages with **90 ~ 264VAC**
- **Constant Voltage** output, suitable for remote locations.
- Fully encapsulated with waterproof **IP67** level compliant,
- Reliability **Protections**: short circuit/over current / over voltage
- **High Efficiency**, 86% @ 115Vac and 88% @ 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 (V max.)	OCP Hiccup (%)	Efficiency (%)
A2V50M 12M 300-12	12	3.00	16	110 -180	88
A2V50M 24M 313-12	24	3.13	34	110 -180	88

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 Voltage Range	Universal Input	90	100 - 240	264	Vac
Input Frequency Range		47		63	Hz
Input Current	100Vac in, 50W output			0.7	A
Power Factor	At 100 - 240Vac Input	0.85			
Inrush Current	At 264Vac Input, 25°C cold star			60	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	
Over shoot	when power tur n on or of f			10	%
Tur n-On Delay	Measur ed at 100V ac - 240V ac Input and Full Load			3	S

General Specification					
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		88		%
Leakage Current	Measur ed at 264V ac / 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	UL1012, EN61347-2-13:2006, EN61347-1:2001, IEC61347-2-13				

EMC					
Parameter	Standard	Level			
Emissions					
Conducted	EN55022		A		
Radiated	EN55015		A		
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 Compatibility (EMC) P6-1	EN61000-6-1		Compliant		
Electromagnetic Compatibility (EMC) P6-3	EN61000-6-3		Compliant		

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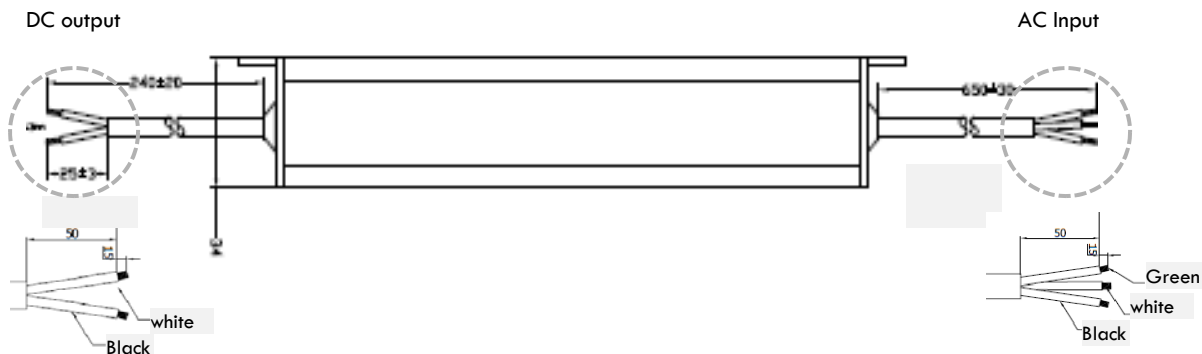
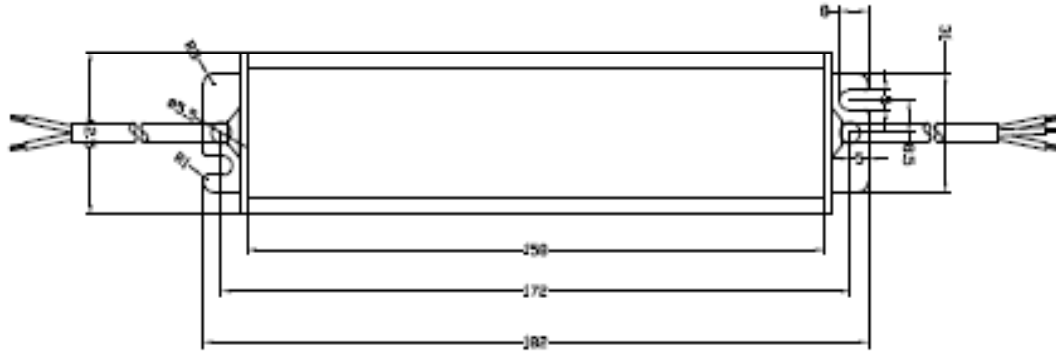
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Mechanical Layout

Dimension:

- 158.0 (L) x 42.5 (W) x 34.0(H) mm

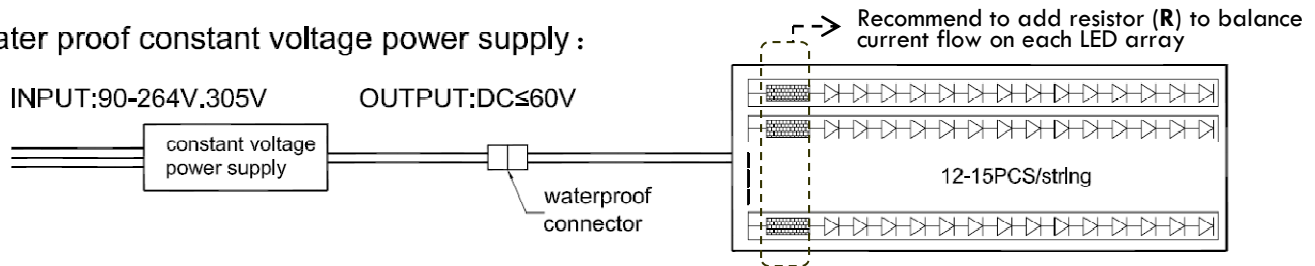


output wiring assembly – SJTW 18AWG 2C
 • Brown(+), Blue (-) – 240±20mm

Input wiring assembly – SJTW 18AWG 3C
 • White(N), Black (L), Green(G) – 650±30mm

Design Reference

water proof constant voltage power supply :



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

- V_{dc} = Driver Rated DC output voltage
- V_f = LED's forward voltage
- I_f = LED's forward current

Case Study:
 LED Driver : A2V50M24M210-12 (24V/2.1A)
 Total 12 LEDs connected in series on each array
 Total 4 blanches connected in parallel
 V_f = 1.5V, I_f = 1.0A

$$R = [24 - (12 \times 1.5)] / (2.1 / 4) = 11.4 \text{ Ohms}$$

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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