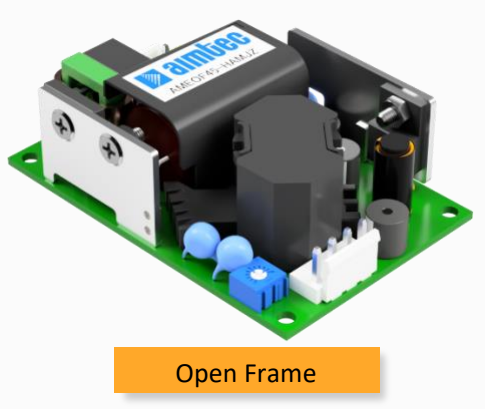


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## AMEOF45-HAMJZ

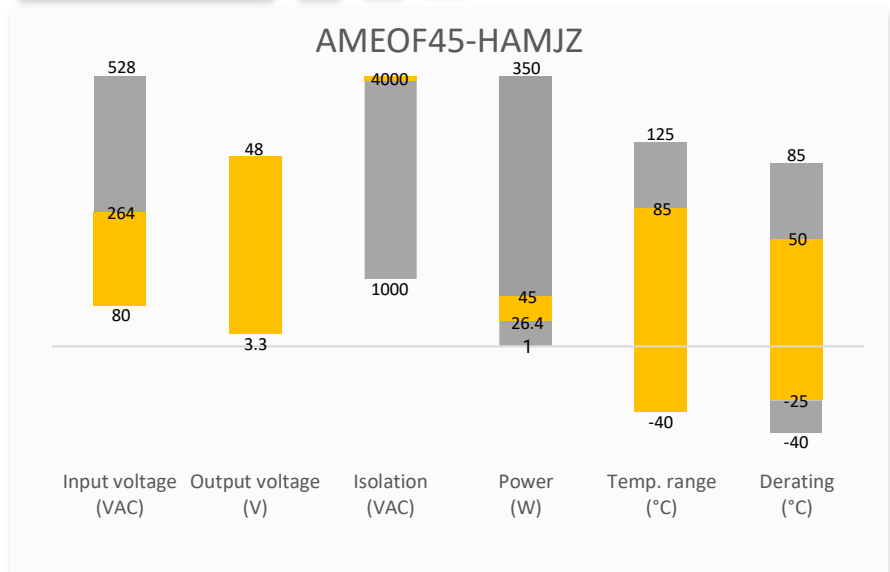


The AMEOF45-HAMJZ series is one of Aimtec's compact size 45W AC/DC converter, which is suitable for medical equipment. It features a universal AC input and accepts a DC input voltage, while also coming standard with high efficiency, high reliability and double or reinforced isolation. These converters offer excellent EMC and safety performance, which with ES60601-1, EN62368-1 approval and meet IEC/UL62368-1, IEC/EN60335-1, IEC/EN61558-1, IEC/EN60601-1, GB4943.1 standards. This series is suitable for industrial, streetlight control, security, telecommunications, smart home and medical applications.

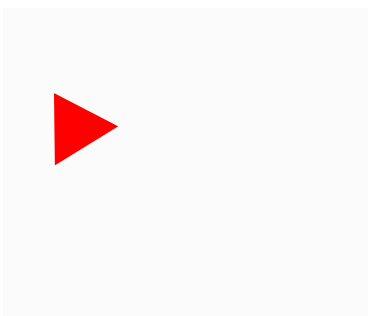
## Features

- Universal Input: 80 - 264VAC/100 - 370VDC
- Low leakage current: 0.075mA max.
- High isolation voltage: 4000VAC
- Output short circuit, over-current, over-voltage protection
- Low no-load power consumption of 0.3W
- Suitable for Type BF application
- Meets 2xMOPP
- Certified : ES60601-1, EN62368-1
- Designed to meet IEC/UL62368-1, IEC/EN60335-1, IEC/EN61558-1, GB4943.1,

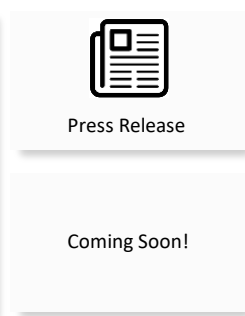
## Summary



## Training



Product Training Video  
(click to open)



