

AAQ50



Product Features

- Efficiency up to 89%, PF>0.95, THD<10%
- Full power output is possible over a wide output voltage range
- Constant Current output
- Output current is manually adjustable
- 3 in 1 Dimming Function: 0-10V、PWM、 Resistor
- Lightning protection level : Difference module 6kV , Common mode 15 kV
- Comprehensive protection: input undervoltage, over-temperature, short circuit, dimming interface over-voltage, anti-reverse connection
- IP67 rating for indoor and outdoor
- Warranty: 5 Years



Technical data

Product model	Max. output Power (W)	Input Voltage (Vdc)	Output current (mA)	Output Voltage (Vdc)	PF	Efficiency	size/mm
AAQ50-56-1700	50	120-277	890-1660	25-56	0.95	89%	119*63*32
AAQ50-56-1700-S	50	120-277	890-1660	25-56	0.95	89%	119*63*32
AAQ50-72-1050	50	120-277	700-1050	36-72	0.95	89%	119*63*32
AAQ50-72-1050-S	50	120-277	700-1050	36-72	0.95	89%	119*63*32

※The model number does not have a tail vertebral letter to indicate the basic model
※The '-S' Indicates with dimming function
※If you have other parameter requirements, you can consult the corresponding sales staff

Technical data

Electrical Specifications

category project		Technical Indicators	
Input parameters	Rated input voltage	120-277VAC	
	Input voltage range	108-305VAC	
	Input frequency range	47-63HZ	
	Input current	0.55A @120Vac, Full Load	
	Input power	66W @120Vac, Full Load	
	Input surge current peak value	60A @120Vac, Cold Start 70A @230Vac, Cold Start 80A @277Vac, Cold Start	
	Power factor	0.99 @120Vac, Full Load 0.96 @230Vac, Full Load 0.95 @277Vac, Full Load 0.9 @120-277Vac 50/60Hz, 70-100% Load	
	Total harmonic distortion	7% @120Vac, Full Load 10% @230Vac, Full Load 15% @277Vac, Full Load 20% @120-277Vac 50/60Hz, 70-100% Load	
Output parameters (AAQ50-56-1700/-S)	Rated output current	890-1660mA	
	Adjustable current range	600-1700mA @Ref. AOE curve	
	Output voltage range	25-56Vdc	@At the rated output voltage, the maximum output power Po=Vo*Io=50W
	Rated output voltage	30-56Vdc	
	Default factory output current	1.5A	
	Maximum no-load output voltage	80V	
	Efficiency	85% @Input 120Vac, Output 30V/1.66A 87.5% @Input 230Vac, Output 30V/1.66A 88% @Input 277Vac, Output 30V/1.66A 86% @Input 120Vac, Output 56V/0.89A 89% @Input 230Vac, Output 56V/0.89A 89% @Input 277Vac, Output 56V/0.89A	
	Current accuracy	±5% @100% load Constant Power Range	
	Output current ripple	10% @ΔI=Ipk-pk/2/Io*100%	
	Startup current overshoot	10% @LED Load	
	Startup time	300～1000ms @100%Load@120-277Vac	
	Linear regulation rate	±3% @100%Load	
	Load regulation rate	±3% @100%Load	
	Over temperature protection	90℃	@Casing temperature: Prolonged operation atthe highest temperature will reduce the reliability of the power supply. Pay attention to heat dissipation when in use
	Short circuit protection	5W	@Not damaged by prolonged short circuits, automatic recovery upon fault resolution
	Input undervoltage protection	96-108V	@ Derating output, which returns to normal after the abnormality is lifted
	Input overvoltage protection	320Vac	

