

# 50W, A2C50 Series

- power to last for life time -

LED Lighting Driver

## Features

- Wide range input voltages with **90 ~ 264VAC**
- **Constant Current** 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 (Vmax.)	OCP Hiccup (%)	Efficiency (%)
A2C50M 12M 300-12	12	3.0*	16	110 -180	88
A2C50M 18M 277-12	18	2.77	25	110 -180	88
A2C50M 24M 210-12	24	2.10	34	110 -180	88
A2C50M 36M 140-11	36	1.40	50	110 -180	88
A2C50M 42M 119-11	42	1.19	57	110 -180	88
A2C50M 48M 105-11	48	1.05	67	110 -180	88
A2C50M 72M 070-11	36 - 72	0.70	100	110 -180	88
A2C50M 111M 045-11	55.5 - 111	0.45	155	110 -180	88
A2C50M 142M 035-11	71 - 142	0.35	198	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 - 220Vac Input	0.85			
Inrush Current	At 240Vac Input, 25°C cold start			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 100Vac - 277Vac 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	at 264Vac, 50Hz			0.75	Amp
MTBF	Telecor dia SR-33, 25°C		50,000		Hours
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 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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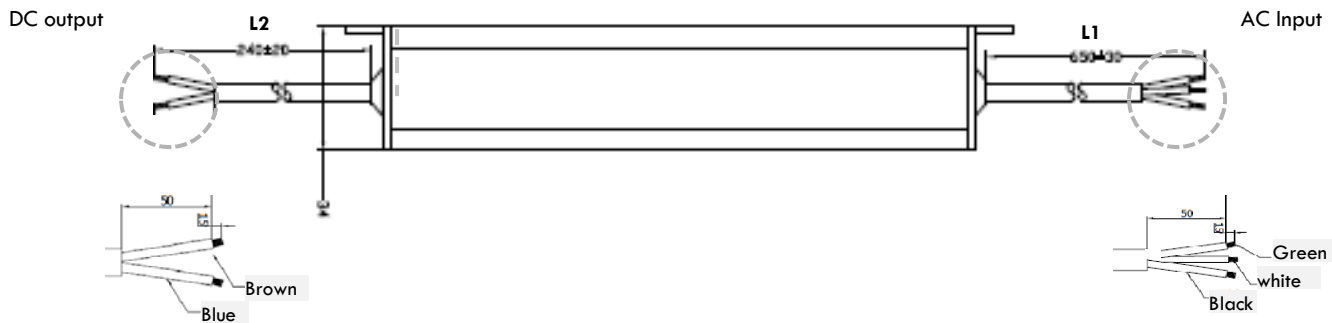
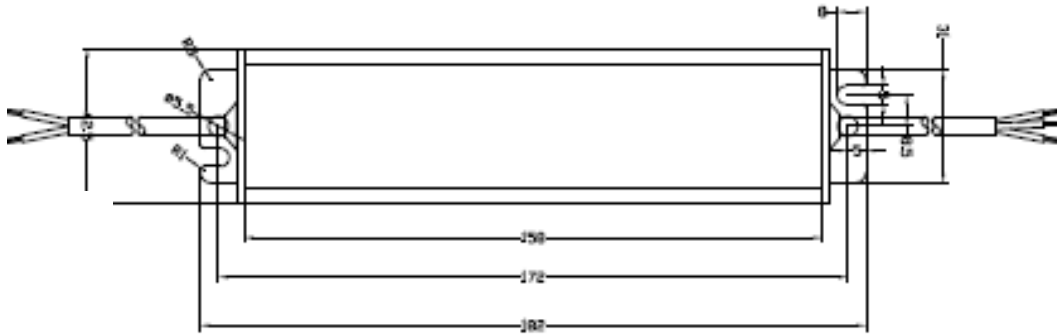
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## Mechanical Layout

### Dimension:

- 158.0 (L) x 42.5 (W) x 34.0 (H) mm
- tolerance:  $\pm 0.5$  mm



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

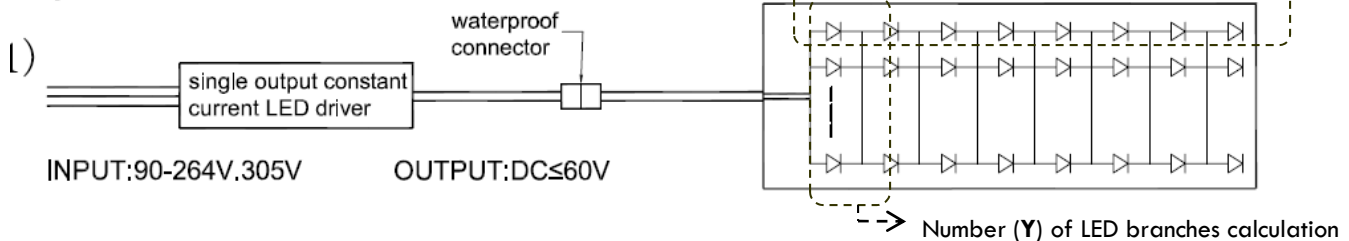
- Brown(+), Blue (-)
- L2: 240 $\pm$ 20mm

### Input wiring assembly – SJTW 18AWG 3C

- White(N), Black (L), Green(G)
- L1: 650 $\pm$ 30mm

## Design Reference

### single output constant current LED driver :



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

Case Study:  
 LED Driver : A2C50M36M140-11 (36V/1.4A )  
 1.1W LED,  $V_f = 1.5V$ ,  $I_f = 0.7A$   
 Number of LED branches parallel connection:  $Y = 1.4A / 0.7A = 2$   
 Number of LED connected in serial:  $X = 36 / 1.5 = 24$

## Notes

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