

AAS120



Product Features

- Efficiency up to 93%
- Non isolated bipolar
- Constant current drive, output current manually adjustable
- IP65 waterproof grade, Suitable for Indoor and Outdoor
- Optional dimming function (3-in-1 dimming and Auxiliary Power supply +12V)
- Built-in Surge Protection L/N-PG 6KV, L/N5KV, To ensure no damage of power supply. We should think about the insulation of the PCB board
- Protection Rating: IP65
- Protection category: short circuit protection, over current protection, over voltage protection
- Warranty: 5 years

CE

Technical data

Product model	Max. output Power (W)	Input Voltage (Vdc)	Output current (mA)	Output Voltage (Vdc)	PF	Efficiency	size/mm
AAS120-C600	120	120-277	300-600	180-260	0.95	93%	Φ113*55
AAS120-C600-S	120	120-277	300-600	180-260	0.95	93%	Φ113*55
AAS120-C600-X	120	120-277	300-600	180-260	0.95	93%	Φ113*55
AAS120-C600-Z	120	120-277	300-600	180-260	0.95	93%	Φ113*55
AAS120-C600-SZ	120	120-277	300-600	180-260	0.95	93%	Φ113*55
AAS120-C600-XZ	120	120-277	300-600	180-260	0.95	93%	Φ113*55

※ The model number does not have a tail vertebral letter to indicate the basic model

※ The "-S" Indicates with dimming function

※ The "-X" suffix denotes a product with dimming capability and 12V auxiliary output

※ The "Z" indicates that the product has added color temperature adjustment functionality to its original features

Technical data

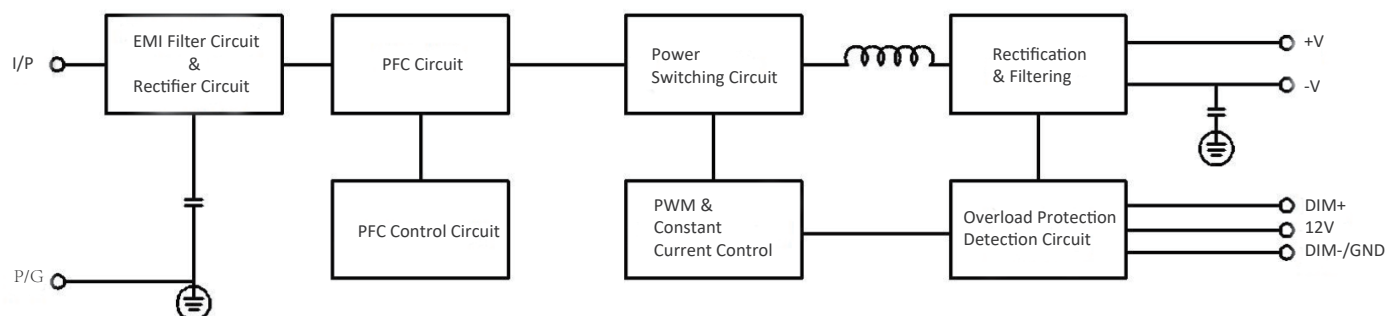
Electrical Specifications

category project		MIN	TYP	MAX	Remarks
Output parameters	Rated output current	300mA		600mA	@Adjust by the adjustable resistance
	Output voltage range	180V		260V	
	Maximum no-load output voltage	270V		320V	
	Output voltage ripple PK-PK		1%	3%	@Full load
	Default factory output current		5%	10%	@Full load
	Current accuracy	-5%		+5%	
	Efficiency	90%	93%		@Full load
	Output Overshoot			+10%	@Cold start output peak
	Rise Time			200ms	
	Turn-on Delay TIME		0.8S	2S	@120-265Vac
Input Parameters	Rated input voltage range	120Vac		277V	
	AC input range	108V		310V	
	Input Frequency	47Hz	50/60Hz	63Hz	
	Input Current			1.2A	
	Maximum input power			120W	
	Peak Input Surge Curren			50A 57.6A	@230Vac Cold machine start @277Vac Cold machine start
	Standby power consumption			0.5W	
	PF	0.91 0.9	0.95		@230Vac/50Hz, Full load @120-277Vac/50Hz, 70-100% load
	THD		10% 20%	15%	@230Vac/50Hz, Full load @120-277Vac/50Hz, 70-100% load
Protection function	Output overpressure protection		120%		@Overvoltage Reboot
	Short Circuit Protection		Not damaged with long time short circuit		@Auto-recovery with hiccup mode protection
Environment	Operation Temperature	-35°C	+25°C	+50°C	@Ref to Derating Curve
	Storage Temperature	-40°C	+25°C	+85°C	
	Relative Operation Humidity	10%RH		90%RH	
	Relative Storage Humidity	5%RH		95RH	
	Height Above Sea Level	-100m		3000m	