category project		Technical Indicators		
Output parameters (AAQ50-72-1050/-s)	Rated output current	700-1050mA		
	Adjustable current range	600-1050mA @Ref. AOE curve		
	Output voltage range	36-72Vdc	@At the rated output voltage, the maximum output power Po=Vo*Io=50W	
	Rated output voltage	48-72Vdc		
	Default factory output current	0.7A		
	Maximum no-load output voltage	90V		
	Efficiency	86.5% @Input 120Vac, Output 48V/1.05A 89.0% @Input 230Vac, Output 48V/1.05A 89.0% @Input 277Vac, Output 48V/1.05A 86.5% @Input 120Vac, Output 72V/0.7A 89.0% @Input 230Vac, Output 72V/0.7A 89.0% @Input 277Vac, Output 72V/0.7A		
	Current accuracy	±5% @100% load Constant Power Range		
	Output current ripple	5% @ΔI=Ipk-pk/2/Io*100%		
	Startup current overshoot	10% @LED Load		
	Startup time	300～1000ms @100%Load@120-277Vac		
	Linear regulation rate	±3% @100%Load		
	Load regulation rate	±3% @100%Load		
	Over temperature protection	90℃	@Casing temperature: Prolonged operation atthe highest temperature will reduce the reliability of the power supply. Pay attention to heat dissipation when in use	
	Short circuit protection	5W	@Not damaged by prolonged short circuits, automatic recovery upon fault resolution	
	Input undervoltage protection	96-108V	@ Derating output, which returns to normal after the abnormality is lifted	
	Input overvoltage protection	320Vac		

Technical data

category project Technical Indicators

0-10V Dimming	External voltage range	0-12V @DIM+ output 100uA current
	Recommended dimming voltage	1-10V
	Dimming output range	10-100% @DIM+/DIM-reverse connection prohibited.
	Dimming cutoff voltage	0.4-0.49V @typical 0.45V
	Dimming start voltage	0.51-0.6V @typical 0.55V
PWM Dimming	PWM High	9.8-10.2V @DIM+ output 100uA current
	PWM Low	0-0.3V @DIM+/DIM-reverse connectionprohibited.
	PWM Frequency	500-2000Hz
	Recommended dimming duty cycle	10-100%
	Dimming output range	10-100%
	Dimming cutoff duty cycle	4-4.9% @Typical 4.5%
	Dimming start duty cycle	5.1-6% @Typical 5.5%
Resistor Dimming	External resistor	0-100KΩ @DIM+ output 100uA current
	Dimming output range	10-100%
	Dimming cutoff resistance	4-4.9KΩ @Typical 3.5KΩ
	Dimming start resistance	5.1-6KΩ @Typical 5.5KΩ
Interface protection	Interface over voltage protection	400Vdc or 277Vac @Interface not damaged within 30minutes
Environment	Operating temperature	-40...90°C @Typical 60°C
	Operating humidity	10-90%RH @No condensation
	Storage temperature	-40...90°C @Typical 25°C
	Storage humidity	10-90%RH @No condensation
Other	Estimation of Mean Time Between Failures (MTBF)	175000 hours @230Vac, full load, ambient temperature 25°C
	Lifetime	50,000 hours @230Vac, full load, Tc=75°C
	International Protection	IP67 @Suitable for dry and humid environments, avoid prolonged exposure to rain
	Maximum casing temperature	90°C
	Warranty	5 Years @Casing temperature (Tc point) not exceeding 75°C
	Weight	450g @Net weight
	Dimension	119mm*63mm*32mm

Remarks:

