Description

The input voltage range of A5-60W is 90-264Vac, and the output current is adjustable. This series is specially designed for explosion-proof lamps and high bay lamps. Support 0-10V/PWM/resistor dimming, support dim to off. With high efficiency and simple metal shell design, it has excellent heat dissipation performance, which effectively improves product reliability and extends life. In order to ensure trouble-free operation, this series has lightning protection, output overvoltage protection, short circuit protection and over temperature protection to ensure high product reliability.

Product Features

- input voltage：90~264Vac；
- Design：isolated constant current；
- Dimming：0-10V/PWM/resistor，dim to off；
- Current adjustment：via potentiometer;
- Auxiliary output：12V/0.2A;
- Protection：SCP, OVP, OTP；
- High surge protection：DM 4KV，CM 6KV；
- IP65；
- Warranty: 5 years

Application

Explosion-proof lighting

Industrial lighting

Models

Model	Vin (Vac)	Pout Max (W)	Vout(V)	Iout adjustable range(A)	Default Current(A)	Eff. (Typ.)	PF(Typ.)	THD
A5-060M043A12H	100-240Vac	60	26-43	1.20~1.70	1.4	88%	0.97	10%

Note:

[1].All specifications are measured at 25℃ ambient temperature, input voltage 230Vac, and the typical value tested at full load, if no specific note.

Input Specifications

Parameter	Min	Typ.	Max	Notes
Input Voltage Range	90Vac	-	264Vac	
Rated Input Voltage	100Vac	-	240Vac	Refer to Output Power vs. Input Voltage curve
Input Frequency AC	47Hz	50/60Hz	63Hz	
Max Input Current	-	-	0.8A	120Vac&100%load
Max Input Power	-	-	80W	120Vac&100%load
Leakage Current	-	-	0.70mA	240Vac/60Hz
Inrush Current	-	-	45A	220Vac
Standby Power Consumption	-	-	0.5W	220Vac, dim to off
Power Factor (PF)	0.98	0.99	-	120Vac，50-60Hz，70%-100%load
Power Factor (PF)	0.94	0.97	-	220Vac，50-60Hz，70%-100%load
Total Harmonic Distortion (THD)	-	8%	15%	120-240Vac，50-60Hz，70%-100%load(without auxiliary supply)
Driver QTY available for circuit breaker(B16)	-	16	-	220Vac

Output Specifications

Parameter	Min	Typ.	Max	Notes
Output Voltage Range	26Vdc	-	43Vdc	
Open Circuit Voltage	-	-	60Vdc	
Output Current Range	1.20A	-	1.70A	adjustable via potentiometer
Full Power Current Range	1.40A		1.70A	P=Uo*Io within this range
Current Accuracy	-8%	-	+8%	
Total Output Current Ripple (pk-pk)	-	150%	200%	20MHz BW，100%20MHz BW full load&LED load the LED load ripple is slightly different for different leds
Startup Overshoot Current	-	-	10%	120~240Vac & 100%load&LED
Auxiliary Output Voltage	10.8V	12V	13.8V	
Auxiliary Output Current		-	200mA	
Line Regulation	-5%	-	+5%	25℃±10℃ ambient temperature, input varies from 120Vac to 240Vac
Load Regulation	-3%	-	+3%	Load varies from 70% to 100% with 220Vac Input at 25℃±10℃ ambient temperature
Turn-on Delay Time	-	-	1.0S	120~240Vac, 100%load

General Specification

parameter	Min	Typ.	Max	Notes
Efficiency@120Vac Io=1.40A	85%	87%	-	100%load，25℃ Ta, without auxiliary power supply
Efficiency@220Vac Io=1.40A	86%	88%	-	100%load，25℃ Ta, without auxiliary power supply
Mean Time Between Failure	-	200Khours	-	25℃±10℃ Ta，220Vac,80%load (MIL-HDBK-217F/SR-332)
Lifetime	-	50Khours	-	230Vac&100%load, Tc 75℃, refer to lifetime vs. case temperature curve
Operating Temperature Ta	-40℃	-	+55℃	Output Power vs. Ambient Temperature curve
Operating Tc for Safety Tc_s	-40℃	-	+90℃	
Operating Tc for Warranty Tc_w	-40℃	-	+75℃	5-year warranty shell temperature,humidity:10% to 95% RH
Storage Temperature Ta	-40℃	-	+85℃	Humidity:5% to 100% RH
Altitude	-60m	-	4000m	
Over Temperature Protection Tc	90℃	95℃	100℃	Decreases power(45-55%), returning to normal after over temperature is removed.
Short Circuit Protection				Hiccup mode, when the short circuit condition is relieved, the product will automatically return to normal.
Output Over Voltage Protection				When exceeds the limited range, it enters protection mode. When the fault is removed, the product will automatically return to normal.
Dimensions (Ø*H)	90*38mm			
Net Weight	440±50g/PCS			
Package (L*W*H)	L390xW250xH235mm；32PCS/CTN			

