## DESCRIPTIONS

350W, AC/DC Enclosed Switching Power Supply

3 Years Warranty

RoHS

c UL us Report CE Report UK CA Report

UL62368-1 EN62368-1 BS EN62368-1

## FEATURES

- Selectable AC input range: 90 - 132VAC/180 - 264VAC
- DC input range: 240 - 370VDC
- Operating ambient temperature range: - 30℃ to +70℃
- LED indicator for power on
- Output short circuit, over-current, over-voltage, over-temperature protection
- Built-in DC fan for forced air cooling
- Operating up to 5000m altitude

## APPLICATIONS

- Industrial
- LED
- Street light control
- Electricity
- Security
- Telecommunications
- Smart home

## Selection Guide

| Certification | Part No.* | Output Power (W) | Nominal Output Voltage and Current (Vo/Io) | Output Voltage Adjustable Range (V) | Efficiency at 230VAC (%) Typ. | Max. Capacitive Load (μF) |
|---|---|---|---|---|---|---|
| EN/BS EN | AE350-2B-05 | 300 | 5V/60A | 4.5-5.5 | 83.5 | 10000 |
| UL/EN/ BS EN | AE350-2B-12 | 348 | 12V/29A | 10.2-13.8 | 85 | 4000 |
| EN/BS EN | AE350-2B-15 | 348 | 15V/23.2A | 13.5-18 | 86 | 3300 |
| UL/EN/ BS EN | AE350-2B-24 | 350.4 | 24V/14.6A | 21.6-28.8 | 87 | 1500 |
| EN/BS EN | AE350-2B-36 | 349.2 | 36V/9.7A | 32.4-39.6 | 88 | 1500 |
| UL/EN/ BS EN | AE350-2B-48 | 350.4 | 48V/7.3A | 43.2-52.8 | 88.5 | 470 |

Note: *1. Use suffix "Q" for conformal coating.