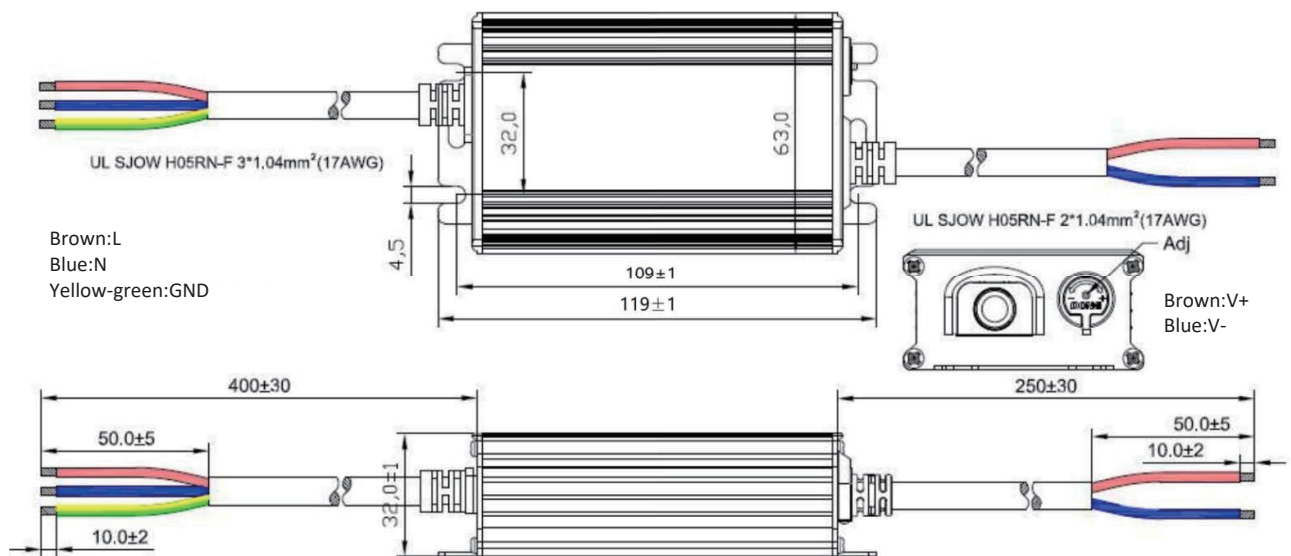
1. The dimming interface can withstand voltages within 277Vac for a short period of time (within 30 minutes) without damage, and returns to normal after the fault is resolved; when the dimming interface is connected to AC mains power, the output current drops to half of the set current value. Construction workers can quickly identify and resolve faults based on this phenomenon to avoid permanent damage to the interface;
2. All performance parameters are typical values measured at an ambient temperature of 25°C and using an LED load, unless otherwise specified;
3. When the dimming line is not in use, please seal the dimming line connector with an insulating sleeve to prevent interference signals from causing damage to the dimming line and affecting the normal operation of the power supply;

category project		Technical Indicators	
Safety and EMC	CCC	GB 19510.14-2009、 GB/T 17743-2021、 GB 17625.1-2022	
	ENEC	EN 61347-1:2015 EN 61347-2-13:2014 EN 61347-2-13:2014/A1:2017	
	CB	IEC 61347-1, IEC 61347-2-13-2016	
	CE	EN 61347-2-13:2014 EN61347- 1:2008+A1:2011+A2:2013	
	UL	UL8750	
	Conducted emission	EN 55015/GB 17743	@Conducted emission Test &Radiated emission Test
	Radiated emission		
	Harmonics Current	EN 61000-3-2	@Harmonic current emissions
	Voltage flicker	EN 61000-3-3	@Voltage Fluctuations & Flicker
	ESD	EN 61000-4-2	@Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge
	Radiated Susceptibility	EN 61000-4-3	@Radio-Frequency Electromagnetic Field Susceptibility Test-RS
	Surge (transient)	EN 61000-4-5	@Surge Immunity Test:Differential Mode 6 kV, Common Mode 15 kV
	Conducted immunity	EN 61000-4-6	@Conducted Radio Frequency Disturbances Test-CS
	Power frequency magnetic field	EN 61000-4-8	@Power Frequency Magnetic Field Test
	Voltage dips and interruption	EN 61000-4-11	@Voltage Dips
	Immunity of lighting equipment	EN 61547	@Electromagnetic Immunity Requirements Applies To Lighting Equipment
	Oscillatory wave immunity	EN 61000-4-12	@Oscillatory Waves Immunity Test
	Insulation	I/P-O/P, I/P-FG, O/P-FG:100MΩ / 500VDC / 25°C/70% RH	
	Dielectric strength	I/P-O/P:3.75kVac I/P-FG:1.5kVac O/P-FG:500Vac I/P-DIM&Vaux:3.75kVac O/P-DIM&Vaux:1.5kVac DIM&Vaux-FG:1.5kV	
	Ground resistance	<0.1Ω, 25A/1min	
	Leakage current	<0.75mA 277Vac	