Dimming

Parameter	Min	Typ.	Max	Notes
0~10V Maximum Voltage	-	10V	20V	
Source Current on Vdim (+)Pin电	-	100uA	200uA	
Dimming Range	10% I_{max}	-	100% I_{set}	Iset is the Iout adjustable range
Suggest Dimming Input 0-10V	0V	-	10V	
Turn-on Voltage	1.0V	-	1.4V	
Turn-off Voltage	0.6V	-	1.0V	
PWM in High Level	9.7V	-	10.3V	
PWM in Low Level	0V	-	0.3V	
PWM in Frequency Range	1KHz	-	2KHz	
PWM in Duty Cycle	0%	-	100%	
Turn-on Duty Cycle	9%	-	13%	
Turn-Off Duty Cycle	6%	-	9%	
Resistor dimming	-	-	100KΩ	

Safety Specifications

Parameter	Min	Typ.	Max	Notes
Dielectric Strength（Output-Ground）	-	3750Vac	-	60S，Current not exceeding 5mA
Dielectric Strength（Input-Dimming）	-	1875Vac	-	60S，Current not exceeding 5mA
Dielectric Strength（Dimming-Ground）	-	500Vac	-	60S，Current not exceeding 5mA
Grounding Resistance	-	3750Vac	-	60S，Current not exceeding 5mA
Insulation Resistance	-	500Vac	-	60S，Current not exceeding 5mA
Dielectric Strength（Output-Ground）	-	-	0.1Ω	25℃±10℃ Ambient Temperature, pass 25A Current, 60s.
Dielectric Strength（Input-Dimming）	50MΩ	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60s/25℃

Safety Compliance

Safety Category	Standards	Approved	Notes
CCC	GB19510.1,GB19510.14	√	
CE	EN61347-1,EN61347-2-13	√	
CE	EN62493		
CB	IEC61347-1, IEC61347-2-13		
ENEC	EN62384		
BIS	IS 15885(PART 2/SEC 13)		
UL	UL 8750		
CUL	CSA C22.2 No.250.13		
KC	K61347-1, K61347-2-13		
PSE	J61347-1, J61347-2-13		
SAA	AS/NZS IEC 61347.2.13		
SAA	AS/NZS 61347.1		

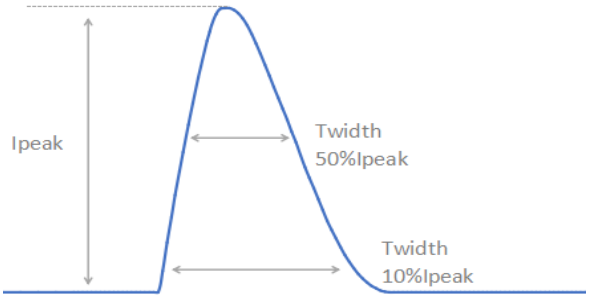
EMC Compliance

EMC Category	Standards	Approved	Notes
CCC	GB/T 17743, GB 17625.1	√	
CE	EN 55015	√	
CE	EN 61000-3-2, EN 61000-3-3	√	
CE	EN61000-4-2,3,4,5,6,11		
CE	EN 61547		
KC	K61547		
KC	K00015		
PSE	J55015		
FCC	FCC part 15		
Surge Shock Immunity	ANSI/C82.77-5-2017		
Ringing Wave			

