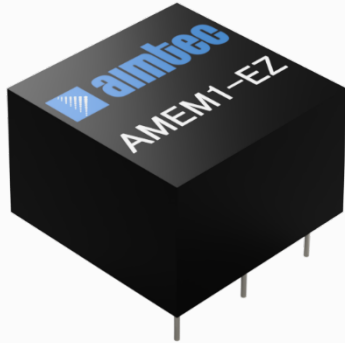


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AMEM1-EZ



Encapsulated

AMEM1-EZ series is an efficient 1W AC-DC power supply module. Offering a commercial input voltage range of 90-264VAC, output voltage ranges from 3.3-48V, and safer isolation.

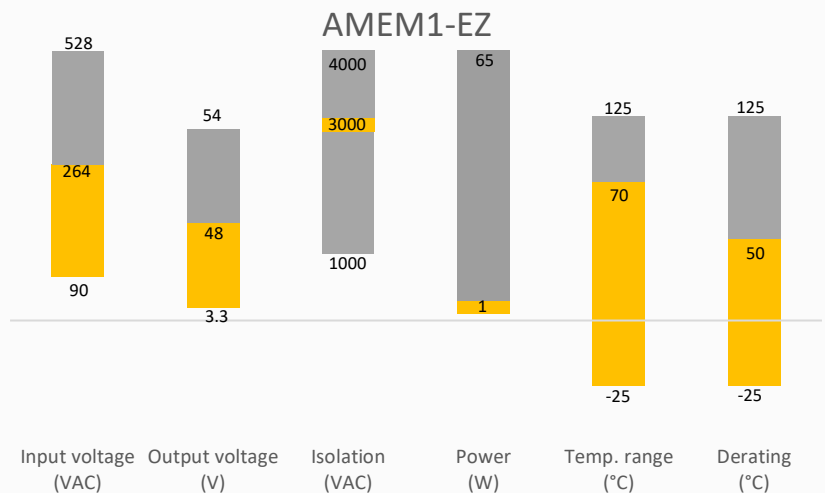
This new series offers great operating temperatures, from -25°C to 70°C with full power up to 50°C and features an isolation of 3000VAC for improved reliability and system safety. Furthermore, an output short circuit protection (OSCP), output over-current protection (OCP) and an output over-voltage protection (OVP) come standard with the series.

The AMEM1-EZ is suitable for grid power, LED, instrumentation, industrial controls, communication, and civil applications.

Features

- Ultra Compact Size 1.0" x 1.0" x 0.63" Package
- Universal Input: 90 - 264VAC/120 - 370VDC
- Operating Temp: -25 °C to +70 °C
- High isolation voltage: 3000VAC
- Output short circuit, over-current, over-voltage protection
- Efficiency up to 76%
- Designed to meet: UL 62368-1, IEC 62368-1

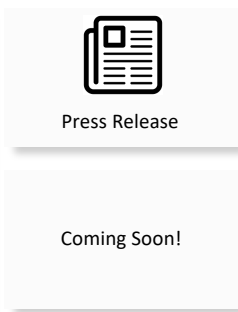
Summary



Training



Product Training Video
(click to open)



Application Notes

Applications



Power Grid



Industrial



Telecom



Instrumentation

Models & Specifications

| Single Output | | | | | | | |
|---------------|------------------------|---------------------|--------------------|---------------------|----------------------|------------------------------------|---------------------|
| Model | Input Voltage (VAC/Hz) | Input Voltage (VDC) | Output Voltage (V) | Output Current (mA) | *Ripple & Noise (mV) | Maximum capacitive load (μ F) | Efficiency Typ. (%) |
| AMEM1-3SEZ | 90-264/47-63 | 120-370 | 3.3 | 303 | 60 | 2200 | 63 |
| AMEM1-5SEZ | 90-264/47-63 | 120-370 | 5 | 200 | 60 | 1000 | 69 |
| AMEM1-9SEZ | 90-264/47-63 | 120-370 | 9 | 111 | 90 | 300 | 71 |
| AMEM1-12SEZ | 90-264/47-63 | 120-370 | 12 | 84 | 120 | 160 | 71 |
| AMEM1-15SEZ | 90-264/47-63 | 120-370 | 15 | 67 | 150 | 100 | 72 |
| AMEM1-24SEZ | 90-264/47-63 | 120-370 | 24 | 41.7 | 240 | 43 | 74 |
| AMEM1-48SEZ | 90-264/47-63 | 120-370 | 48 | 20.8 | 480 | 10 | 76 |

* Ripple & noise is measured by using 20 MHz bandwidth, measured with a 10uf electrolytic capacitor paralleled with a 1uf ceramic capacitor across each output by full load. Please refer to the Parallel Lines Measure.

| Input Specifications | | | | |
|----------------------|---------------------------------------|---------|---------|-------|
| Parameters | Conditions | Typical | Maximum | Units |
| Rated Input Voltage | Vo, lo nom | 100~240 | | VAC |
| Inrush current | 115VAC, lo nom | | 10 | A |
| | 230VAC, lo nom | | 20 | A |
| Input Fuse | VDE/UL/CCC FUSE 2.5A/250V (Slow blow) | | | |

| Output Specifications | | | | |
|-------------------------|--|---------|---------|---------|
| Parameters | Conditions | Typical | Maximum | Units |
| Voltage accuracy | Vi, lo Nom, 3.3V / 5V output models | | \pm 3 | % |
| | Vi, lo Nom, other output models | | \pm 2 | % |
| Line regulation | Vi nom, lo nom | | \pm 1 | % |
| Load regulation | | | \pm 1 | % |
| Minimum Load | Vi nom | 0 | | A |
| Transient Recovery time | Vi nom, lo nom = $\leftarrow \rightarrow$ 0.5 lo nom | 1000 | | μ S |