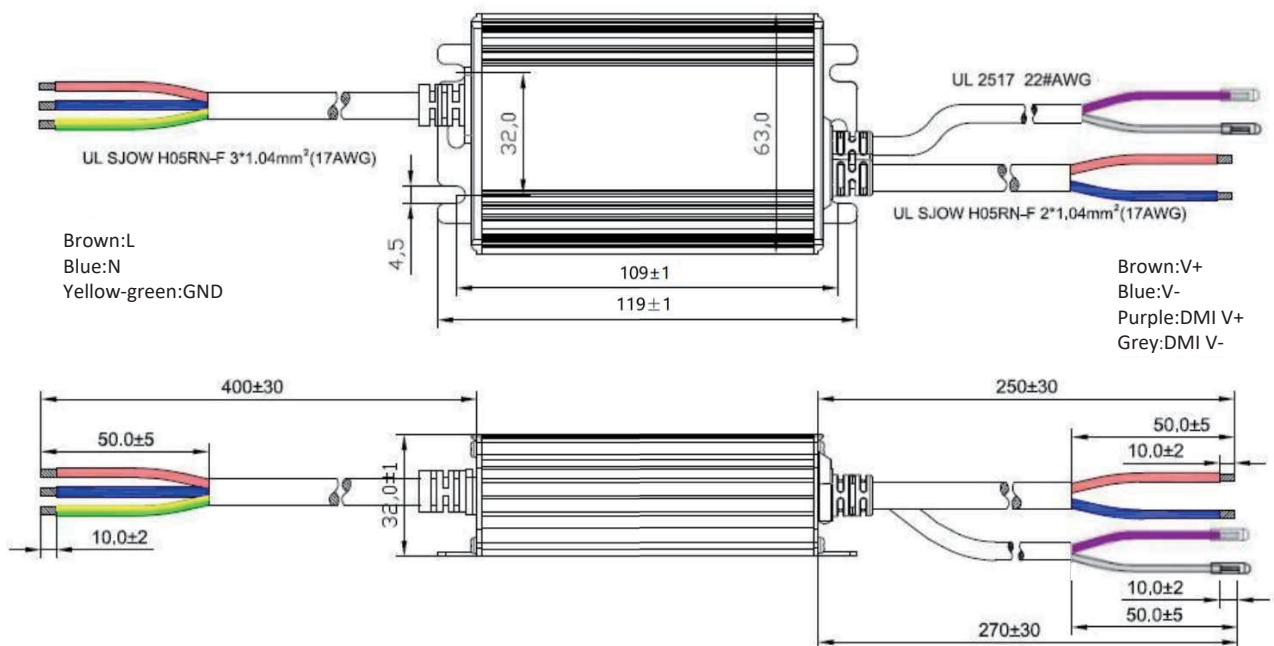
Product datasheet

Exterior dimensions (unit: mm)