RoHS

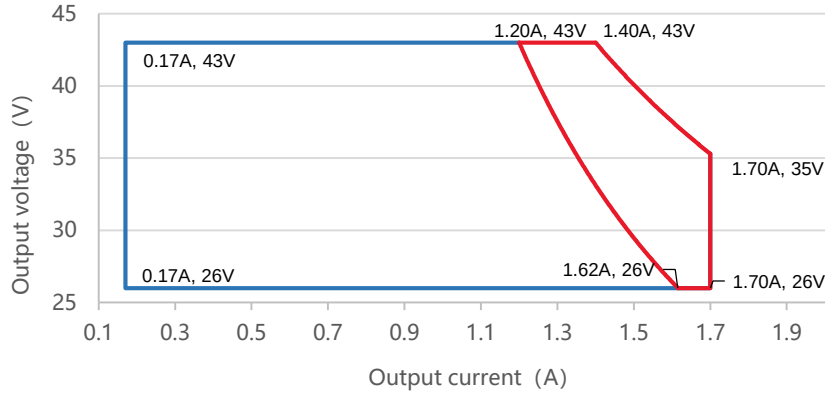
Our products comply with RoHS Directive 2011/65/EU and latest revised directive（EU）2015/863。

Inrush Current



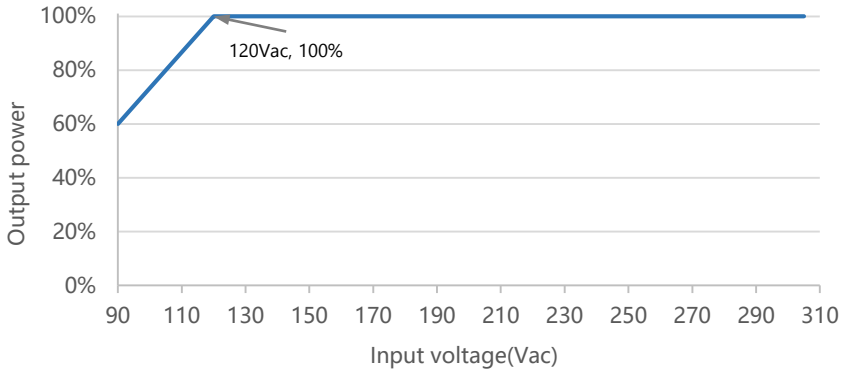
Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
220Vac	35A	390μs	220μs

