# AAQ75

## Product Features

- Efficiency up to 90%, PF>0.97,THD<7%
- 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

CE

## Technical data

| Product model | Max. output Power (W) | Input Voltage (Vdc) | Output current (mA) | Output Voltage (Vdc) | PF | Efficiency | size/mm |
|---|---|---|---|---|---|---|---|
| AAQ75-56-C2100 | 75 | 120-277 | 900-2100 | 25-56 | 0.95 | 89% | 138*63*32 |
| AAQ75-56-C2100-S | 75 | 120-277 | 900-2100 | 25-56 | 0.95 | 89% | 138*63*32 |
| AAQ75-108-C1050 | 75 | 120-277 | 500-1050 | 54-108 | 0.95 | 90% | 138*63*32 |
| AAQ75-108-C1050-S | 75 | 120-277 | 500-1050 | 54-108 | 0.95 | 90% | 138*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 | 0.8A @120Vac，Full Load |
| | Input power | 90W @120Vac，Full Load |
| | Input surge current peak value | 50A @120Vac，Cold Start<br>70A @230Vac，Cold Start<br>80A @277Vac，Cold Start |
| | Power factor | 0.99 @120Vac，Full Load<br>0.97 @230Vac，Full Load<br>0.95 @277Vac，Full Load<br>0.9 @120-277Vac 50/60Hz, 70-100% Load |
| | Total harmonic distortion | 6% @120Vac，Full Load<br>7% @230Vac，Full Load<br>10% @277Vac，Full Load<br>25% @120-277Vac 50/60Hz, 70-100% Load |
| Output parameters (AAQ75-56-2100/-S) | Rated output current | 900-2100mA |
| | Adjustable current range | 600-2100mA @Ref. AOE curve |
| | Output voltage range | 25-56Vdc @At the rated output voltage, the maximum output power Po=Vo*Io=75W |
| | Rated output voltage | 36-56Vdc |
| | Default factory output current | 1.34A |
| | Maximum no-load output voltage | 80V |
| | Efficiency | 87.0% @Input 120Vac, Output 36V/2.1A<br>89.0% @Input 230Vac, Output 36V/2.1A<br>89.0% @Input 277Vac, Output 36V/2.1A<br>87.0% @Input 120Vac, Output 56V/1.34A<br>89.0% @Input 230Vac, Output 56V/1.34A<br>89.0% @Input 277Vac, Output 56V/1.34A |
| | 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°C @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 | 10W @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 (AAQ75-108-1050/-S) | Rated output current | 500-1050mA |
| | Adjustable current range | 300-1130mA @Ref. AOE curve |
| | Output voltage range | 54-108Vdc @At the rated output voltage, the maximum output power Po=Vo*Io=75W |
| | Rated output voltage | 72-108Vdc |
| | Default factory output current | 0.7A |
| | Maximum no-load output voltage | 140V |
| | Efficiency | 89.0% @Input 120Vac, Output 72V/1.05A<br>90.0% @Input 230Vac, Output 72V/1.05A<br>90.0% @Input 277Vac, Output 72V/1.05A<br>89.0% @Input 120Vac, Output 108V/0.7A<br>90.0% @Input 230Vac, Output 108V/0.7A<br>90.0% @Input 277Vac, Output 108V/0.7A |
| | Current accuracy | ±5% @100% load Constant Power Range |
| | Output current ripple | 7% @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°C @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 | 10W @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 | 0.35-0.49V @typical 0.4V |
| | 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 | 3-4.9KΩ @Typical 4KΩ |
| | Dimming start resistance | 5.1-7KΩ @Typical 6KΩ |
| Interface protection | Reverse polarity protection | Main Output Cutoff |
| | 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 |
| | We ght | 520g @Net weight |
| | Dimension | 138mm*63mm*32mm |