Note: AAQ50-C***

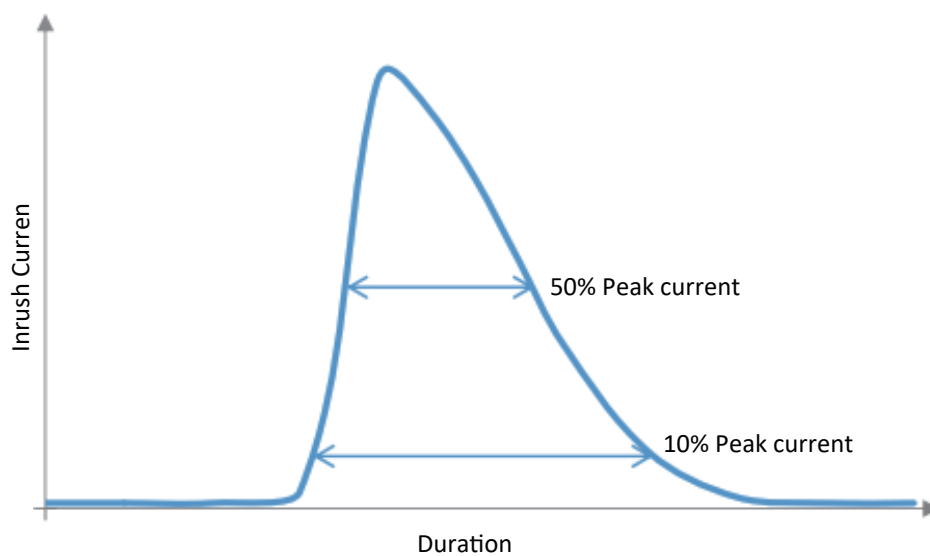


Note: AAQ50-C***-S



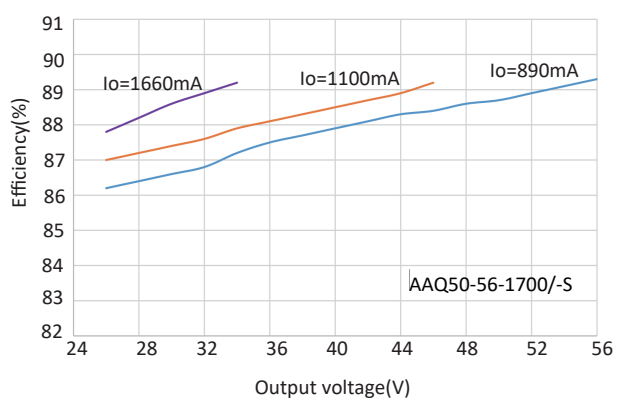
Characteristic curves

Vin	Peak current	Duration (@10% peak current)	Duration (@50% peak current)
120Vac	35A	220us	166us
230Vac	46A	217us	156us
277Vac	53A	212us	153us