Output Voltage vs. Output Current

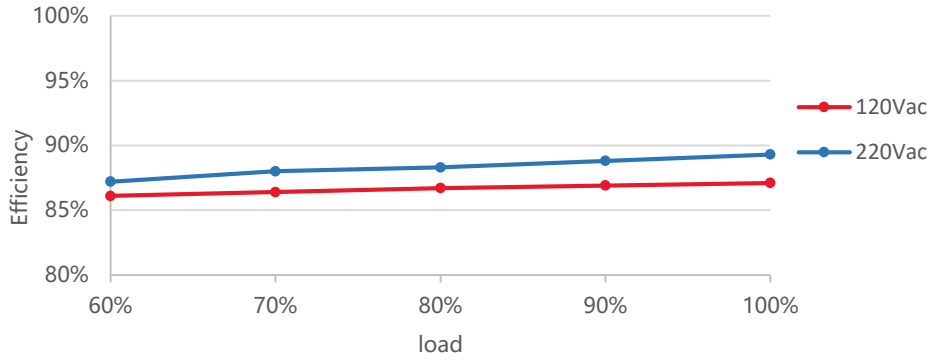


Red curve: good performance area

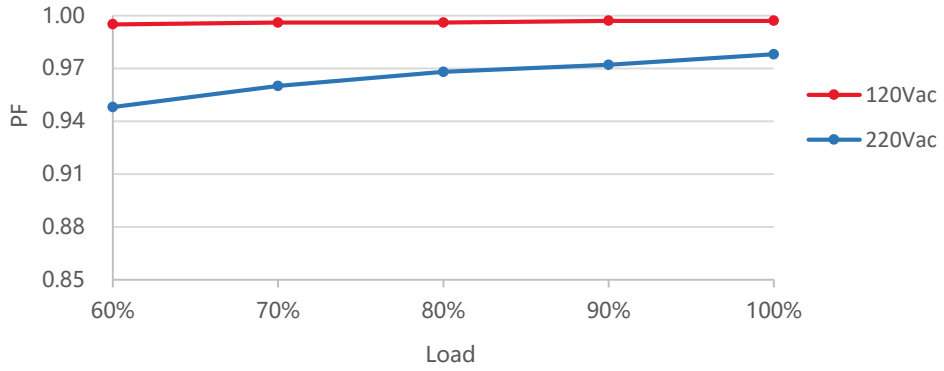
Output Power vs. Input Voltage



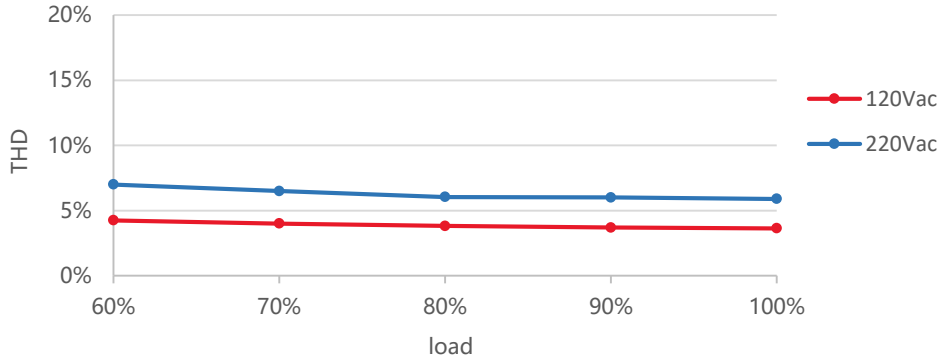
Efficiency vs. Load(Io=1.40A)



