

## AAS240



### Product Features

- Efficiency up to 94%
- 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 |
|-----------------|-----------------------|---------------------|---------------------|----------------------|------|------------|---------|
| AAS240-C1200    | 240                   | 120-277             | 600-1200            | 180-260              | 0.95 | 94%        | Φ113*55 |
| AAS240-C1200-S  | 240                   | 120-277             | 600-1200            | 180-260              | 0.95 | 94%        | Φ113*55 |
| AAS240-C1200-X  | 240                   | 120-277             | 600-1200            | 180-260              | 0.95 | 94%        | Φ113*55 |
| AAS240-C1200-Z  | 240                   | 120-277             | 600-1200            | 180-260              | 0.95 | 94%        | Φ113*55 |
| AAS240-C1200-SZ | 240                   | 120-277             | 600-1200            | 180-260              | 0.95 | 94%        | Φ113*55 |
| AAS240-C1200-XZ | 240                   | 120-277             | 600-1200            | 180-260              | 0.95 | 94%        | 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

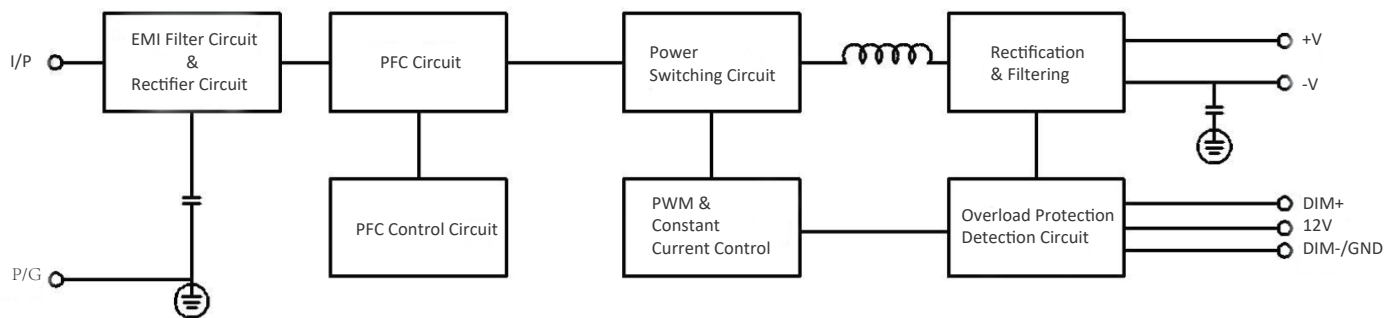
Electrical Specifications

| category project    |                                | MIN         | TYP                                      | MAX           | Remarks                                                   |
|---------------------|--------------------------------|-------------|------------------------------------------|---------------|-----------------------------------------------------------|
| Output parameters   | Rated output current           | 600mA       |                                          | 1200mA        | @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%         | 94%                                      |               | @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                  |             |                                          | 2.4A          |                                                           |
|                     | Maximum input power            |             |                                          | 240W          |                                                           |
|                     | Peak Input Surge Curren        |             |                                          | 85A<br>103.5A | @230Vac Cold machine start<br>@277Vac Cold machine start  |
|                     | Standby power consumption      |             |                                          | 0.5W          |                                                           |
|                     | PF                             | 0.91<br>0.9 | 0.95                                     |               | @230Vac/50Hz, Full load<br>@120-277Vac/50Hz, 70-100% load |
|                     | THD                            |             | 10%<br>20%                               | 15%           | @230Vac/50Hz, Full load<br>@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℃        | +25℃                                     | +50℃          | @Ref to Derating Curve                                    |
|                     | Storage Temperature            | -40℃        | +25℃                                     | +85℃          |                                                           |
|                     | Relative Operation Humidity    | 10%RH       |                                          | 90%RH         |                                                           |
|                     | Relative Storage Humidity      | 5%RH        |                                          | 95RH          |                                                           |
|                     | Height Above Sea Level         | -100m       |                                          | 3000m         |                                                           |

