## DESCRIPTIONS

75W, AC-DC Converter



RoHS

CE Report EN62368-1

UKCA Report BS EN62368-1

## FEATURES

- Universal 80 - 305VAC or 100 - 430VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -40℃ to +85℃
- Low standby power consumption, high efficiency
- High I/O isolation test voltage up to 4000VAC
- Low ripple & noise
- Operating altitude up to 5000m
- Output short circuit, over-current, over-voltage protection
- Over-voltage class III (designed to meet EN62477)
- Safety according to IEC62368, EN60335, EN61558, EN62477

## 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 | AE75-05V2 | 70 | 5V/14A | 4.5-5.5 | 86.5 | 10000 |
| | AE75-12V2 | 72 | 12V/6A | 10.2-13.8 | 89 | 6000 |
| | AE75-15V2 | 75 | 15V/5A | 13.5-18 | | 5000 |
| | AE75-24V2 | 76.8 | 24V/3.2A | 21.6-28.8 | 91 | 1500 |
| | AE75-36V2 | 75.6 | 36V/2.1A | 32.4-39.6 | | 1000 |
| | AE75-48V2 | 76.8 | 48V/1.6A | 43.2-52.8 | 92.5 | 680 |
| | AE75-54V2 | 75.6 | 54V/1.4A | 48.6-59.4 | | |

Note: 1. *suffix "Q" for bottom conformal coating and "QQ" for both sides conformal coating;
2. *For products with terminal cover, please order "CPJ-032" 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 | | 80 | -- | 305 | VAC |
| | | DC input | | 100 | -- | 430 | VDC |
| | Input Voltage Frequency | | | 47 | -- | 63 | Hz |
| | Input Current | 115VAC | | -- | -- | 2 | A |
| | | 230VAC | | -- | -- | 1 | |
| | Inrush Current | 115VAC | Cold start | -- | 40 | -- | |
| | | 230VAC | | -- | 75 | -- | |
| | Leakage Current | 277VAC | | < 0.75mA | | | |
| | Hot Plug | | | Unavailable | | | |
| Output Specifications | Output Voltage Accuracy | Full load range | 5V | -- | ±2 | -- | % |
| | | | 12V/15V/24V/36V/48V/54V | -- | ±1 | -- | |
| | Line Regulation | Rated load | | -- | ±0.5 | -- | |
| | Load Regulation | 0% - 100% load | 5V | -- | ±1 | -- | |
| | | | 12V/15V/24V/36V/48V/54V | -- | ±0.5 | -- | |
| | Ripple & Noise* | 20MHz bandwidth (peak-to-peak value) | 5V/12V/15V | -- | 120 | -- | mV |
| | | | 24V | -- | 150 | -- | |
| | | | 36V/48V/54V | -- | 200 | -- | |
| | Temperature Coefficient | | | -- | ±0.03 | -- | %/℃ |
| | Minimum Load | | | 0 | -- | -- | % |
| | Stand-by Power Consumption | | | -- | -- | 0.5 | W |
| | Hold-up Time | 115VAC | | 8 | -- | -- | ms |
| | | 230VAC | | 55 | -- | -- | |
| | Short Circuit Protection | Recovery time <5s after the short circuit disappear. | | Hiccup, continuous, self-recover | | | |
| | Over-current Protection | 230VAC, rated load | Normal temperature, high temperature | 120% - 200% Io, hiccup, self-recover | | | |
| | | | Low temperature | ≥120% Io, hiccup, self-recover | | | |
| | Over-voltage Protection | 5V | | ≤7.3VDC (Hiccup, self-recover) | | | |
| | | 12V | | ≤16VDC (Clamp, self-recover) | | | |
| | | 15V | | ≤21.75VDC (Clamp, self-recover) | | | |
| | | 24V | | ≤33.6VDC (Hiccup, self-recover) | | | |
| | | 36V | | ≤48.6VDC (Hiccup, self-recover) | | | |
| | | 48V | | ≤60VDC (Hiccup, self-recover) | | | |
| | | 54V | | ≤70VDC (Hiccup, self-recover) | | | |