Application Notes

## Applications



Power Grid



Industrial



Telecom



Medical

## Models & Specifications

| Single Output    |                        |                     |                            |                    |                                     |                    |                                    |                             |
|------------------|------------------------|---------------------|----------------------------|--------------------|-------------------------------------|--------------------|------------------------------------|-----------------------------|
| Model            | Input Voltage (VAC/Hz) | Input Voltage (VDC) | Nominal Output wattage (W) | Output Voltage (V) | Output Voltage Adjustable Range (V) | Output Current (A) | Maximum capacitive load ( $\mu$ F) | Efficiency @230VAC Typ. (%) |
| AMEOF45-3SHAMJZ  | 80-264/47-63           | 100-370             | 26.4                       | 3.3                | 2.97-3.63                           | 8                  | 20000                              | 83                          |
| AMEOF45-5SHAMJZ  | 80-264/47-63           | 100-370             | 40                         | 5                  | 4.5-5.5                             | 8                  | 20000                              | 85                          |
| AMEOF45-12SHAMJZ | 80-264/47-63           | 100-370             | 45                         | 12                 | 10.2-13.8                           | 3.75               | 4000                               | 90                          |
| AMEOF45-15SHAMJZ | 80-264/47-63           | 100-370             | 45                         | 15                 | 13.5-18                             | 3                  | 3500                               | 90                          |
| AMEOF45-24SHAMJZ | 80-264/47-63           | 100-370             | 45                         | 24                 | 21.6-28.5                           | 1.875              | 1000                               | 90                          |
| AMEOF45-36SHAMJZ | 80-264/47-63           | 100-370             | 45                         | 36                 | 32.4-39.6                           | 1.25               | 820                                | 90                          |
| AMEOF45-48SHAMJZ | 80-264/47-63           | 100-370             | 45                         | 48                 | 43.2-52.8                           | 0.94               | 330                                | 90                          |

Add suffix -F for enclosed package. (ex. AMEOF45-12SHAMJZ-F is enclosed package version)

### Input Specifications

| Parameters     | Conditions | Typical | Maximum | Units |
|----------------|------------|---------|---------|-------|
| Input current  | 115VAC     |         | 1.1     | A     |
|                | 230VAC     |         | 0.7     | A     |
| Inrush current | 115VAC     |         | 40      | A     |
|                | 230VAC     |         | 60      | A     |
| Leakage        | 240VAC     |         | 0.075   | mA    |

### Output Specifications

| Parameters       | Conditions  | Typical   | Maximum | Units  |
|------------------|---|-----------|---------|--------|
| Voltage accuracy | 3.3, 5V, 0-100% load  | $\pm 2$   |         | %      |
|                  | Others, 0-100% load   | $\pm 1$   |         | %      |
| Line regulation  | 3.3, 5V, 100% load  | $\pm 0.8$ |         | %      |
|                  | Others, 100% load   | $\pm 0.5$ |         | %      |
| Load regulation  | 230VAC  | $\pm 1$   |         | %      |
| Ripple & Noise*  | 3.3, 5, 12, 15V, tested with a 10 $\mu$ F ceramic capacitor | 75        | 100     | mV p-p |
|                  | 24V, tested with a 1 $\mu$ F ceramic capacitor              | 80        | 120     | mV p-p |
|                  | 36, 48V, tested with a 0.1 $\mu$ F ceramic capacitor        | 100       | 150     | mV p-p |
| Hold up time     | 115VAC  | $\geq 13$ |         | ms     |
|                  | 230VAC  | $\geq 65$ |         | ms     |

\* Ripple and Noise are measured at 20MHz bandwidth. Please refer to the application note for specific details.