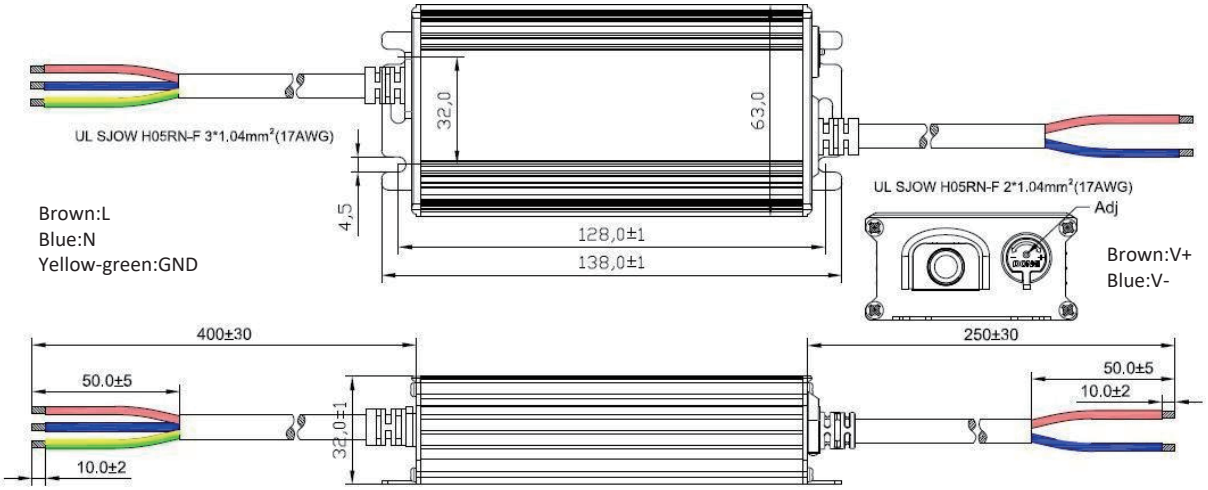
Remarks:

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;

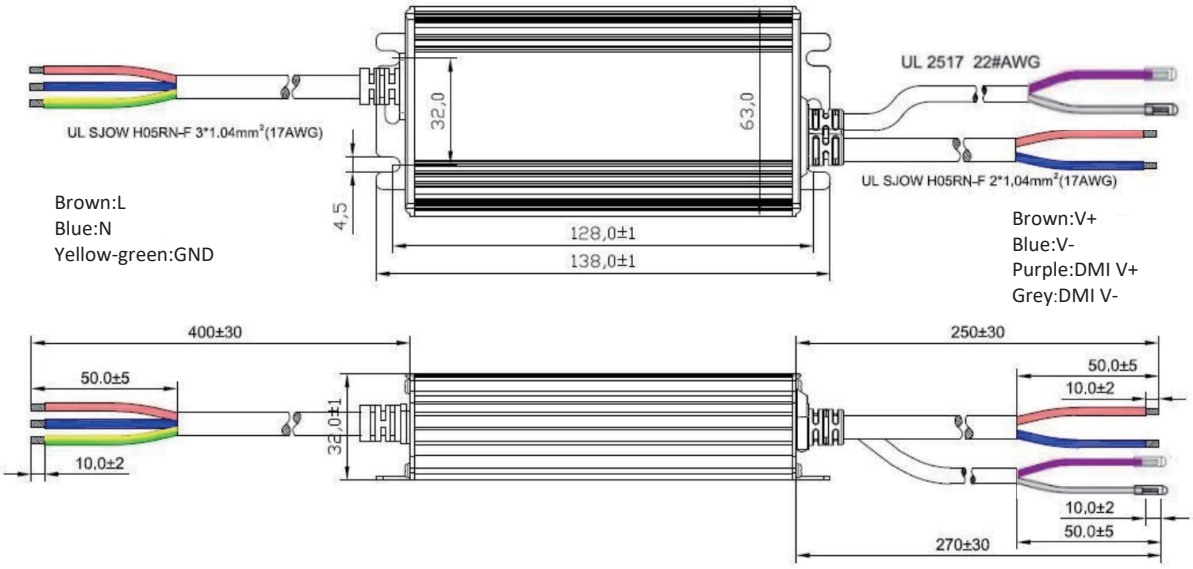
| category | project | Technical Indicators |
|---|---|---|
| Safety and EMC | CCC | GB 19510.14-2009、GB/T 17743-2021、GB 17625.1-2022 |
| | ENEC | EN 61347-1:2015 EN 61347-2-13:2014<br>EN 61347-2-13:2014/A1:2017 |
| | CB | IEC 61347-1, IEC 61347-2-13-2016 |
| | CE | EN 61347-2-13:2014 EN61347- 1:2008+A1:2011+A2:2013 |
| | 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<br>I/P-DIM&Vaux:3.75kVac O/P-DIM&Vaux:1.5kVac<br>DIM&Vaux-FG:1.5kV |
| | Ground resistance | <0.1Ω，25A/1min |
| | Leakage current | <0.75mA 277Vac |