2. If the terminal cover is required, please order "CPJ-049" for self-installation.

3. The product picture is for reference only. For details, please refer to the actual product.

## Specifications

| Product Specifications | Item | Operating Conditions | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| Input Specifications | Input Voltage Range | AC input | Low voltage (switch in position of 115) | 90 | -- | 132 | VAC |
| | | | High voltage (switch in position of 230) | 180 | -- | 264 | |
| | | DC input | Switch in position of 230 | 240 | -- | 370 | VDC |
| | Input Voltage Frequency | | | 47 | -- | 63 | Hz |
| | Input Current | 115VAC | | -- | 6.8 | 8 | A |
| | | 230VAC | | -- | 3.4 | 4 | |
| | Inrush Current | 115VAC | Cold start | -- | 60 | -- | |
| | | 230VAC | | -- | 60 | -- | |
| | Leakage Current | 240VAC | | -- | -- | 0.75 | mA |
| | Hot Plug | | | Unavailable | | | |
| Output Specifications | Output Voltage Accuracy | Full load range | 5V | -- | ±3 | -- | % |
| | | | 12V | -- | ±1.5 | -- | |
| | | | 15V/24V/36V/48V | -- | ±1 | -- | |
| | Line Regulation | Rated load | | -- | ±0.5 | -- | |
| | Load Regulation | 0% - 100% load | 5V | -- | ±2 | -- | |
| | | | 12V | -- | ±1 | -- | |
| | | | 15V/24V/36V/48V | -- | ±0.5 | -- | |
| | Output Ripple & Noise* | 20MHz bandwidth (peak-to-peak value) | 5V/12V/15V/24V | -- | -- | 150 | mV |
| | | | 36V/48V | -- | -- | 200 | |
| | Temperature Coefficient | | | -- | ±0.02 | -- | %/℃ |
| | Minimum Load | | | 0 | -- | -- | % |
| | Stand-by Power Consumption | 230VAC, 25℃ | | -- | -- | 1 | W |
| | Hold-up Time | 115VAC | | -- | 12 | -- | ms |
| | | 230VAC | | -- | 16 | -- | |
| | Short Circuit Protection | Recovery time <8s after the short circuit disappear | | Hiccup, continuous, self-recover | | | |
| | Over-current Protection | | | 110% - 180% Io, self-recover | | | |
| | Over-voltage Protection | 5V | | 5.75V-6.75V (Hiccup, self-recover) | | | |
| | | 12V | | 13.8V-16.2V (Hiccup, self-recover) | | | |
| | | 15V | | 18V-21V (Hiccup, self-recover) | | | |
| | | 24V | | 28.8V-33.6V (Hiccup, self-recover) | | | |
| | | 36V | | 41.4V-46.8V (Hiccup, self-recover) | | | |
| | | 48V | | 55.2V-62.4V (Hiccup, self-recover) | | | |
| | Over-temperature | | | Hiccup, self-recover | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protection | | | | | | |
| General Specifications | Isolation Test | Input-⏚ | Electric strength test for 1min., leakage current <3mA | 2000 | -- | -- | VAC |
| | | Input-output | Electric strength test for 1min., leakage current <5mA | 3000 | -- | -- | |
| | | Output-⏚ | Electric strength test for 1min., leakage current <3mA | 500 | -- | -- | |
| | Insulation Resistance | Input-⏚ | Ambient temperature: 25 ± 5℃ Relative humidity: < 95%RH, no condensation Test voltage: 500VDC | 100 | -- | -- | MΩ |
| | | Input-output | | 100 | -- | -- | |
| | | Output-⏚ | | 100 | -- | -- | |
| | Operating Temperature | | | -30 | -- | +70 | ℃ |
| | Storage Temperature | | | -40 | -- | +85 | |
| | Fan On/Off Control | | Fan On, temperature for Rth3 | 50 | -- | -- | |
| | | | Fan Off, temperature for Rth3 | -- | -- | 40 | |
| | Operating Humidity | | Non-condensing | 20 | -- | 90 | %RH |
| | Storage Humidity | | | 10 | -- | 95 | |
| | Switching Frequency | | | -- | 65 | -- | kHz |
| | Power Derating | | Operating temperature derating +50℃ to +70℃ | 2 | -- | -- | %/℃ |
| | | | Input voltage derating 90VAC - 100VAC | 2 | -- | -- | %/VAC |
| | | | 100VAC -132VAC | 0 | -- | -- | |
| | | | 180VAC - 264VAC | 0 | -- | -- | |
| | | | 240VDC - 370VDC | 0 | -- | -- | %/VDC |
| | Safety Class | | | CLASS I | | | |
| | MTBF | | MIL-HDBK-217F@25℃ | ≥300,000 h | | | |
| Mechanical Specifications | Case Material | | Metal (AL1100, SGCC) | | | | |
| | Dimensions | | 215.00 mm x 115.00 mm x 30.00mm | | | | |
| | Weight | | 700g (Typ.) | | | | |
| | Cooling Method | | Forced air cooling | | | | |

Note:1. *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor.

## Electromagnetic Compatibility (EMC)

| | | | | |
|---|---|---|---|---|
| Electromagnetic Compatibility (EMC) | Emissions | CE | CISPR32/EN55032 CLASS A | |
| | | RE | CISPR32/EN55032 CLASS A | |
| | Immunity | ESD | IEC/EN61000-4-2 Contact ±6KV/Air ±8KV | perf. Criteria A |
| | | RS | IEC/EN61000-4-3 10V/m | perf. Criteria A |
| | | EFT | IEC/EN61000-4-4 ±2KV | perf. Criteria A |
| | | Surge | IEC/EN61000-4-5 line to line ±2KV/line to PE ±4KV | perf. Criteria A |
| | | CS | IEC/EN61000-4-6 10Vr.m.s | perf. Criteria A |
| | | DIP | IEC/EN61000-4-11 0%, 70% | perf. Criteria B |

Remark:

1. One magnetic beed should be coupled with the output load line during CE/RE testing.
2. The power supply does not meet the requirements of harmonic current stipulated in EN61000-3-2; This power supply is not suitable for the following situations.