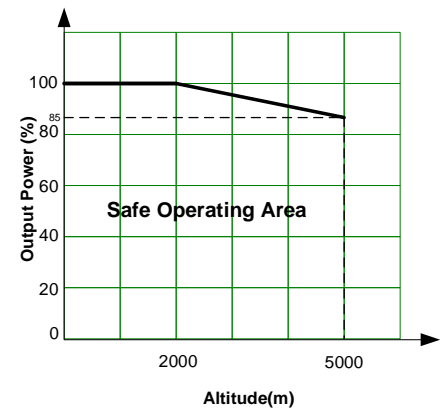
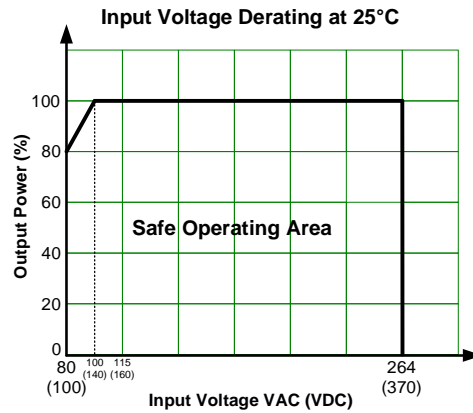
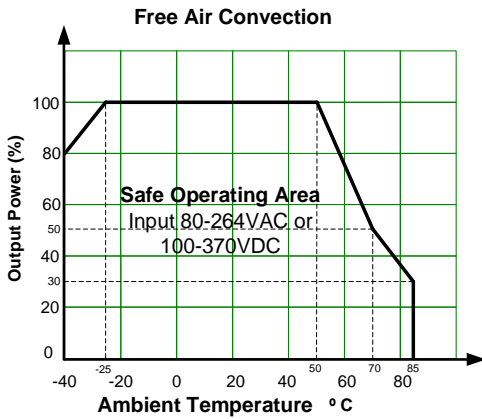
### Isolation Specification

| Parameters                 | Conditions                                    | Typical     | Maximum | Units      |
|----------------------------|---|-------------|---------|------------|
| Tested I/O voltage         | 60 sec, leakage $\leq 5$ mA                   | $\geq 4000$ |         | VAC        |
| Tested I/O to case voltage | 60 sec, leakage $\leq 5$ mA, suffix -F models | $\geq 2500$ |         | VAC        |
| Resistance I/O             | 500VDC  | $\geq 100$  |         | M $\Omega$ |

| General Specifications  |   |   |         |           |
|---|---|---|---------|-----------|
| Parameters  | Conditions                              | Typical   | Maximum | Units     |
| Protection class  | Class II                                |   |         |           |
| Over current protection   | Auto recovery                           | ≥ 120   |         | % of Iout |
| Over voltage protection   | 3.3Vout, hiccup                         |   | 5.25    | VDC       |
|   | 5Vout, hiccup                           |   | 7       | VDC       |
|   | 12Vout, hiccup                          |   | 16      | VDC       |
|   | 15Vout, hiccup                          |   | 22      | VDC       |
|   | 24Vout, hiccup                          |   | 32.4    | VDC       |
|   | 36Vout, hiccup                          |   | 42.4    | VDC       |
|   | 48Vout, hiccup                          |   | 57      | VDC       |
| Short circuit protection  | Hiccup, Continuous, Auto recovery       |   |         |           |
| No-load power consumption   |   | 0.2   | 0.3     | W         |
| Operating temperature   | See derating graph                      | -40 to +85  |         | °C        |
| Storage temperature   |   | -40 to +85  |         | °C        |
| Operating altitude  |   |   | 5000    | m         |
| Power Derating  | -40 °C to -25 °C                        | 1.2   |         | %/°C      |
|   | +50 °C to +70 °C                        | 2.5   |         | %/°C      |
|   | +70 °C to +85 °C                        | 1.34  |         | %/°C      |
|   | 80VAC to 100VAC                         | 1.0   |         | %/VAC     |
|   | 2000 - 5000m                            | 5.0   |         | %/1000m   |
| Creepage  |   | ≥ 8   |         | mm        |
| Clearance   |   | ≥ 7.6   |         | mm        |
| Temperature coefficient   |   | ±0.02   |         | %/°C      |
| Cooling   | Free air convection                     |   |         |           |
| Humidity  | Non-condensing, storage                 |   | 90      | % RH      |
| Weight  | Open frame                              | 95  |         | g         |
|   | Enclosed                                | 150   |         | g         |
| Dimensions (L x W x H)  | Open frame                              | 3.00 x 2.00 x 1.04 inches (76.2 x 50.8 x 26.5 mm) |         |           |
|   | Enclosed                                | 3.60 x 2.38 x 1.31 inches (91.4 x 60.5 x 33.3 mm) |         |           |
| MTBF  | > 300 000 hrs (MIL-HDBK -217F, t=+25°C) |   |         |           |
| NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. |   |   |         |           |