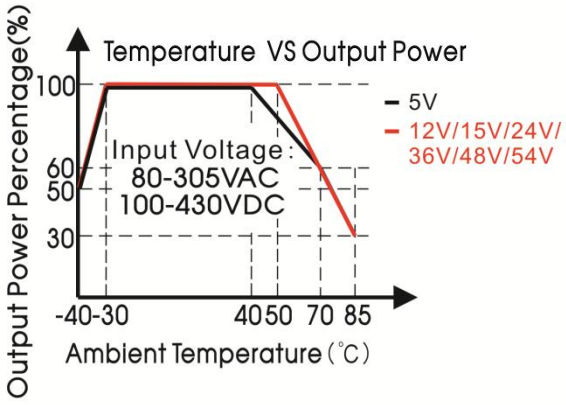
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| General Specifications | Isolation Test | Input - ⏚ | Electric strength test for 1min., leakage current <5mA | | 2000 | -- | -- | VAC |
| | | Input - output | | | 4000 | -- | -- | |
| | | Output - ⏚ | | | 1250 | -- | -- | |
| | Insulation Resistance | Input - ⏚ | At 500VDC | | 100 | -- | -- | MΩ |
| | | Input - output | | | 100 | -- | -- | |
| | | Output - ⏚ | | | 100 | -- | -- | |
| | Operating Temperature | | | | -40 | -- | +85 | ℃ |
| | Storage Temperature | | | | -40 | -- | +85 | |
| | Operating Humidity | | Non-condensing | | 20 | -- | 90 | %RH |
| | Storage Humidity | | | | -- | -- | 95 | |
| | Switching Frequency | | | | -- | -- | 150 | kHz |
| | Power Derating | Operating temperature derating | 5V | +40℃ to +70℃ | 1.33 | -- | -- | %/℃ |
| | | | | +70℃ to +85℃ | 2 | -- | -- | |
| | | | Others | +50℃ to +85℃ | 2 | -- | -- | |
| | | | -40℃ to -30℃ | | 5 | -- | -- | |
| | | Input voltage derating | 80VAC - 100VAC | | 1.33 | -- | -- | %/VAC |
| | | | 277VAC - 305VAC | | 0.71 | -- | -- | |
| | Safety Class | | | | CLASS I | | | |
| | MTBF | | MIL-HDBK-217F@25℃ | | >300,000 h | | | |
| Mechanical Specifications | Case Material | | Metal (AL1100, SGCC) | | | | | |
| | Dimensions | | 99.00mm x 82.00mm x 30.00mm | | | | | |
| | Weight | | 220g (Typ.) | | | | | |
| | Cooling Method | | Free air convection | | | | | |

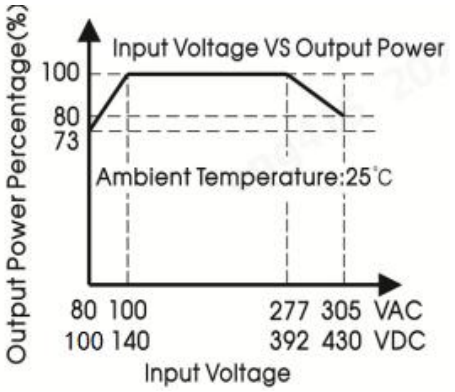
Note: *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor.

## Electromagnetic Compatibility (EMC)

| | | | | |
|---|---|---|---|---|
| Electromagnetic Compatibility (EMC) | Emissions (EMI) | CE | CISPR32/EN55032 CLASS B | |
| | | RE | CISPR32/EN55032 CLASS B | |
| | | Harmonic current | IEC/EN61000-3-2 CLASS A | |
| | Immunity (EMS) | ESD | IEC/EN 61000-4-2 Contact ±6KV/Air ±8KV | perf. Criteria A |
| | | RS | IEC/EN 61000-4-3 10V/m | perf. Criteria A |
| | | EFT | IEC/EN 61000-4-4 ±4KV | perf. Criteria A |
| | | Surge | IEC/EN 61000-4-5 line to line ±2KV/line to ground ±4KV | perf. Criteria A |
| | | CS | IEC/EN61000-4-6 10 Vr.m.s | perf. Criteria A |
| | | Voltage dips, short interruptions and voltage variations immunity | IEC/EN61000-4-11 0%, 70% | perf. Criteria B |