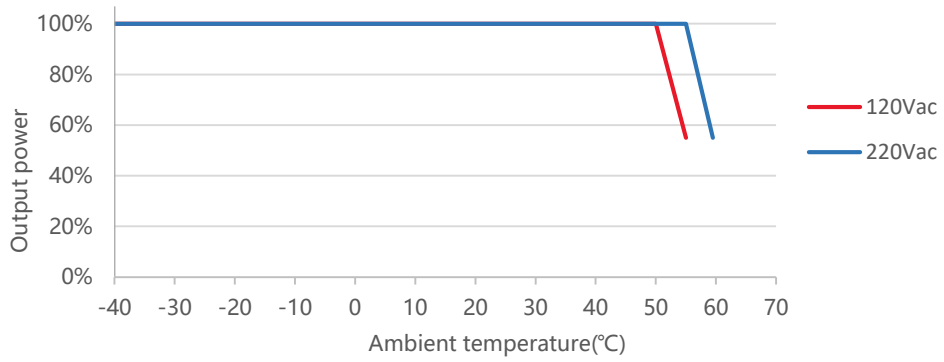
PF VS LOAD



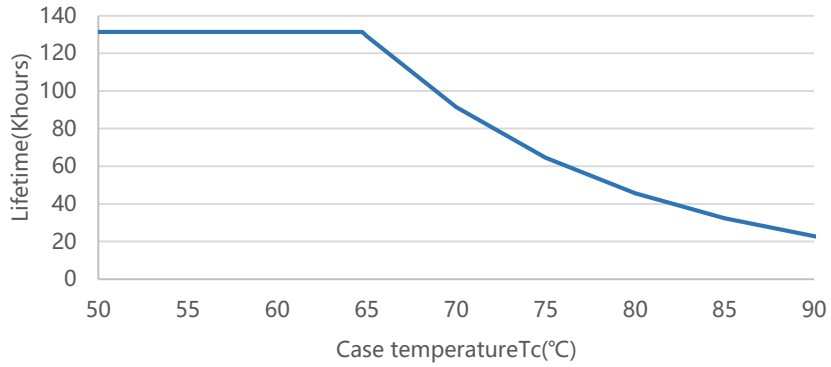
THD vs. Load



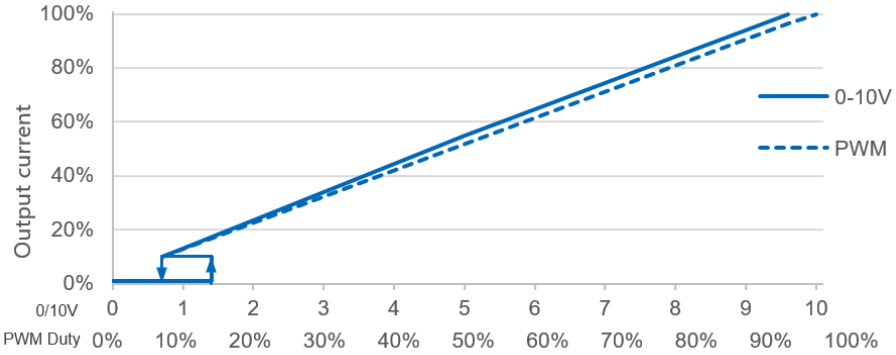
Output Power vs. Ambient Temperature



Lifetime vs. Case Temperature

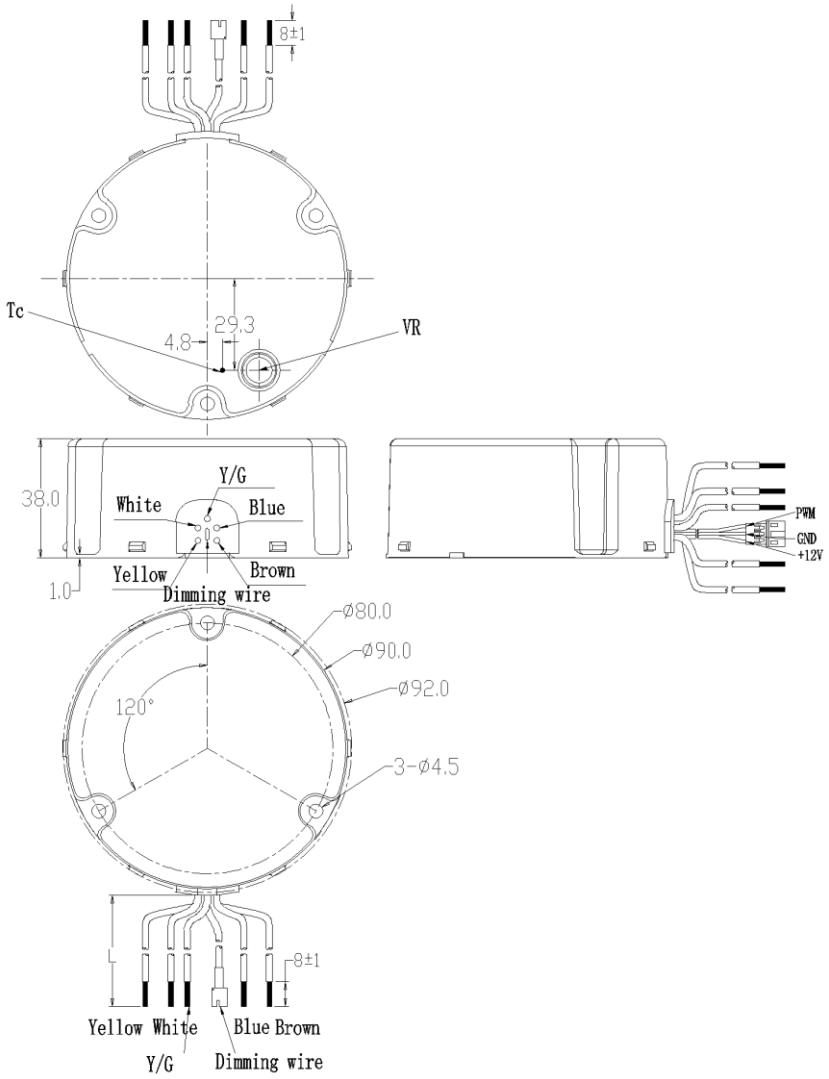


0-10V/PWM Dimming



Note: The dimming shutdown mode is to reduce the output voltage. After the dimming is turned off, the power output still has residual voltage, and the lamp turn-on voltage should be 30-43V.

Mechanical Outline



Specification

Input L wire	UL3398 18AWG L=180±20mm brown	
Input N wire	UL3398 18AWG L=180±20mm blue	
Input ground wire	UL3239 18AWG L=180±20mm yellow-green	
Output LED+	UL3239 18AWG L=180±20mm white	
Output LED-	UL3239 18AWG L=180±20mm yellow	
Dimming	UL2468 L=180±20mm with male terminal	

Version

A.1	First release	