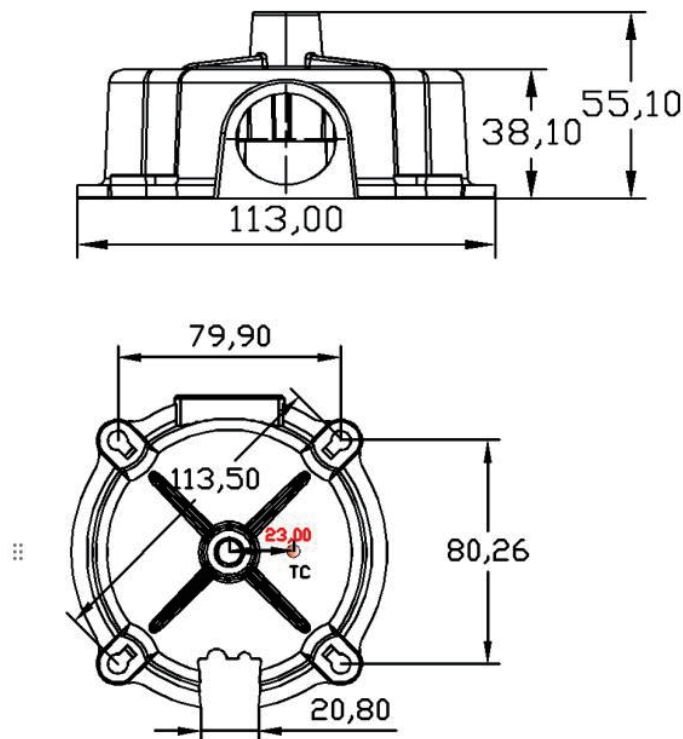
## Technical data

| category            | project                                           | MIN                                                                                                                                                                                                       | TYP | MAX   | Remarks                                                            |
|---------------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|--------------------------------------------------------------------|
| Other               | Burn-in                                           | Burn-in for 2 hours 50°C<br>Burn-in for 4 hours 50°C                                                                                                                                                      |     |       | @Bare-board<br>@Power supply                                       |
|                     | MTBF Estimation                                   | 60000hours                                                                                                                                                                                                |     |       | @Accelerated experimental<br>verification evaluation               |
|                     | Temperature Coefficient                           | -0.02%/°C                                                                                                                                                                                                 |     |       | -0.02%/°C                                                          |
|                     | Case Temperature                                  | 90°C                                                                                                                                                                                                      |     |       |                                                                    |
|                     | levels of protection                              | IP65                                                                                                                                                                                                      |     |       |                                                                    |
|                     | Weight                                            | 608g                                                                                                                                                                                                      |     |       |                                                                    |
|                     | Size                                              | Φ113*55mm                                                                                                                                                                                                 |     |       |                                                                    |
| Safety standard     | CB                                                | IEC 61347-2-13:2014<br>IEC 61347-2-13:2014/AMD1:2016<br>IEC 61347-1:2015<br>IEC 61347-1:2015/AMD1:2017                                                                                                    |     |       |                                                                    |
|                     | CE                                                | EN 61347-2-13:2014+A1:2017;<br>EN 61347-1:2015+A1:2021;<br>EN 62493:2015+A1:2022<br>EN IEC 55015:2019+A11:2020<br>EN IEC 61000-3-2:2019+A1:2021<br>EN 61000-3-3:2013+A1:2019+A2:2021<br>EN IEC 61547:2023 |     |       |                                                                    |
|                     | SAA                                               | IEC 61347-2-13:2014+A1:2016<br>IEC 61347-1:2015+A1:2017                                                                                                                                                   |     |       |                                                                    |
| Safety Requirements | Input to output<br>Dielectric Withstand Voltage   |                                                                                                                                                                                                           |     |       | @Non-isolated and cannot be tested                                 |
|                     | Primary to ground<br>Dielectric Withstand Voltage | 1600Vac/5mA Max / 60 seconds                                                                                                                                                                              |     |       | @The basic insulation,No breakdown、<br>No arcing                   |
|                     | Output to ground<br>Dielectric Withstand Voltage  | 1600Vac/5mA Max / 60 seconds                                                                                                                                                                              |     |       | @The basic insulation,No breakdown、<br>No arcing                   |
|                     | Leakage current<br>Dielectric Withstand Voltage   | 0.75mA                                                                                                                                                                                                    |     |       | @277Vac                                                            |
|                     | Input to ground<br>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<br>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<br>time short circuit ,<br>short circuit power≤2W                                                                                                                                   |     |       | @Return to normal status when<br>output limit current to get right |