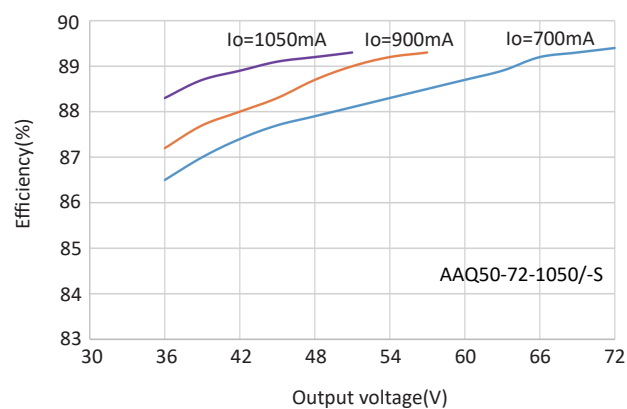


Characteristic curves

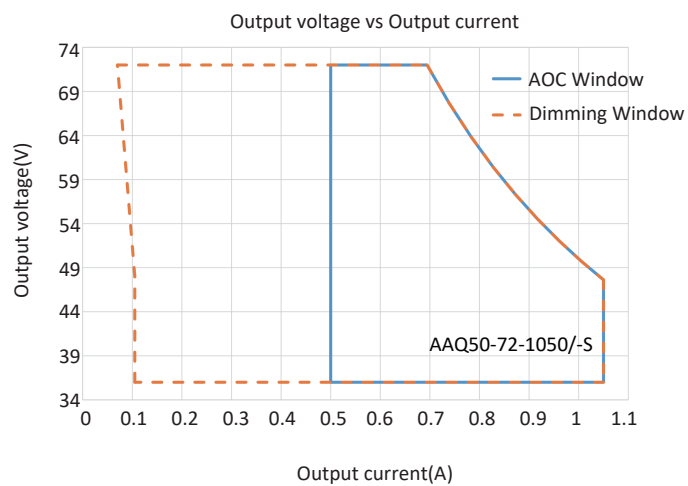
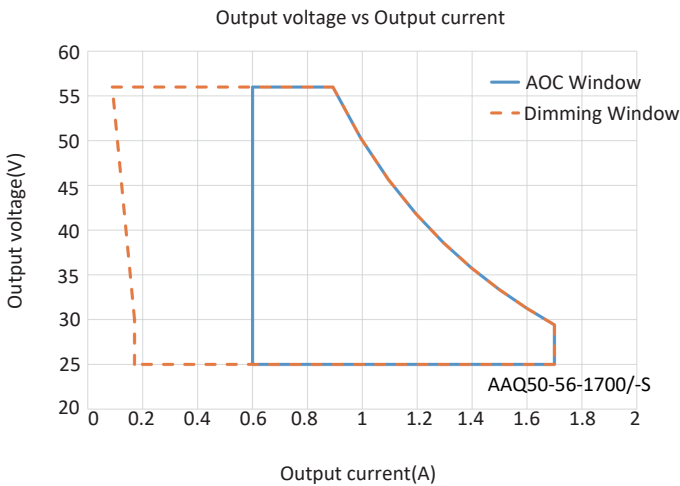
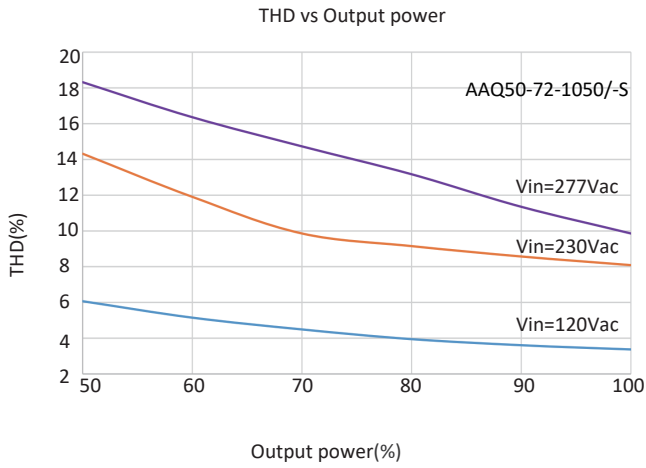
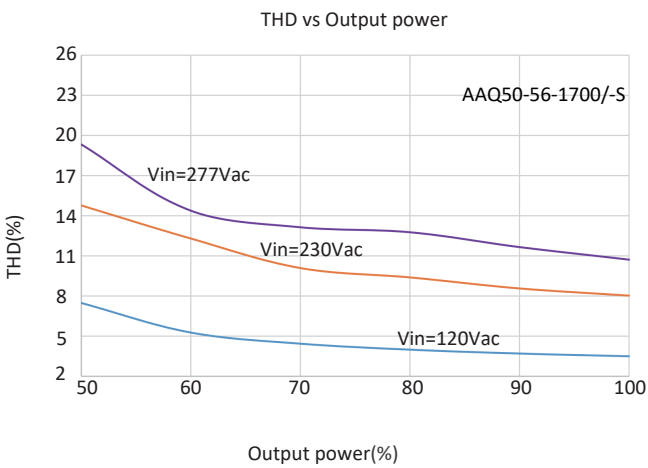
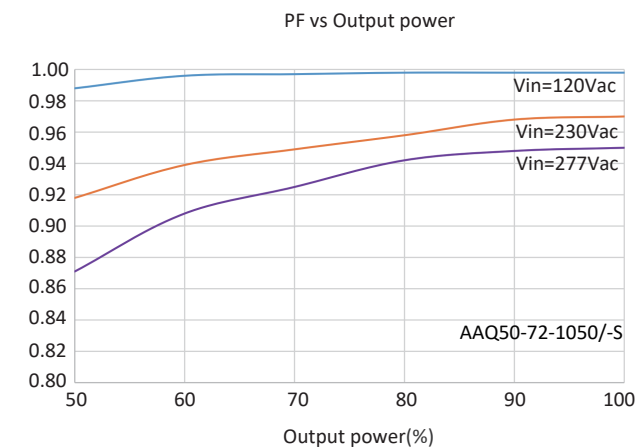
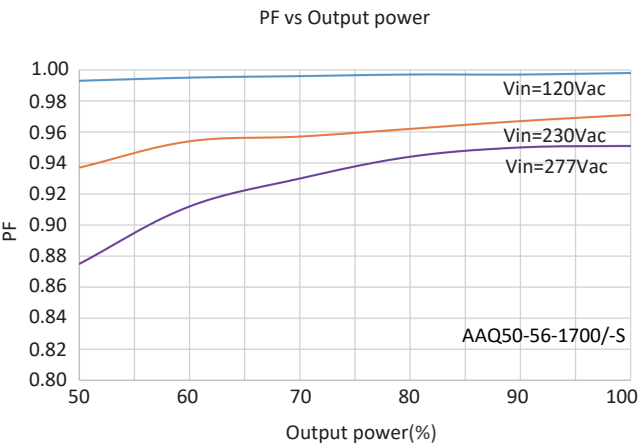
Efficiency vs Output voltage