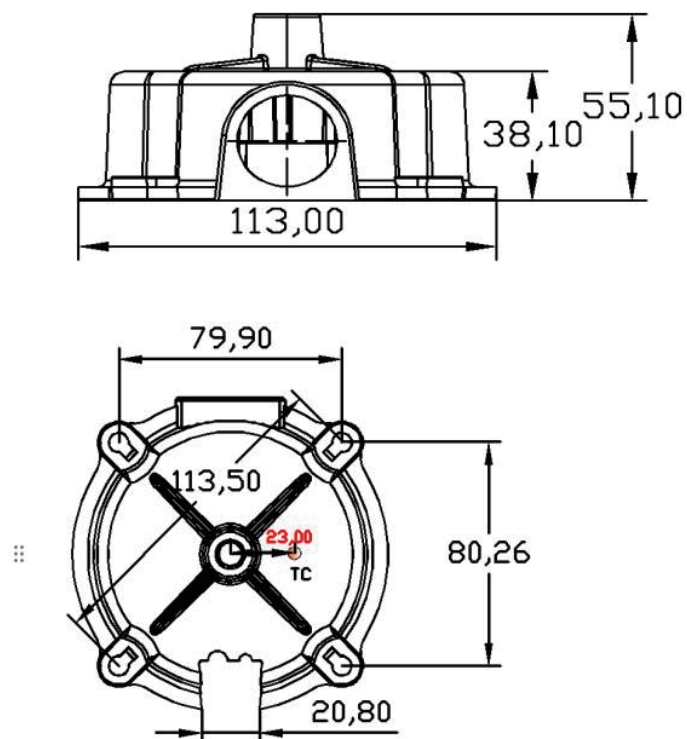
Technical data

category	project	MIN	TYP	MAX	Remarks
Other	Burn-in	Burn-in for 2 hours 50 °C Burn-in for 4 hours 50 °C			@Bare-board @Power supply
	MTBF Estimation	60000hours			@Accelerated experimental verification evaluation
	Temperature Coefficient	-0.02%/°C			-0.02%/°C
	Case Temperature	90°			
	levels of protection	IP65			
	Weight	572g			
	Size	Φ113*55mm			
Safety standard	CB	IEC 61347-2-13:2014 IEC 61347-2-13:2014/AMD1:2016 IEC 61347-1:2015 IEC 61347-1:2015/AMD1:2017			
	CE	EN 61347-2-13:2014+A1:2017; EN 61347-1:2015+A1:2021; EN 62493:2015+A1:2022 EN IEC 55015:2019+A11:2020 EN IEC 61000-3-2:2019+A1:2021 EN 61000-3-3:2013+A1:2019+A2:2021 EN IEC 61547:2023			
	SAA	IEC 61347-2-13:2014+A1:2016 IEC 61347-1:2015+A1:2017			
Safety Requirements	Input to output Dielectric Withstand Voltage				@Non-isolated and cannot be tested
	Primary to ground Dielectric Withstand Voltage	1600Vac/5mA Max / 60 seconds			@The basic insulation,No breakdown、 No arcing
	Output to ground Dielectric Withstand Voltage	1600Vac/5mA Max / 60 seconds			@The basic insulation,No breakdown、 No arcing
	Leakage current Dielectric Withstand Voltage	0.75mA			@277Vac
	Input to ground Insulation Resistance	≥10 MΩ			@The test voltage: 500Vdc
	Grounding resistance	≤0.1Ω			@25A/1min
EMC Ask for	EMI CE	EN55015:2013+A1: 2015			@Pass
	EMC RE	EN55015:2013+A1: 2015			@Pass
	Harmonic	IEC/EN 61000-3-2			@Class C
	Surge	IEC/EN61000-4-5			@Differential Mode: 5KV Common Mode: 6KV
12V AUX	Output voltage	11.4V	12V	13.5V	
	Output current	200mA			@Full load
	Output voltage ripple PK-PK	50mV 100mV			@Full load
	Short Circuit Protection	Not damaged with long time short circuit , short circuit power≤2W			@Return to normal status when output limit current to get right

