

# 75W, A3V75 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**, 90% @ 115Vac and 92% @ 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 (%)
A3V75M 12M 625-11	12	6.25	16	110 -180	90
A3V75M 24M 313-11	24	3.13	34	110 -180	92
A3V75M 36M 208-11	36	2.08	48	110 -180	92
A3V75M 42M 179-11	42	1.79	53	110 -180	92
A3V75M 48M 156-11	48	1.56	61	110 -180	92
A3V75M 54M 139-11	54	1.39	69	110 -180	92
A3V75M 81M 158-11	81	1.85	100	110 -180	92
A3V75M 105M 071-11	105	0.71	135	110 -180	92

## 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 - 277	305	Vac
Input Frequency Range		47		63	Hz
Input Current	100Vac in, 75W output			1.75	A
Power Factor	At 100 - 240Vac Input	0.95			
Inrush Current	At 305Vac 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	
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

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		92		%
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				

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 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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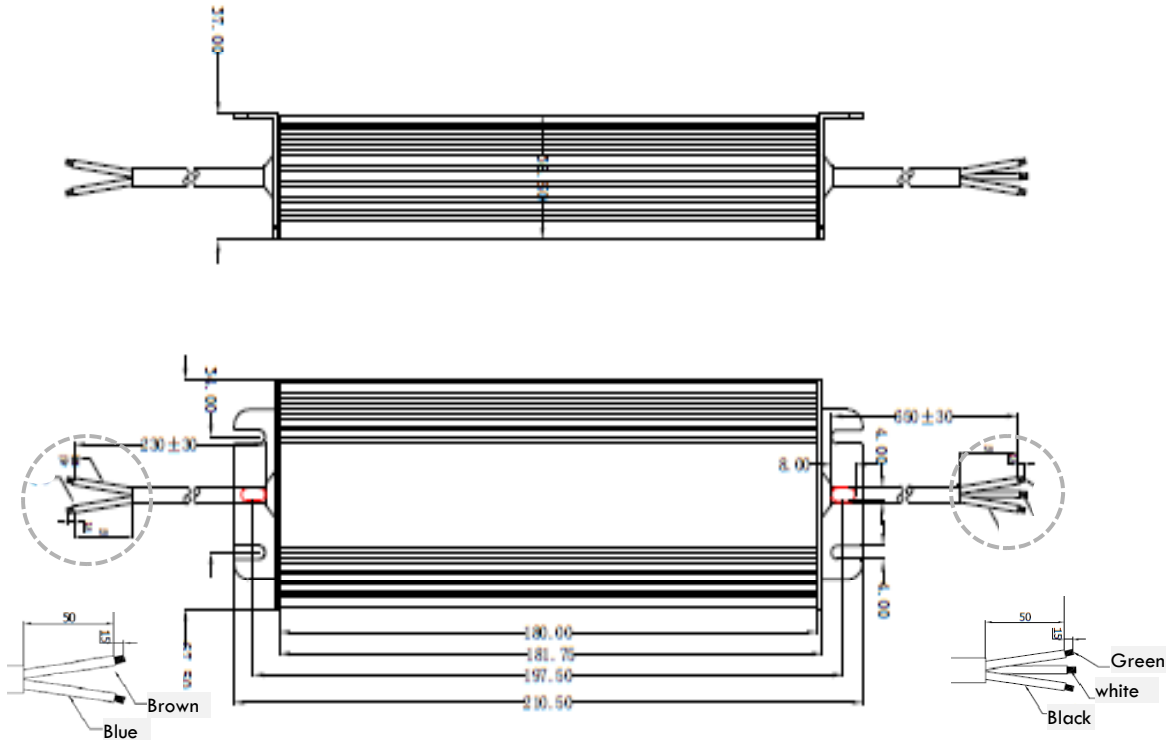
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## Mechanical Layout

### Dimension:

- 180.0 (L) x 67.5 (W) x 36.5 (H) mm



### output wiring assembly – SJTW 18AWG 2C

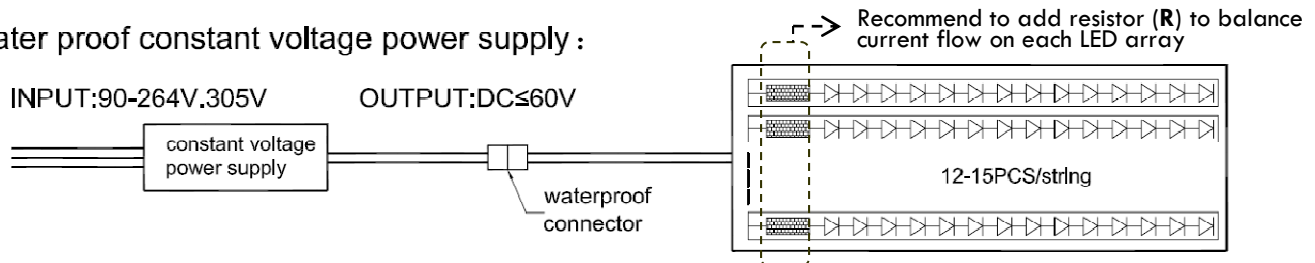
- Brown(+), Blue (-) – 230±30mm

### 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<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 : A3V150M36M4170-11 (36V/4.17A )

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

$$R = [ 36 - (12 \times 1.5) ] / ( 4.17 / 4 ) = 17.25 \text{ Ohms}$$

## 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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