## Exterior dimensions (unit: mm)

Note：AAQ75-****

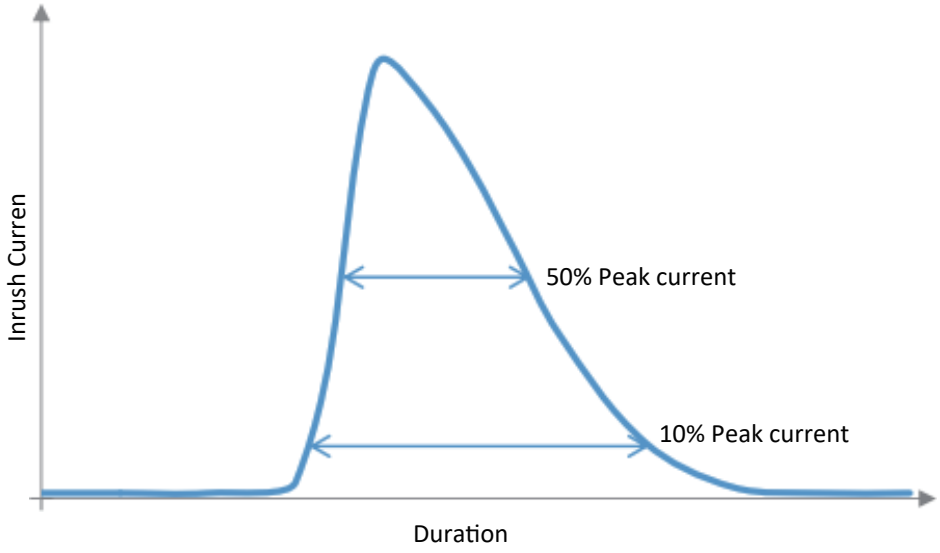



Note：AAQ75-****-S

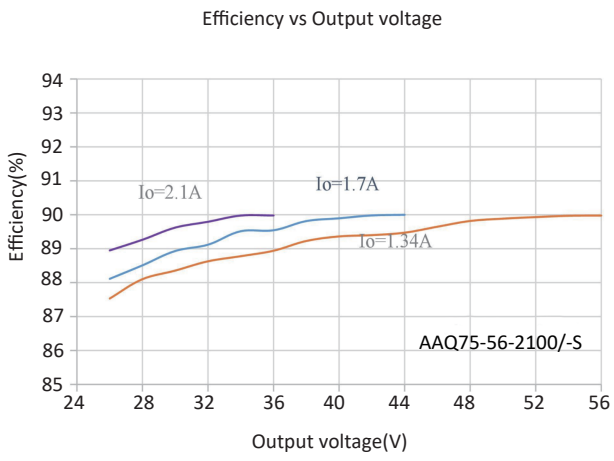


## Characteristic curves

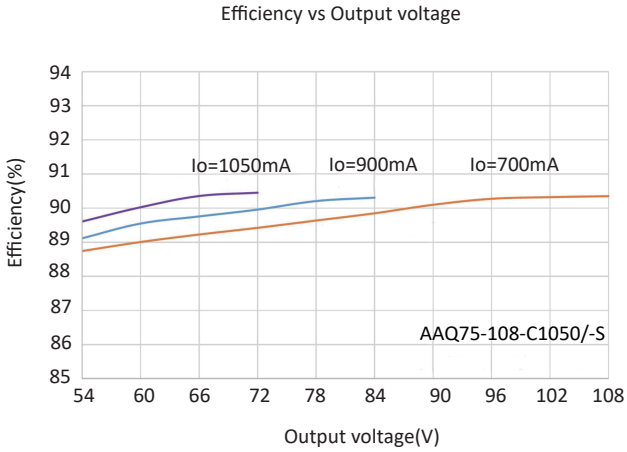
| Vin | Peak current | Duration (@10% peak current) | Duration (@50% peak current) |
|---|---|---|---|
| 120Vac | 30A | 250us | 111us |
| 230Vac | 51A | 337us | 167us |
| 277Vac | 59A | 247us | 168us |