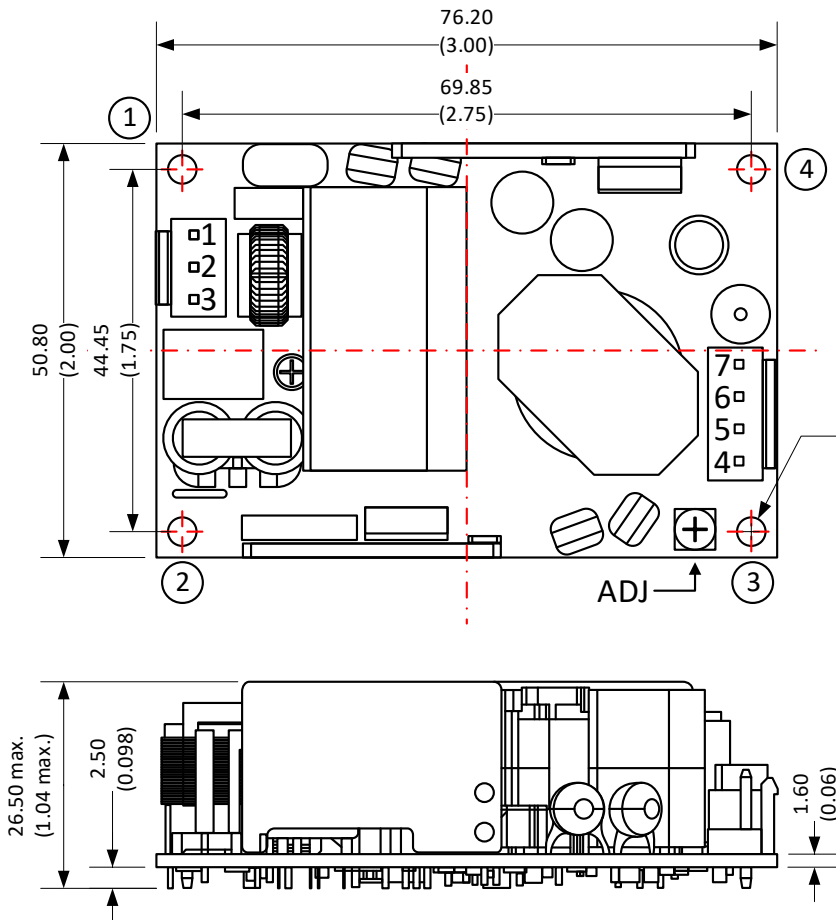
| Safety Specifications |   |   |
|-----------------------|---|---|
| Parameters            |   |   |
| Agency approvals      | cULus: ANSI/AAMI ES60601-1 V3.1, CAN/CSA-C22.2 No.60601-1:14 Ed3<br>CE: EN62368-1                       |   |
| Standards             | Design to meet IEC/EN/UL62368-1, IEC/EN60335-1, IEC/EN61558-1, IEC/EN60601-1, EN60601-1-2 Ed4, GB4943.1 |   |
|                       | EMC - Conducted and radiated emission   | CISPR32 / EN55032 / EN55011, class B              |
|                       | Electrostatic Discharge Immunity  | IEC 61000-4-2 Contact ±8KV, Air ±15KV, Criteria A |
|                       | RF, Electromagnetic Field Immunity  | IEC 61000-4-3 20V/m, Criteria A                   |
|                       | Electrical Fast Transient/Burst Immunity  | IEC 61000-4-4 ±2KV, Criteria A                    |
|                       | Surge Immunity  | IEC 61000-4-5 L-L ±2KV, Criteria A                |
|                       | RF, Conducted Disturbance Immunity  | IEC 61000-4-6 20Vr.m.s, Criteria A                |
|                       | Voltage dips, Short Interruptions Immunity  | IEC 61000-4-11 Criteria B                         |