Circuit Structure Diagram



Exterior dimensions (unit: mm)



Product datasheet

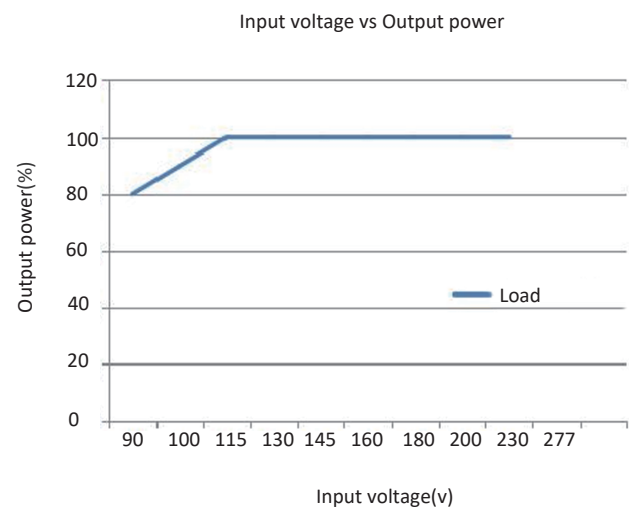
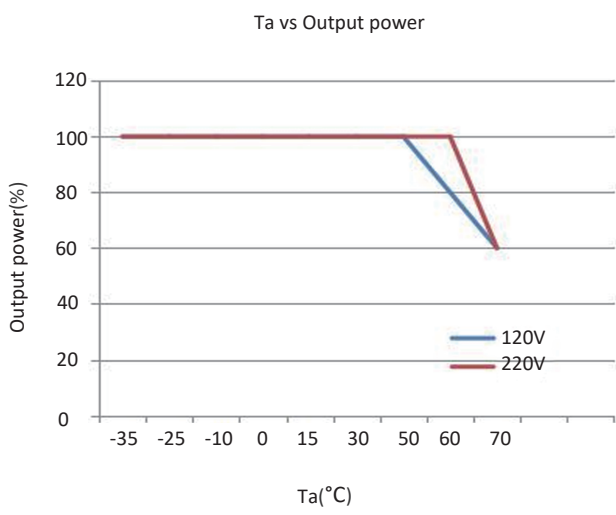
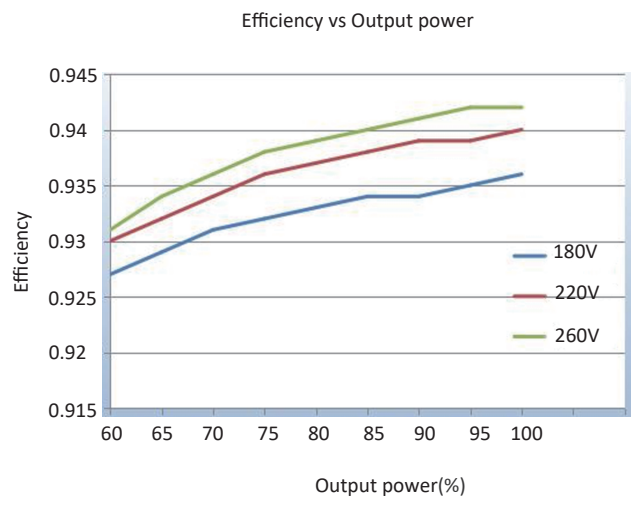
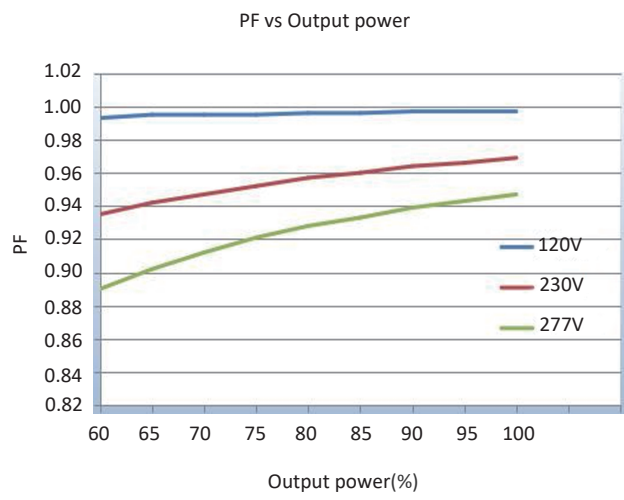
Wire Specifications