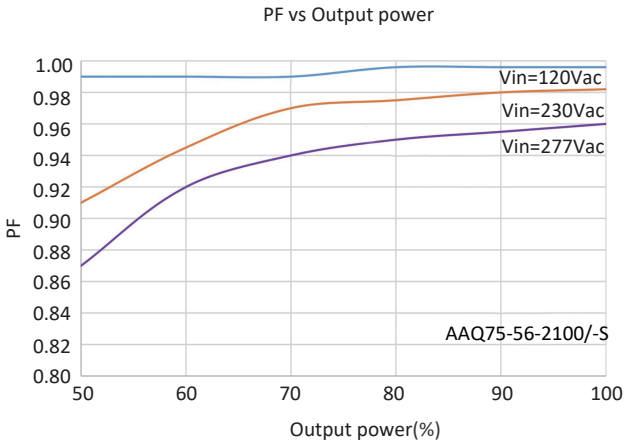

## Characteristic curves

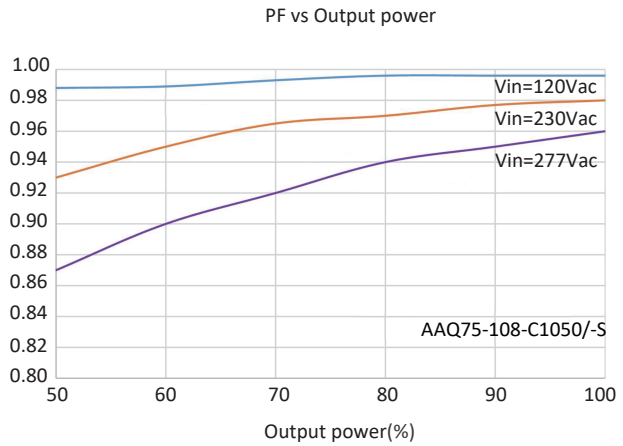



AAQ50-56-1700

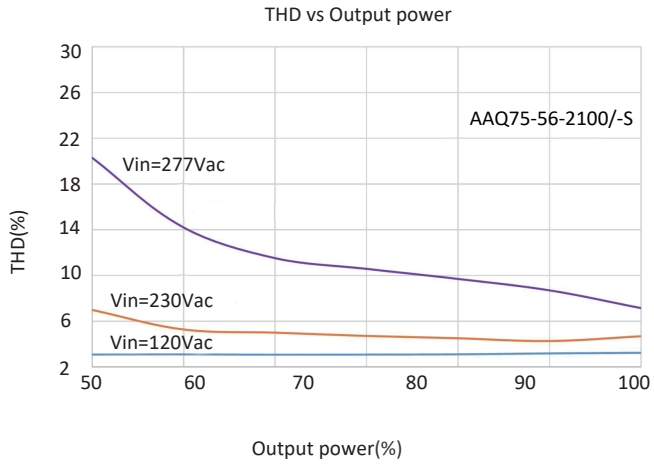


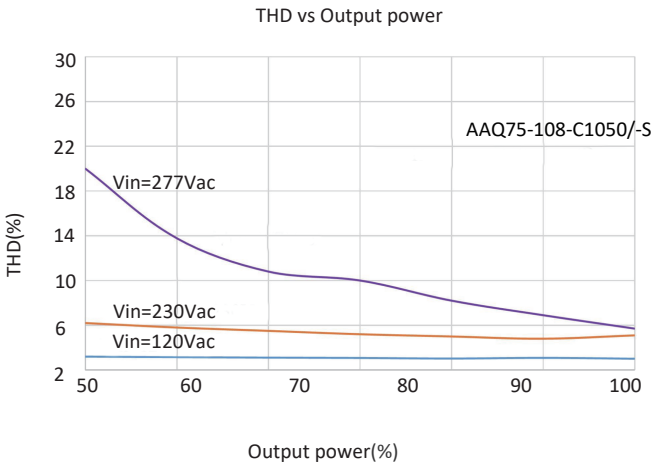
## Characteristic curves

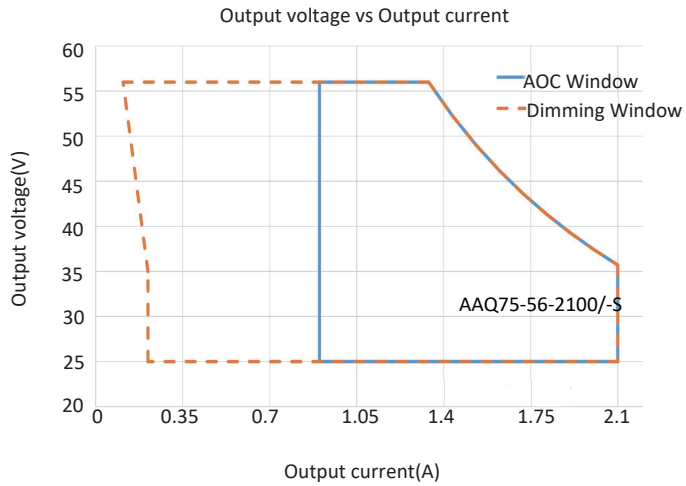


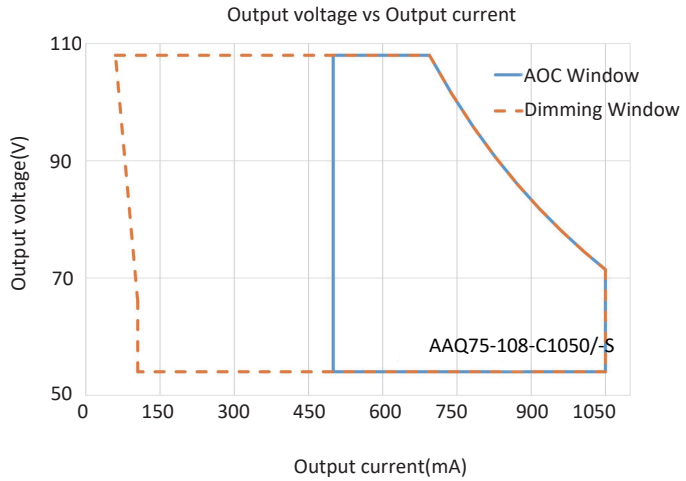