## Derating

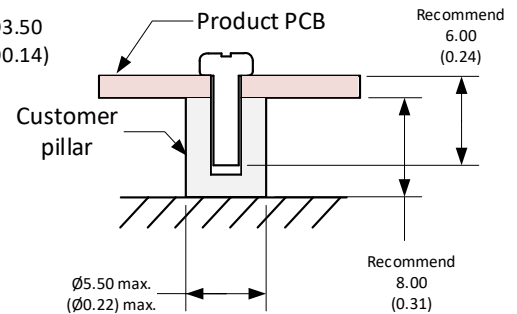


## Dimensions

### Open frame model

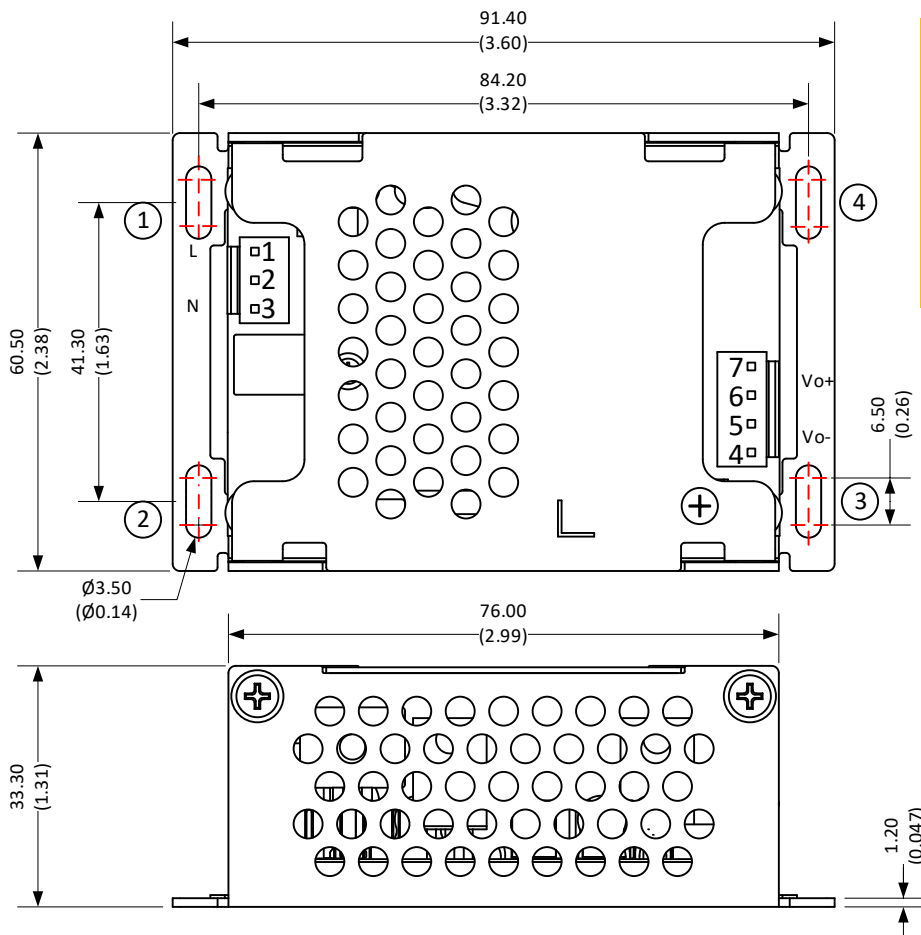


| Pin Output Specifications |              |                       |
|---------------------------|--------------|-----------------------|
| Pin                       | Function     | Recommended connector |
| 1                         | AC Input (L) | JST VHR               |
| 2                         | No pin       | JST SVH-21T-P1.1      |
| 3                         | AC Input (N) | or equivalent         |
| 4                         | -V Output    | JST VHR               |
| 5                         | -V Output    | JST SVH-21T-P1.1      |
| 6                         | +V Output    | or equivalent         |
| 7                         | +V Output    |                       |

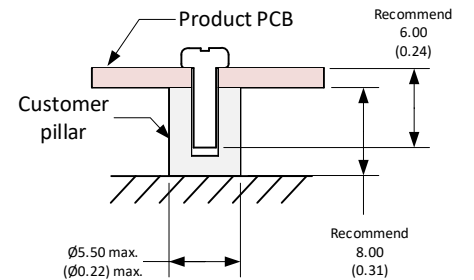


Note:  
Unit: mm [inch]  
General tolerance:  $\pm 0.5$  ( $\pm 0.02$ )  
Mounting screw: M3  
Mounting screw tightening torque: 0.4N max.

## Enclosed model



| Pin Output Specifications |              |  |
|---------------------------|--------------|--|
| Pin                       | Function     | Recommended connector                        |
| 1                         | AC Input (L) | JST VHR<br>JST SVH-21T-P1.1<br>or equivalent |
| 2                         | No pin       |  |
| 3                         | AC Input (N) | JST VHR<br>JST SVH-21T-P1.1<br>or equivalent |
| 4                         | -V Output    |  |
| 5                         | -V Output    |  |
| 6                         | +V Output    |  |
| 7                         | +V Output    |  |



Note:  
Unit: mm [inch]  
General tolerance:  $\pm 0.5$  ( $\pm 0.02$ )  
Mounting screw: M3  
Mounting screw tightening torque: 0.4N max.

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