| 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 <sup>2</sup> | 350±10mm            | 8±1.5mm       |
|                             | ACN  | White    | Blue         |                          |                      |                     |               |
|                             | GND  | Green    | Yellow/green |                          |                      |                     |               |
| DC output                   | LED+ | Black    | Red          | 2*18AWG                  | 2*1.0mm <sup>2</sup> | 250±10mm            | 4±1.5mm       |
|                             | LED- | White    | Black        |                          |                      |                     |               |
| DC output<br>( CCT Tuning ) | LED+ | Black    | Brown        | 2*18AWG                  | 2*1.0mm <sup>2</sup> | 250±10mm            | 4±1.5mm       |
|                             | CW   | White    | Black        |                          |                      |                     |               |
|                             | WW   | Green    | Blue         |                          |                      |                     |               |
| Dim the light               | DIM+ | Purple   | Purple       | 3*22#,21996<br>300V,105℃ |                      | 320±10mm            | 4±1.5mm       |
|                             | DIM- | Pink     | Pink         |                          |                      |                     |               |
| 12V AUX                     | +12V | Red      | Red          |                          |                      |                     |               |

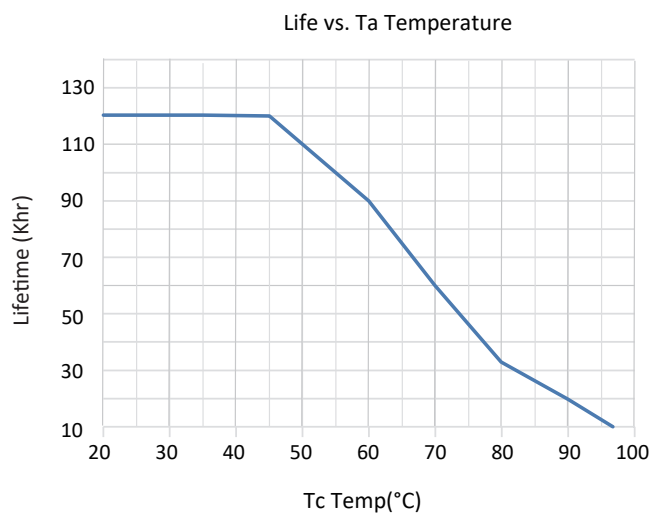
DIP Switch Settings

| 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 $\Omega$ | 10K $\Omega$ | 20K $\Omega$ | 30K $\Omega$ | 40K $\Omega$ | 50K $\Omega$ | 60K $\Omega$ | 70K $\Omega$ | 80K $\Omega$ | 90K $\Omega$ | 100K $\Omega$ |
|-----------------------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| 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