

FEATURES

- Ultra-compact AC-DC power supply for PCB Mounting
- Over Load and Over Voltage Protection
- EMI meets EN55022, Class B and EMS compliance to EN61000-4
- Universal Input voltage range 85-264 VAC, 47-440 Hz
- UL/IEC/EN 60950-1 Certified , CE Marked
- 3kVAC Isolation , Protection Class II level
- Lead free, RoHs Compliant
- 3 Years Product Warranty



The AA10S series , isolated fully encapsulated 10W AC/DC power module with 3,000VAC isolation. With Universal input voltage 85-264VAC and International safety approvals, these power modules are ideal for applications in commercial and industrial electronic equipment. These isolated AC/DC converters are the latest offering from a world leader in power systems technology and manufacturing — Delta Electronics, Inc. With creative design technology and optimization of component placement, these converters possess outstanding electrical and thermal performance, as well as extremely high reliability under highly stressful operating conditions

Model List

| Model Number | Output Voltage VDC | Output Current Max. mA | Input Current | Max. capacitive Load uF | Efficiency (typ.) @Max. Load % |
|--------------|-----------------------|------------------------------|--|-------------------------------|---|
| | | | 115VAC, 60Hz @Max. Load mA(typ.) | | |
| AA10S0300A | 3.3 | 2500 | 171 | 2200 | 70 |
| AA10S0500A | 5 | 2000 | 201 | 2200 | 72 |
| AA10S1200A | 12 | 833 | 191 | 1000 | 76 |
| AA10S1500A | 15 | 667 | 193 | 1000 | 75 |
| AA10S2400A | 24 | 417 | 201 | 680 | 72 |

Input Characteristics

| Parameter | Model | Min. | Typ. | Max. | Unit |
|-------------------------------------|------------|------|------|------|------|
| Input Voltage Range | All Models | 85 | --- | 264 | VAC |
| Input Frequency Range | | 47 | --- | 440 | Hz |
| Input Voltage Range | | 120 | --- | 370 | VDC |
| No-Load Power Consumption | | --- | --- | 0.3 | W |
| Inrush Current (Cold Start at 25°C) | 115VAC | --- | --- | 15 | A |
| | 230VAC | --- | --- | 30 | A |



Output Characteristics

| Parameter | Conditions | Min. | Typ. | Max. | Unit |
|--------------------------|--|------|-------|-------|---------------------|
| Output Voltage Accuracy | | --- | ±1.0 | ±2.0 | % |
| Line Regulation | Vin=Min. to Max. | --- | ±0.5 | ±1.0 | % |
| Load Regulation | Iout=Min. to Max. | --- | ±0.5 | ±1.0 | % |
| Ripple & Noise (20MHz) | 3.3 & 5.0VDC Output Models | --- | 1.5 | 1.8 | %V _{PP} of |
| | Other Output Models | --- | 0.8 | 1.0 | %V _{PP} of |
| Minimum Load | | --- | 10 | --- | %I _{nom.} |
| Over Voltage Protection | Zener diode clamp | --- | 120 | --- | % of V _o |
| Temperature Coefficient | | --- | ±0.01 | ±0.02 | %/°C |
| Overshoot | | --- | --- | 5 | % V _{out} |
| Current Limitation | Foldback, auto-recovery (long term overload condition may cause damage) | 105 | --- | --- | %I _{nom.} |
| Short Circuit Protection | Hiccup mode, indefinite (automatic recovery) | | | | |

General Characteristics

| Parameter | Conditions | Min. | Typ. | Max. | Unit |
|---------------------------------------|------------------------------------|---|------|------|-------------------------|
| I/O Isolation Voltage | Input to Output, 60 Seconds | 3000 | --- | --- | VACrms |
| I/O Isolation Resistance | 500 VDC | 100 | --- | --- | MΩ |
| Switching Frequency | | --- | 125 | --- | KHz |
| Hold-up Time | | --- | 20 | --- | ms |
| MTBF (calculated) | MIL-HDBK-217F @25°C, Ground Benign | 300,000 | --- | --- | Hours |
| EMC Emission | Conducted and radiated | EN 55011, class B, EN 55022, class B, FCC part 15, class B | | | |
| EMC Immunity according EN61000-6-1 | Standard | Specification Requirement | | | Performance Criteria |
| | EN61000-4-2 | Air ±8KV Cont. ±4KV | | | B |
| | EN61000-4-3 | 80~1000MHz, 10V/m 80% AM, 1KHz modulation | | | A |
| | EN61000-4-4 | AC port ±2KV DC, SL, TL ±2KV not less than 1 min. | | | B |
| | EN61000-4-5 | 1.2/50uS(8/20uS) AC dif. ±1KV DC ±0.5KV 0.15~80MHz, 10Vrms (functional earth ports included) | | | B |
| | EN61000-4-6 | 80% AM, 1KHz modulation | | | B |
| | EN61000-4-8 | 50Hz/60Hz, 30A/m | | | A |
| | EN61000-4-11 | 30%, 10ms 60%, 100ms, 95%, 5000ms | | | B C |
| Protection Class II | | According IEC/EN 60536 | | | |
| Safety Approvals | | cUL/UL 60950-1, IEC/EN 60950-1 | | | |