1) The terminal equipment is used in the European Union;

2) The terminal equipment is connected to public mains supply with 220VAC or greater rated nominal voltage that mandatory to meet the requirements of EN61000-3-2;

3) The power supply is installed in terminal equipment with average or continuous input power greater than 75W;

4) The power supply belong to a part of lighting system;

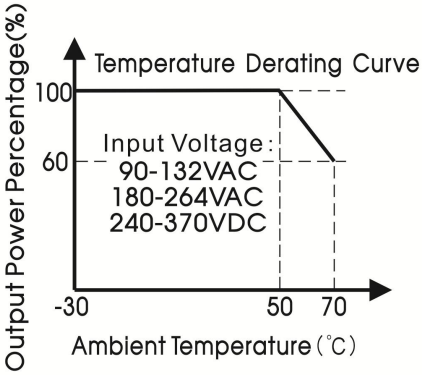
In addition, the power supply can be used in the following terminals which do not need to meet EN61000-3-2;

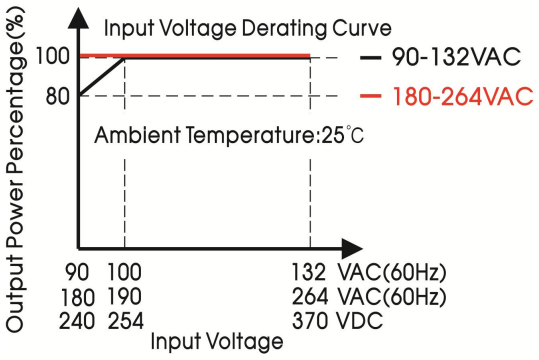
(1) Professional equipment with total fixed input power greater than 1000W;

(2) symmetrical controlled heating element with rated power less than or equal to 200W.

3. If no harmonic current is required or customers can solve harmonic current problems by themselves, this product can be used.

## Characteristic Curve

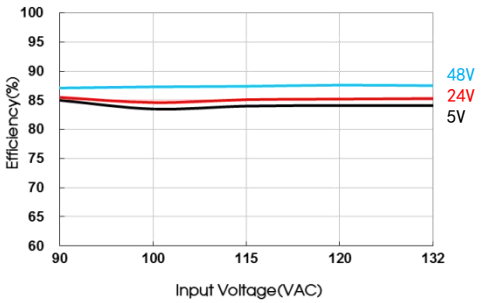


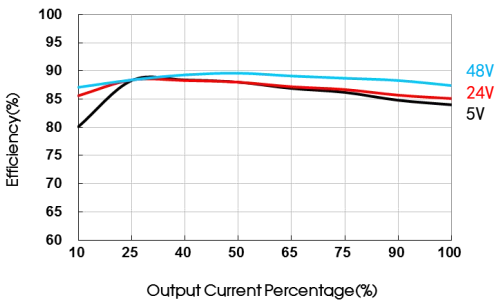

Note: 1. With an AC input voltage between 90-100VAC and a DC input between 180-190VDC the output power must be derated as per the temperature derating curves;

2. This product is suitable for applications using natural air cooling.

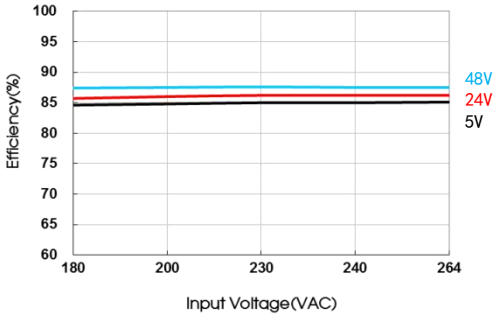
Efficiency Vs Input Voltage (Full Load)



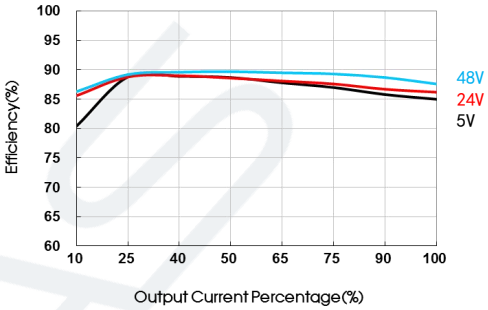

Efficiency Vs Output Load(Vin=115VAC)



