

ARTESYN AYA SERIES

3 Watts



Advanced Energy's Artesyn AYA series of 3 watt isolated DC-DC converters are suitable for a diverse range of low power applications, including data communication, telecommunication and computer peripheral equipment, industrial automation and mobile battery-powered systems. The series comprises 28 variants, each of which is available in a mini dual-in-line package for through-hole mounting or a mini surface-mount package.

DATA SHEET

Total Power:

3 W

Input Voltage:

5, 12, 24, 48 V

of Outputs:

Single and Dual

SPECIAL FEATURES

- Ultra compact DIP package (14 x 14 x 8.0 mm; 0.55 x 0.55 x 0.31 inches)
- Efficiency up to 87%
- I/O-isolation 1500 Vdc
- Wide 2:1 input range
- Operating temperature range -40 °C to +85 °C (with derating)
- Three year product warranty
- UL/cUL/IEC/EN 60950-1 Safety Approval, CE Mark

SAFETY

- UL/cUL/IEC/EN 62368-1 (60950-1) Safety Approval & CE Marking

ELECTRICAL SPECIFICATIONS

| Input | |
|--------------------------|--|
| Input range | 4.5 - 10 Vdc; 9 - 18 Vdc; 18 - 36 Vdc; 36 - 75 Vdc |
| Efficiency | 87% @ 12 Vo |
| Output | |
| Voltage tolerance | ±1.5% |
| Line regulation | ±0.2% |
| Load regulation | 1.0% |
| Noise/ripple | 70 mV |
| Overload protection | 170% typ of Io max, foldback |
| Short circuit protection | Continuous, automatic recovery |
| Switching frequency | 100 kHz |
| Isolation | |
| I/O isolation | I/O: 1500 Vdc |
| Insulation resistance | 1000 Mohm |
| Insulation capacitance | 100 pF |

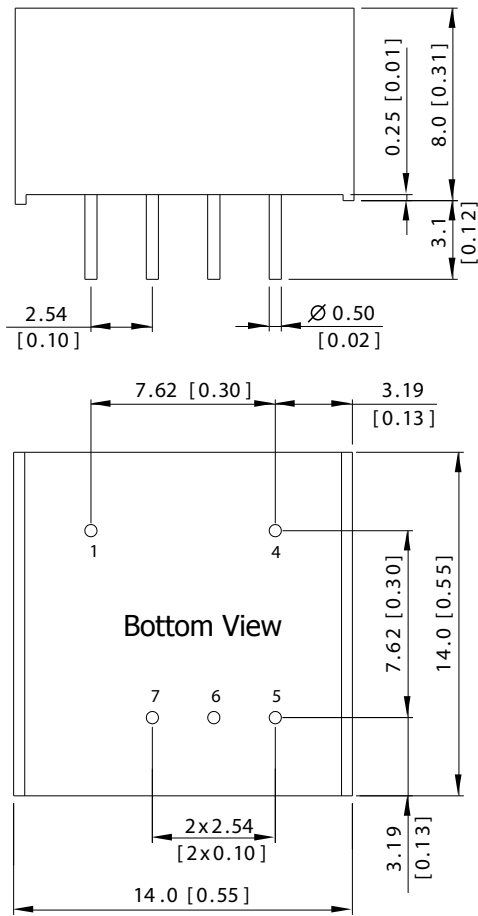
ENVIRONMENTAL SPECIFICATIONS

| | |
|-------------------------------------|--------------------------|
| Operating ambient temperature range | -40 °C to +85 °C |
| Storage temperature | -50 °C to +125 °C |
| Humidity | 5% to 95% non-condensing |
| MTBF | 3.5 Mhrs calculated |