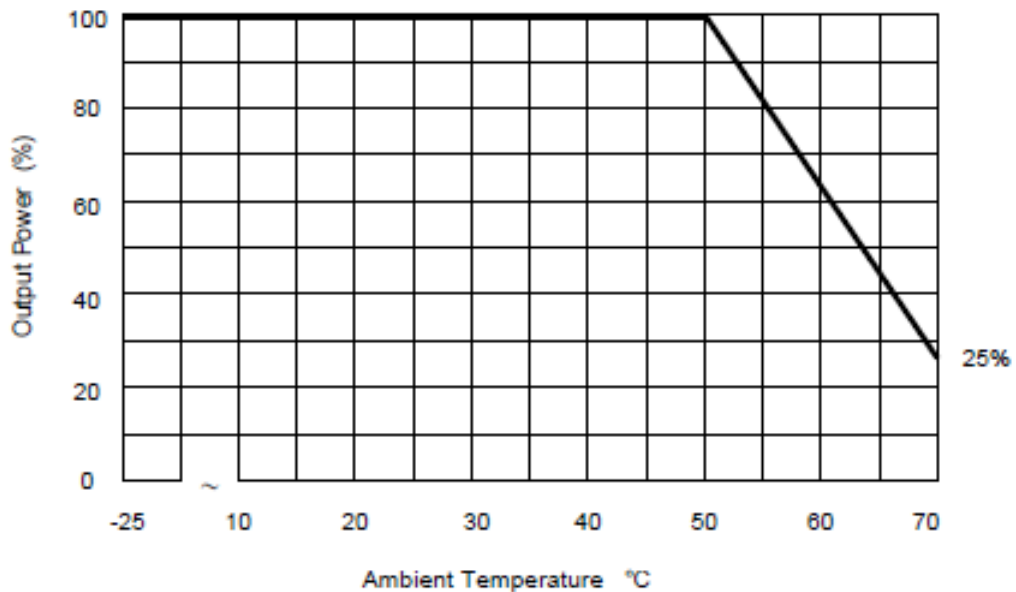
Recommended Input Fuse

| All Models | |
|-----------------------------|-----------------------|
| External Fuse (Recommended) | 1.5A Slow – Blow Type |

Environmental Specifications

| Parameter | Conditions | | |
|---------------------------------|------------|--------------------------------------|-------------|
| Temperature Range (operational) | Ambient | -25°C | +70°C |
| Storage Temperature Range | | -40°C | +85°C |
| Over Temperature Protection | | at 90°C (automatic recovery at 67°C) | |
| Cooling | | Free-Air convection | |
| Humidity (non condensing) | | --- | 95 % rel. H |

Power Derating Curve

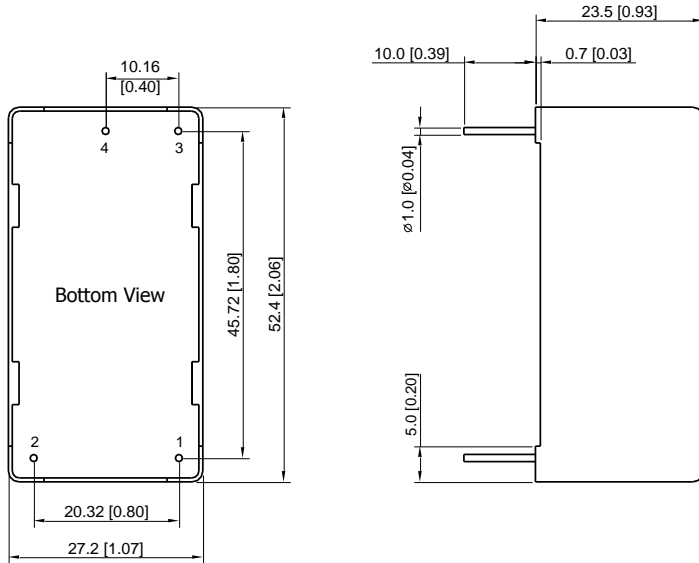


Notes

- 1 All specifications typical at Ta=+25°C, resistive load, 115VAC, 60Hz input voltage and after warm-up time rated output current unless otherwise noted.
- 2 Ripple & Noise measurement bandwidth is 0~20 MHz
- 3 These power modules require a minimum output loading to maintain specified regulation, operation under no-load conditions will not damage the power supplies however they may not meet all listed specifications.
- 4 All AC/DC modules should be externally fused at the front end for protection.
- 5 Other input and output voltage may be available, please contact us for custom solution
- 6 Specifications subject to change without notice

Mechanical Drawing

Mechanical Dimensions



Pin Connections

| Pin | Function |
|-----|--------------------|
| 1 | AC(N) – AC Neutral |
| 2 | AC(L) – AC Line |
| 3 | +Vout |
| 4 | -Vout |

- ▶ All dimensions in mm (inches)
- ▶ Tolerance: ± 0.5 (± 0.02)
- ▶ Pin diameter $\leftrightarrow 1.0 \pm 0.1$ (0.04 ± 0.004)

Physical Outline

| | |
|---------------|---|
| Case Size | : 52.4x27.2x23.5mm (2.06x1.07x0.93 Inches) |
| Case Material | : Plastic resin + Fiberglass (flammability to UL 94V-0 rated) |
| Weight | : 54g |

Part Numbering System

| A | A | 10 | S | 05 | 00 | A |
|--------------------|------------------------|----------|-------------------|------------------|---------------------|---------------|
| Product type | Family series | Watt | Number of Outputs | Output Voltage I | Output Voltage II | Option Code |
| AC/DC Power Module | Industrial application | 10 - 10W | S - Single | 03 - 3.3V | 00 - not applicable | A - PCB Mount |
| | | | | 05 - 5V | | |
| | | | | 12 - 12V | | |
| | | | | 15 - 15V | | |
| | | | | 24 - 24V | | |

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WARRANTY

Delta offers a three(3) years limited warranty. Complete warranty information is listed on our web site or is available upon request from Delta.

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