AAQ50-56-1700



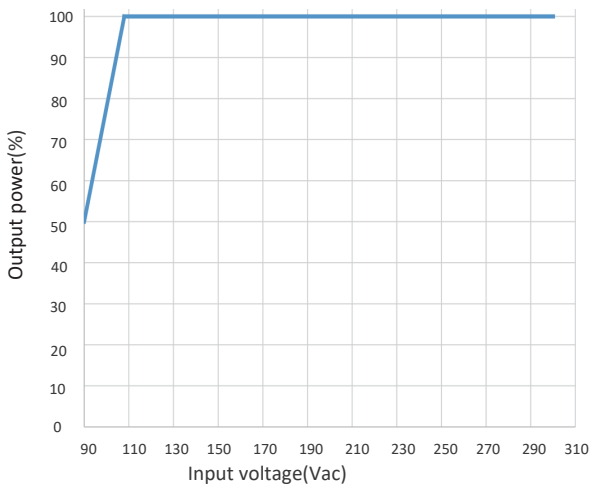



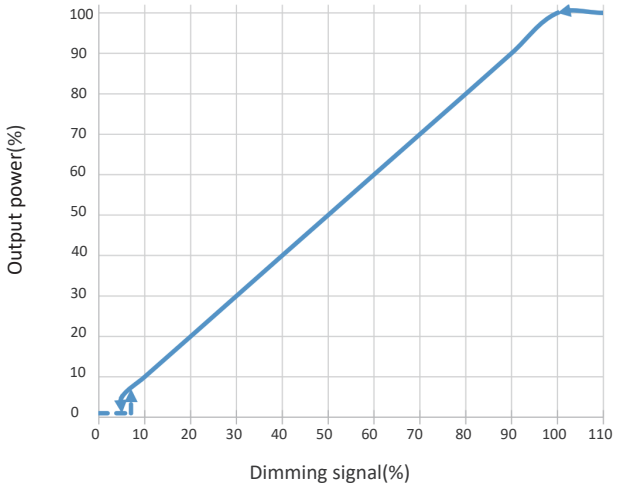



## Characteristic curves

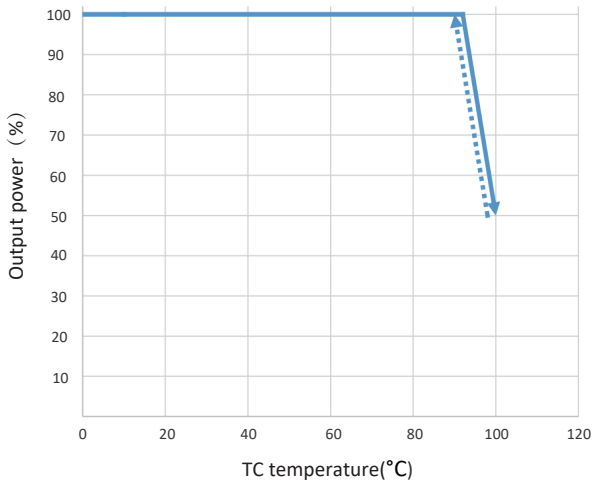
Output power VS Input voltage




Output power VS Dimming signal




Output power vs TC temperature




Lifespan vs TC temperature