Efficiency vs Output voltage

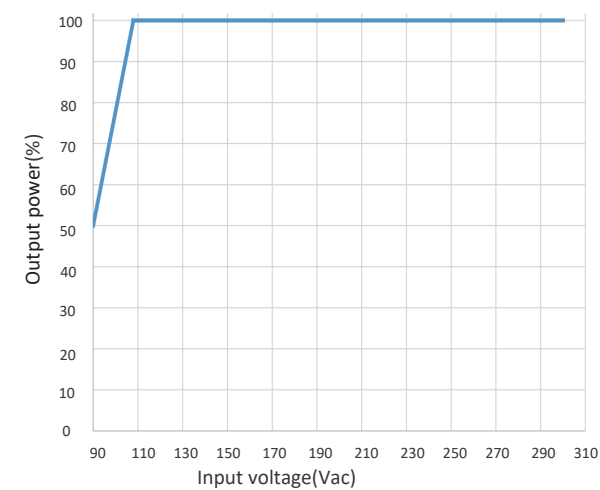


Characteristic curves

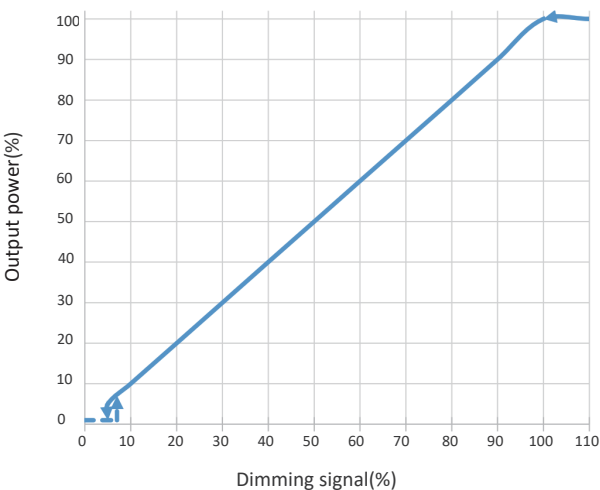


Characteristic curves

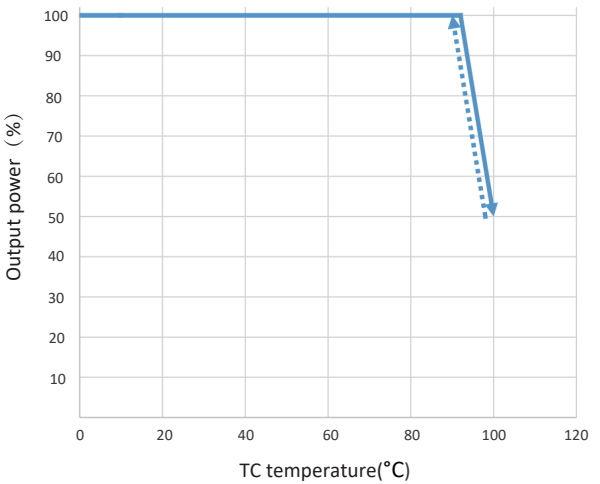
Output power VS Input voltage



Output power VS Dimming signal



Output power vs TC temperature



Lifespan vs TC temperature

