

120W, A3C120 Series

- power to last for life time -

LED Lighting Driver



Features

- Wide range input voltages with **90 ~ 305VAC**
- **Constant Current** 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 Hiccup (%)	Efficiency (%)
A3C120M24M490-11	14 - 24	4.90	34	110 - 180	90
A3C120M28M420-11	17 - 28	4.20	40	110 - 180	90
A3C120M34M350-11	20 - 34	3.50	48	110 - 180	90
A3C120M38M315-11	23 - 38	3.15	53	110 - 180	90
A3C120M43M280-11	26 - 43	2.80	60	110 - 180	90
A3C120M49M245-11	29 - 49	2.45	69	110 - 180	90
A3C120M57M210-11	34 - 57	2.10	80	110 - 180	90
A3C120M68M175-11	41 - 68	1.75	95	110 - 180	90
A3C120M86M140-11	52 - 86	1.40	120	110 - 180	90
A3C120M114M105-11	68 - 114	1.05	160	110 - 180	90
A3C120M171M070-11	103 - 171	0.70	239	110 - 180	90
A3C120M266M045-11	160 - 266	0.45	372	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 Voltage Range	Universal Input	90	100 - 277	305	Vac
Input Frequency Range		47		63	Hz
Input Current	100Vac in, 120W 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	
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		90		%
MTBF	Telecor dia SR-33, 25°C		50,000		Hours
Oper ating/ Storage Temperature		-35/ -40		60/ 80	°C
Relative Humidity	Non-Condensing (oper ating)	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	
Harmon ic Dist or t ion , 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	

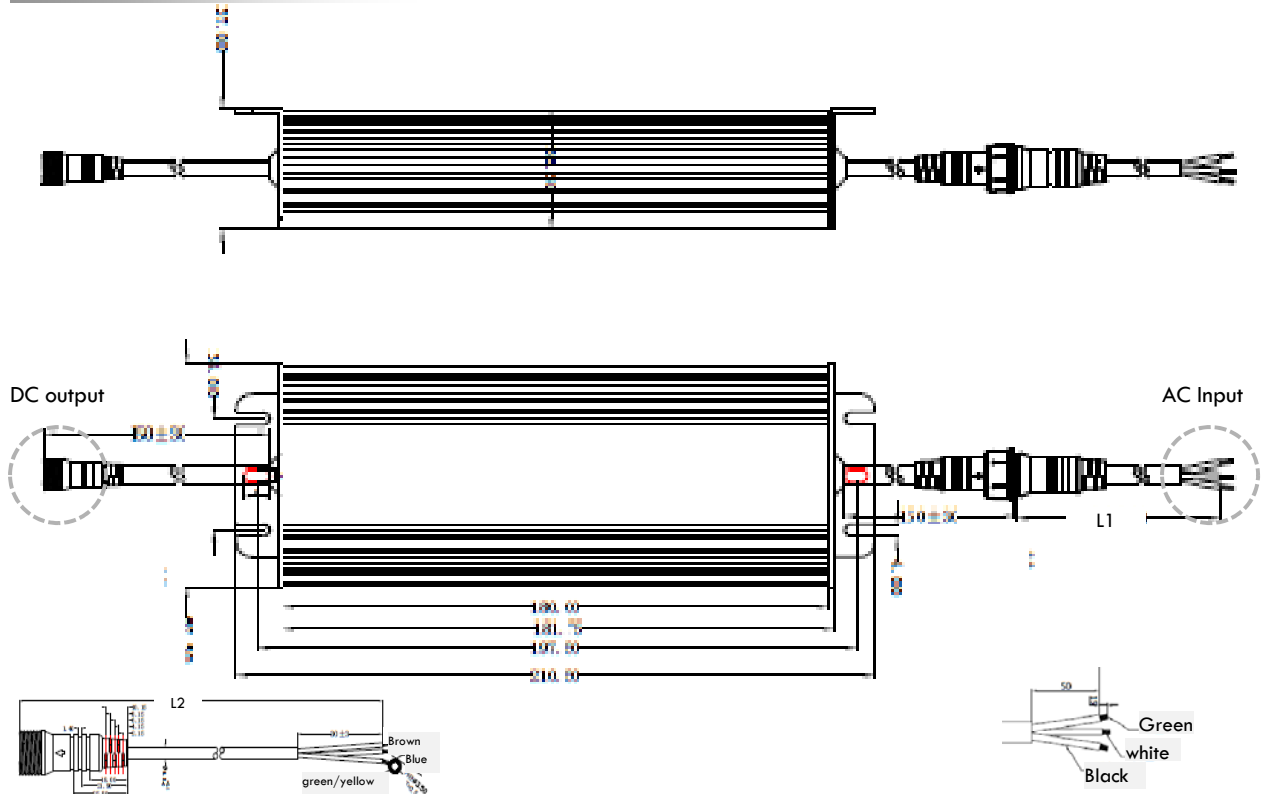
120W, A3C120 Series

- power to last for life time -

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

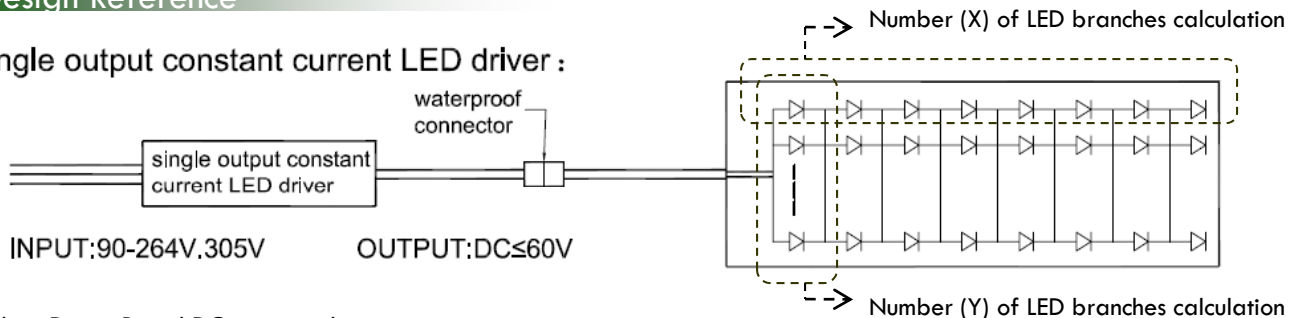
- Brown(+), Blue (-), green/yellow (GND)
- L2: 150 \pm 30mm

Input wiring assembly – SJTW 18AWG 3C

- White(N), Black (L), Green(G)
- L1: 600 \pm 20mm

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 : A3C120M38M315-11 (38V/3.15A)
 1.2W LED, $V_f = 1.5V$, $I_f = 0.8A$
 Number of LED parallel connection: $Y = 3.15A / 0.8A = 4$
 Number of LED connected in serial: $X = 38 / 1.5 = 25$

Notes

1. Output connected in parallel with 0.1 μ F ceramic capacitor and 10 μ F electrolytic capacitor.
 2. Primary to Secondary Isolation test not to be carried on power supply.
- All company logo and legal name belong to original company. All copyright reserved by Enhance Electronics.
 - Last Update: 1/11/2010