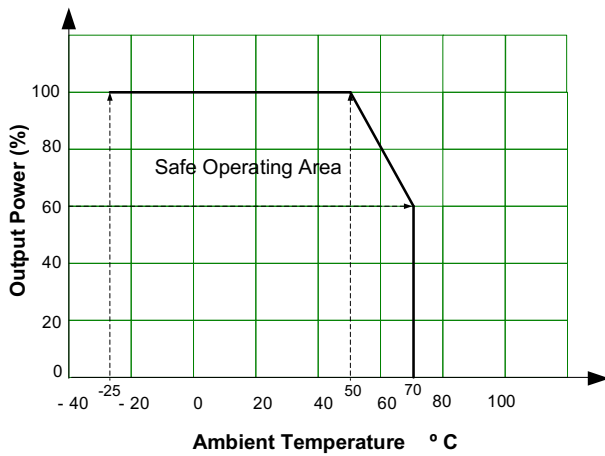
| Isolation Specification | | | | |
|-------------------------|---------------------------|---------|---------|------------|
| Parameters | Conditions | Typical | Maximum | Units |
| Tested I/O voltage | 5 sec, leakage \leq 5mA | 3000 | | VAC |
| Resistance | 500VDC | >100 | | M Ω |

| General Specifications | | | | |
|--------------------------|---|------------|---------|-----------|
| Parameters | Conditions | Typical | Maximum | Units |
| Over current protection | Auto recovery | ≥ 110 | | % of Iout |
| Over voltage protection | 120-150% rated Vout, Protection type: Zener diode clamp | | | |
| Short circuit protection | Auto recovery | | | |
| Switching Frequency | | 65 | | KHz |
| Operating temperature | See derating graph | -25 to +70 | | °C |
| Storage temperature | | -40 to +85 | | °C |
| Power Derating | +50 °C to +70 °C | 2 | | %/°C |
| Cooling | Free air convection | | | |
| Humidity | Vi nom, Io nom | | 95 | % RH |
| Weight | | 20 | | g |
| Dimensions (L x W x H) | 1.00 x 1.00 x 0.63 inches (25.40 x 25.40 x 16.10 mm) | | | |

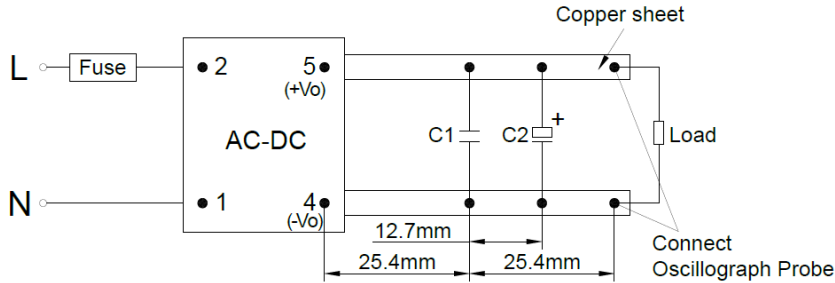
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

| Safety Specifications | | |
|-----------------------|--|--------------------------------|
| Parameters | | |
| Standards | Designed to meet UL 62368-1, IEC 62368-1 | |
| | EMI Conduction & Radiation | Compliance to EN55032, CLASS B |
| | EMS Immunity | Compliance to EN61000 |

Derating

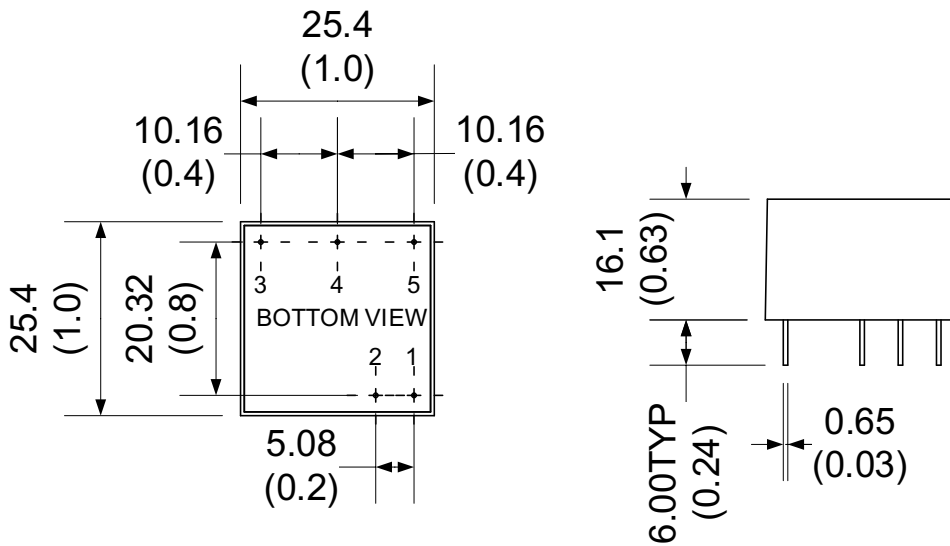


Parallel Lines Measure



C1: Ceramic capacitor, 1uF; C2: Electrolytic capacitor, 10uF

Dimensions



| Pin Output Specifications | |
|---------------------------|--------------|
| Pin | Function |
| 1 | AC Input (N) |
| 2 | AC Input (L) |
| 3 | NC |
| 4 | -V Output |
| 5 | +V Output |

Unit:mm(inch)

Unless otherwise specified, all tolerances are $\pm 0.50(0.02)$

NOTE: 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to www.aimtec.com for the most current product specifications. **2.** Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. **3.** Mechanical drawings and specifications are for reference only. **4.** All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. **5.** Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. **6.** This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.