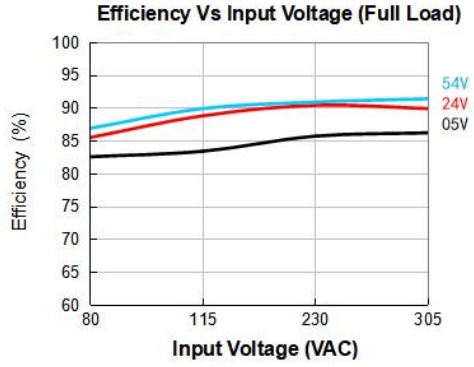
## Characteristic Curve

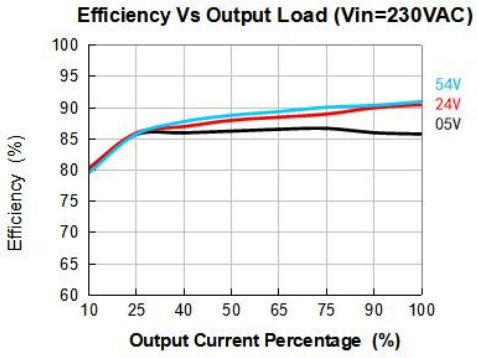


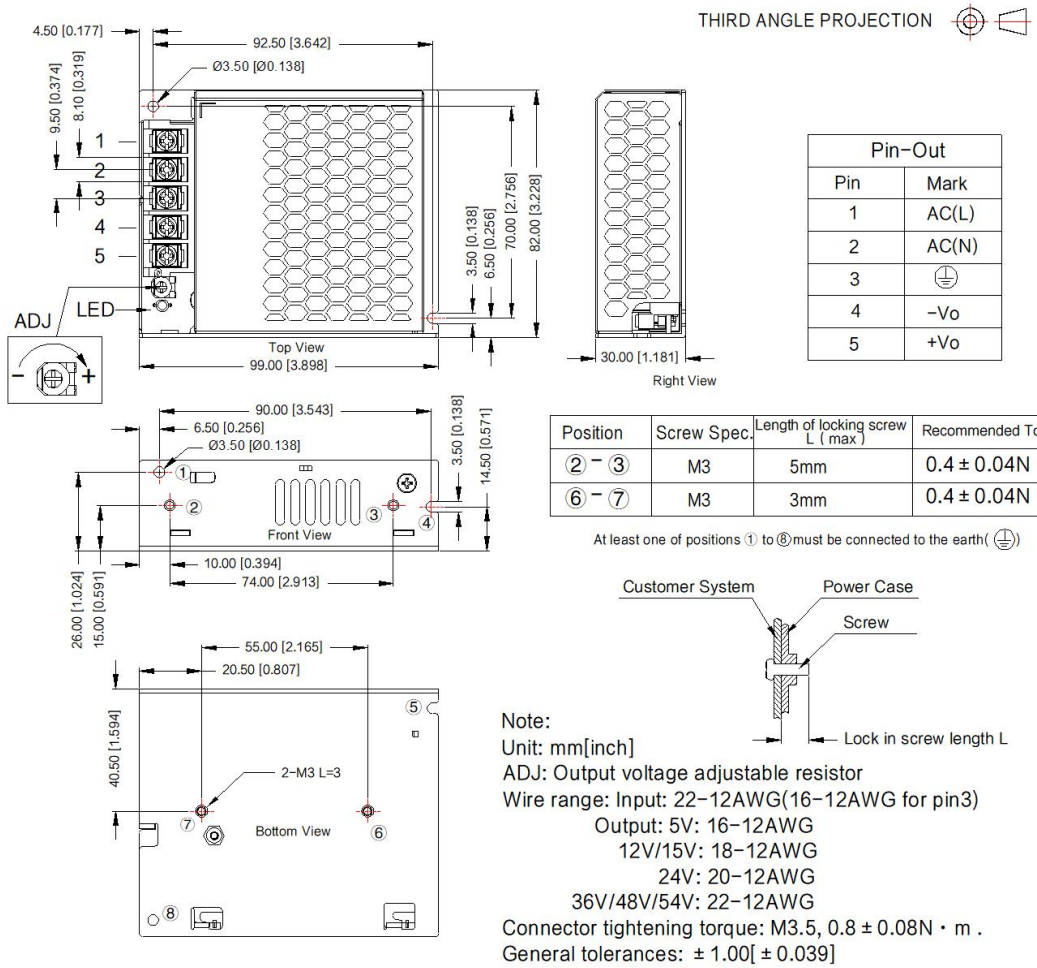

Note: 1.With an AC input voltage between 80 - 100VAC/277 - 305VAC and a DC input between 100 - 140VDC/392 - 430VDC the output power must be derated as per the temperature derating curves;

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



## Dimensions and Recommended




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

| Position | Screw Spec. | Length of locking screw L ( max ) | Recommended Torque |
|---|---|---|---|
| ②－③ | M3 | 5mm | 0.4 ± 0.04N・m |
| ⑥－⑦ | M3 | 3mm | 0.4 ± 0.04N・m |

At least one of positions ① to ⑧must be connected to the earth( ⏚ )

Note:
Unit: mm[inch]
ADJ: Output voltage adjustable resistor
Wire range: Input: 22-12AWG(16-12AWG for pin3)
Output: 5V: 16-12AWG
12V/15V: 18-12AWG
24V: 20-12AWG
36V/48V/54V: 22-12AWG
Connector tightening torque: M3.5, 0.8 ± 0.08N・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 room 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. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see "Features" and "EMC";
7. The out case needs to be connected to PE (⏚) of system when the terminal equipment in operating;
8. The output voltage can be adjusted by the ADJ, clockwise to increase;
9. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
10. The power supply is considered a component which will be installed into a terminal equipment. All EMC tests should be confirmed with the final equipment.
11. The image certification marks are for reference only; please refer to the selection table for actual specifications. Certification is based on the physical mark or packaging label.