ORDERING INFORMATION

| Part Number | Input Voltage | Output Voltage | Output Current | Efficiency | Power |
|-------------|---------------|----------------|----------------|------------|-------|
| AYA01F05-L | 4.5 - 10 Vdc | 3.3 V | 0.6 A | 79% | 2 W |
| AYA01A05-L | 4.5 - 10 Vdc | 5 V | 0.6 A | 81% | 3 W |
| AYA01B05-L | 4.5 - 10 Vdc | 12 V | 0.25 A | 85% | 3 W |
| AYA01C05-L | 4.5 - 10 Vdc | 15 V | 0.2 A | 85% | 3 W |
| AYA01AA05-L | 4.5 - 10 Vdc | ±5 V | ±0.3 A | 82% | 3 W |
| AYA01BB05-L | 4.5 - 10 Vdc | ±12 V | ±0.125 A | 84% | 3 W |
| AYA01CC05-L | 4.5 - 10 Vdc | ±15 V | ±0.1 A | 85% | 3 W |
| AYA01F12-L | 9 - 18 Vdc | 3.3 V | 0.6 A | 80% | 2 W |
| AYA01A12-L | 9 - 18 Vdc | 5 V | 0.6 A | 83% | 3 W |
| AYA01B12-L | 9 - 18 Vdc | 12 V | 0.25 A | 87% | 3 W |
| AYA01C12-L | 9 - 18 Vdc | 15 V | 0.2 A | 87% | 3 W |
| AYA01AA12-L | 9 - 18 Vdc | ±5 V | ±0.3 A | 84% | 3 W |
| AYA01BB12-L | 9 - 18 Vdc | ±12 V | ±0.125 A | 86% | 3 W |
| AYA01CC12-L | 9 - 18 Vdc | ±15 V | ±0.1 A | 87% | 3 W |
| AYA01F24-L | 18 - 36 Vdc | 3.3 V | 0.6 A | 80% | 2 W |
| AYA01A24-L | 18 - 36 Vdc | 5 V | 0.6 A | 83% | 3 W |
| AYA01B24-L | 18 - 36 Vdc | 12 V | 0.25 A | 87% | 3 W |
| AYA01C24-L | 18 - 36 Vdc | 15 V | 0.2 A | 87% | 3 W |
| AYA01AA24-L | 18 - 36 Vdc | ±5 V | ±0.3 A | 84% | 3 W |
| AYA01BB24-L | 18 - 36 Vdc | ±12 V | ±0.125 A | 86% | 3 W |
| AYA01CC24-L | 18 - 36 Vdc | ±15 V | ±0.1 A | 87% | 3 W |
| AYA01F48-L | 36 - 75 Vdc | 3.3 V | 0.6 A | 79% | 2 W |
| AYA01A48-L | 36 - 75 Vdc | 5 V | 0.6 A | 82% | 3 W |
| AYA01B48-L | 36 - 75 Vdc | 12 V | 0.25 A | 86% | 3 W |
| AYA01C48-L | 36 - 75 Vdc | 15 V | 0.2 A | 86% | 3 W |
| AYA01AA48-L | 36 - 75 Vdc | ±5 V | ±0.3 A | 82% | 3 W |
| AYA01BB48-L | 36 - 75 Vdc | ±12 V | ±0.125 A | 85% | 3 W |
| AYA01CC48-L | 36 - 75 Vdc | ±15 V | ±0.1 A | 85% | 3 W |

MECHANICAL DIMENSIONS



| Pin Connections | | |
|-----------------|---------------|-------------|
| Pin | Single Output | Dual Output |
| 1 | -Vin | -Vin |
| 4 | +Vin | +Vin |
| 5 | +Vout | +Vout |
| 6 | No pin | Common |
| 7 | -Vout | -Vout |

- All dimensions in mm (inches)
- Tolerance: X.X±0.5 (X.XX±0.02)
X.XX±0.25 (X.XXX±0.01)
- Pin diameter $\varnothing 0.5 \pm 0.05$ (0.02±0.002)



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ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

PRECISION | POWER | PERFORMANCE

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