Circuit Structure Diagram



Exterior dimensions (unit: mm)



Product datasheet

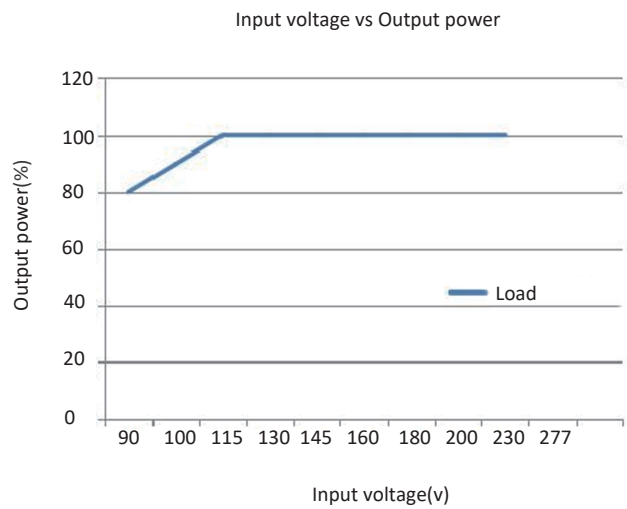
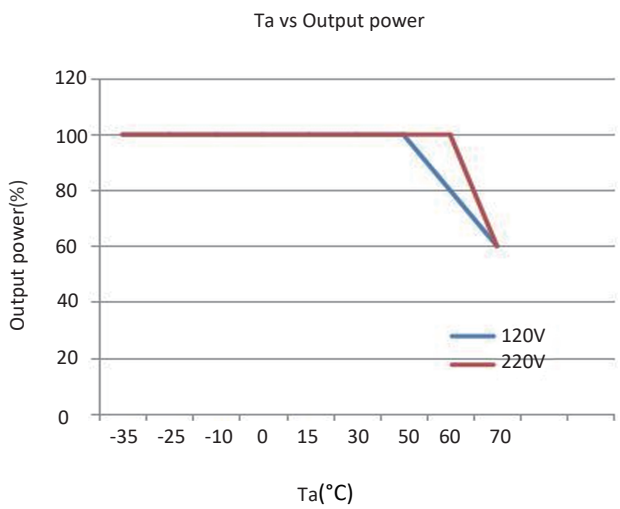
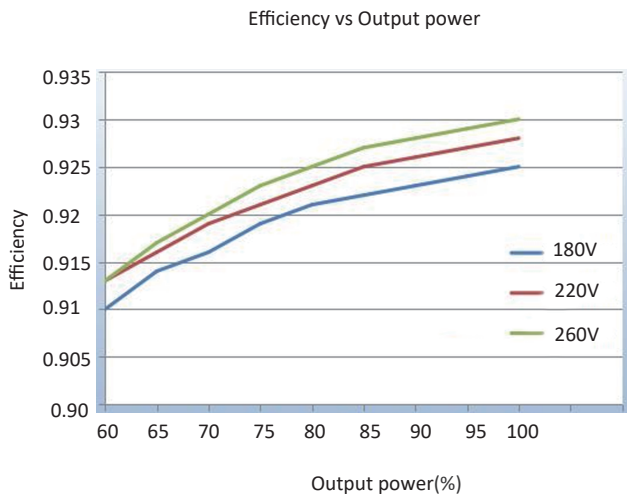
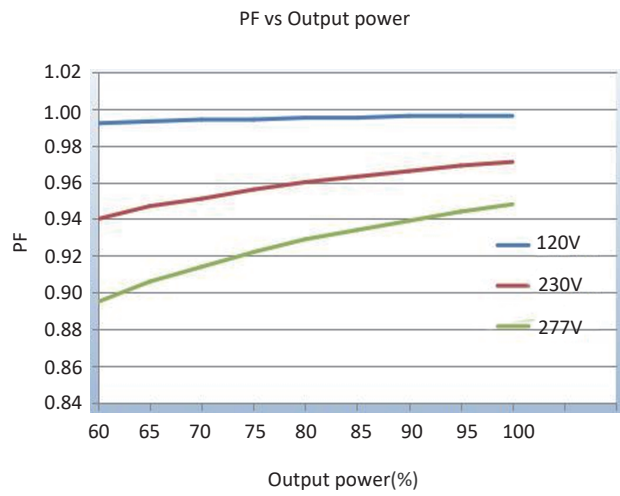
Wire Specifications