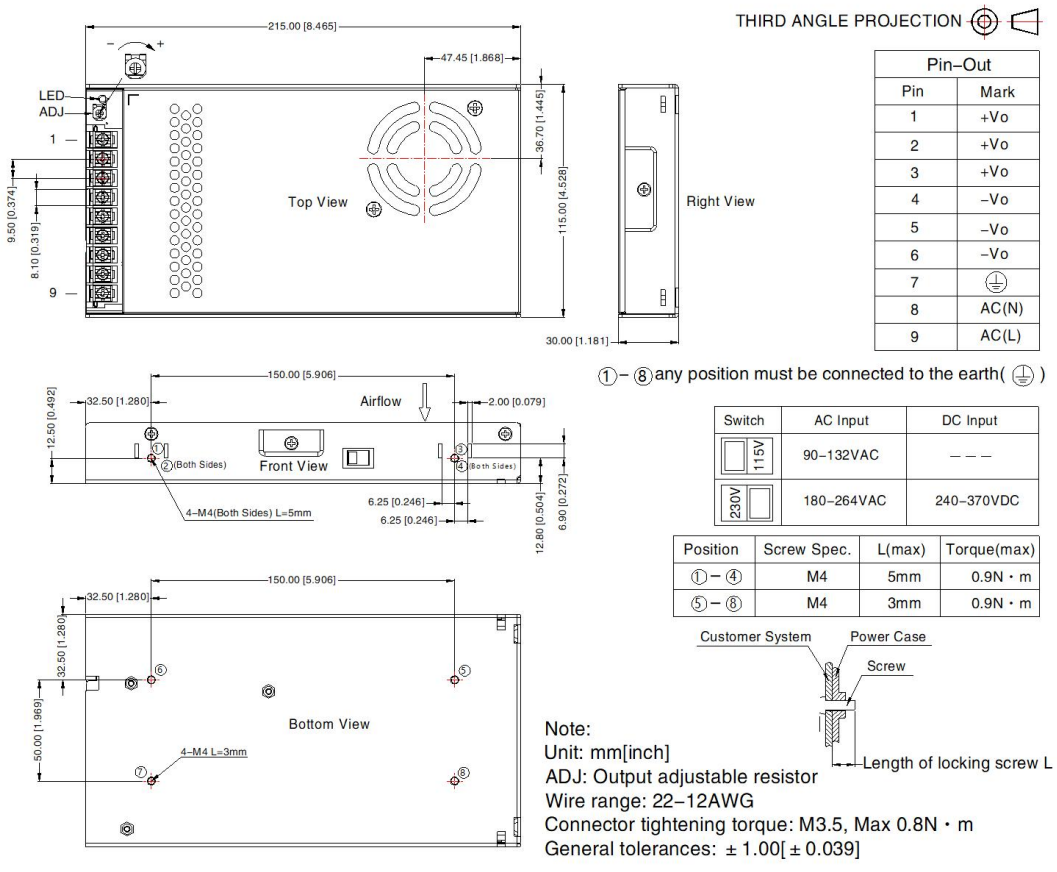

Efficiency Vs Input Voltage (Full Load)




Efficiency Vs Output Load(Vin=230VAC)




## Dimensions and Recommended Layout




| Pin-Out | |
|---|---|
| Pin | Mark |
| 1 | +Vo |
| 2 | +Vo |
| 3 | +Vo |
| 4 | -Vo |
| 5 | -Vo |
| 6 | -Vo |
| 7 | ⏚ |
| 8 | AC(N) |
| 9 | AC(L) |

①-⑧any position must be connected to the earth( ⏚ )

| Switch | AC Input | DC Input |
|---|---|---|
| 115V | 90-132VAC | - - - |
| 230V | 180-264VAC | 240-370VDC |

| Position | Screw Spec. | L(max) | Torque(max) |
|---|---|---|---|
| ①-④ | M4 | 5mm | 0.9N・m |
| ⑤-⑧ | M4 | 3mm | 0.9N・m |




Note:
Unit: mm[inch]
ADJ: Output adjustable resistor
Wire range: 22-12AWG
Connector tightening torque: M3.5, Max 0.8N・m
General tolerances: ± 1.00[ ± 0.039]

Note:
1. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75%RH with nominal input voltage and rated output load;
2. The ambient temperature derating of 5℃/1000m is needed for operating altitude greater than 2000m;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
5. Products are related to laws and regulations: see "Features" and "EMC";
6. The out case needs to be connected to the earth (⏚) of system when the terminal equipment in operating;
7. The output voltage can be adjusted by the ADJ, clockwise to increase;
8. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
9. The power supply is considered a component which will be installed into a final equipment. All EMC tests should be confirmed with the final equipment.