Category		Color/UL	Color/CE	Line no/UL	Line no/CE	leakage line length	Immersion tin
AC input	ACL	Black	Brown	3*18AWG	3*1.0mm ²	350±10mm	8±1.5mm
	ACN	White	Blue				
	GND	Green	Yellow/green				
DC output	LED+	Black	Red	2*18AWG	2*1.0mm ²	250±10mm	4±1.5mm
	LED-	White	Black				
DC output (CCT Tuning)	LED+	Black	Brown	2*18AWG	2*1.0mm ²	250±10mm	4±1.5mm
	CW	White	Black				
	WW	Green	Blue				
Dim the light	DIM+	Purple	Purple	3*22#,21996 300V,105℃		320±10mm	4±1.5mm
	DIM-	Pink	Pink				
12V AUX	+12V	Red	Red				

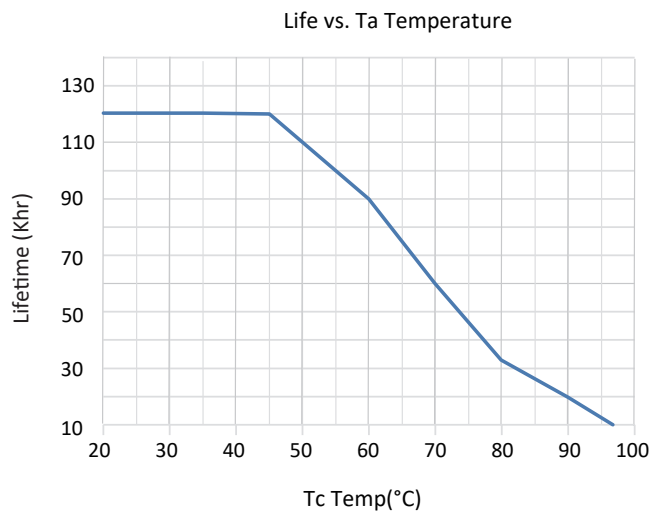
DIP Switch Settings

Type	Gears	Min	TYP	Max	Remarks
colour temperature	CW	Cold light	6000K	Red LED+/Black LED-	Basic connection, rated CW
	NW	white light	4500K	Red LED+/Black/Pink LED-	
	WW	Warm light	3000K	Red LED+/PinkLED-	

Characteristic curves



Life Curve



Dimming Operation Method

※Connecting 0-10v dc or 10v PWM signal between DIM and DIM,then value of output constant current can be adjusted

※The reference value of resistance of adjusting output current (TYP)

Resistance Value	0K Ω	10K Ω	20K Ω	30K Ω	40K Ω	50K Ω	60K Ω	70K Ω	80K Ω	90K Ω	100K Ω
Percentage of Rated Current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

※Connecting 0-10v dc or 10v PWM signal between DIM and DIM,then value of output constant current can be adjusted

※Output current value of 0-10V dimming function (TYP)

Voltage Adjustment	0V	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V
Percentage of Rated Current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

※Connecting 0-10v dc or 10v PWM signal between DIM and DIM,then value of output constant current can be adjusted

※Output current value of 10VPWM Dimming (TYP)Frequency Range: 100Hz-3KHz

Duty Cycle	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Percentage of Rated Current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

Precautions

- 1.If the product has an external adjustable potentiometer, after setting the current, seal the adjustment hole with 704 silicone sealant and cover it with the waterproof rubber plug
- 2.When the dimming wires are not in use, seal the dimming wire connector with insulating tubing to prevent interference signals from damaging the dimming circuit and affecting power supply operation
- 3.Creepage distance on the aluminum PCB must exceed 5mm to comply with safety regulations
- 4.Creepage distance between LED+ and LED- on the aluminum PCB must exceed 1.8mm
- 5.Minimize copper pour area on the aluminum PCB to reduce junction capacitance and leakage current
- 6.LED arrangement should follow "parallel first, then series" configuration
- 7.The insulation rating of the LED panel must comply with reliability design requirements