



FEATURES:

- AC-DC Constant Current LED Driver
- Input Range 90-264VAC/47-440Hz
- High Efficiency up to 80%
- Operating Temperature -20 to 85°C
- Total Harmonic Distortion < 20%
- IP67 Case
- Active PFC and TRIAC dimmable
- SCP, Over Load Protection
- Leading or Trailing Edge Triac



Models
Single output

| Model | Max Output Power (W) ^① | Output Voltage Range (V) | No Load Output Voltage (V max.) | Output Current (A) | Input Voltage (VAC/Hz) | Efficiency (%) | |
|----------------|-----------------------------------|--------------------------|---------------------------------|--------------------|------------------------|----------------|---------|
| | | | | | | 115 VAC | 230 VAC |
| AMEPR8D-2435AZ | 8.4 | 12-24 | 34 | 0.35 | 90-264/47-440 | 79 | 80 |
| AMEPR8D-1840AZ | 7.2 | 9-18 | 20 | 0.4 | 90-264/47-440 | 77 | 79 |
| AMEPR8D-1270AZ | 8.4 | 6-12 | 15 | 0.7 | 90-264/47-440 | 75 | 78 |

*Exceeding the maximum output power will permanently damage the converter.

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.

AMEPR8D-AZ's AC/DC LED drivers have electrical safeguards designed within to protect it from conventional electrical abnormalities with the levels listed in the safety table. Applications for use within rural agricultural, heavy industrial, and other areas or regions which are prone to 'dirty' electrical conditions which would subject any of the above models to excessive voltages surges or spikes, may damage or cause early life failure of product. In this case consideration should be made by the end user to ensure that adequate line or mains surge suppression is installed in front of Aimtec device to ensure the longevity of the products. Failure to identify excessive line surges violations prior to installation may damage sensitive equipment permanently.

Input Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|----------------------------------|----------------------------|---------|---------|-------|
| Current (full load) | 115 VAC | | 85 | mA |
| | 230 VAC | | 50 | mA |
| Inrush current <2ms (cold start) | 115 VAC | | 10 | A |
| | 230 VAC | | 5 | A |
| Leakage current | 230 VAC | | 0.02 | mA |
| Power factor | 115 VAC (full load) | | 0.98 | |
| | 230 VAC (full load) | | 0.95 | |
| External fuse | Recommended slow blow type | 1 | | A |
| Start-up time | | 100 | | ms |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|-------------------------|----------------------|---------|---------|-------|
| Current accuracy | | ±15 | | % |
| Line regulation | (LL-HL) | ±0.5 | | % |
| Load regulation | min.-max. load | ±5 | | % |
| Ripple & Noise* | | 1.6 | | V p-p |
| Hold-up time | | 28 | | ms |
| Minimum load voltage | See the models table | | | |
| Maximum Capacitive Load | | | 200 | µF |

*Ripple and Noise are measured at 20MHz bandwidth by using a 0.1µF (M/C) or (C/C) and 220µF (E/C) parallel capacitor.

Isolation Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|----------------------|------------|---------|---------|-------|
| Tested I/O voltage | 3sec | | 3000 | VAC |
| Isolation resistance | | >1000 | | MΩ |

General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|--------------------------|-------------------------|--|---------|--------|
| Switching frequency | | 66 | | KHz |
| Over load protection | | ≥ 110 | | % |
| Over voltage protection | | ≥ 110 | | % |
| Short circuit protection | | Auto recovery | | |
| Operating temperature | With derating over 75°C | Refer to model application | | °C |
| Storage temperature | | -40 to +95 | | °C |
| Maximum case temperature | | | 100 | °C |
| Temperature coefficient | | ±0.02 | | % / °C |
| Cooling | | Free air convection | | |
| Humidity | Non condensing | 20~95 | | % RH |
| Case material | | Plastic | | |
| Potting | | Epoxy (IP67 rated) | | |
| Wires | | UL1015 Input 18AWG*10CM / Output 20 AWG*10CM | | |
| Weight | | 55 | | g |
| Dimensions (D x L) | | 27.4 x 70.3 mm (1.08 x 2.77 inches) | | |
| MTBF | | >400,000 hrs (MIL-HDBK-217F at +25°C) | | |

Environment Approval

| Test | Parameters | Conditions |
|-----------|------------------------|--|
| Shock | Wave form | Half sine wave |
| | Acceleration amplitude | 5gn |
| | Bump duration | 30ms |
| | Converter operation | Before and after test, body mounted (on chassis) |
| | Number of bumps | 18 (3 in each direction for every axis) |
| Vibration | Test mode | Sweep sine, 10-100Hz, speed 0.05Hz/s |
| | Displacement | 1mm |
| | Acceleration | 3g, 3 loops 30min one cycle, 3h total, every axis tested |
| | Converter operation | Before and after test, body mounted (on chassis) |

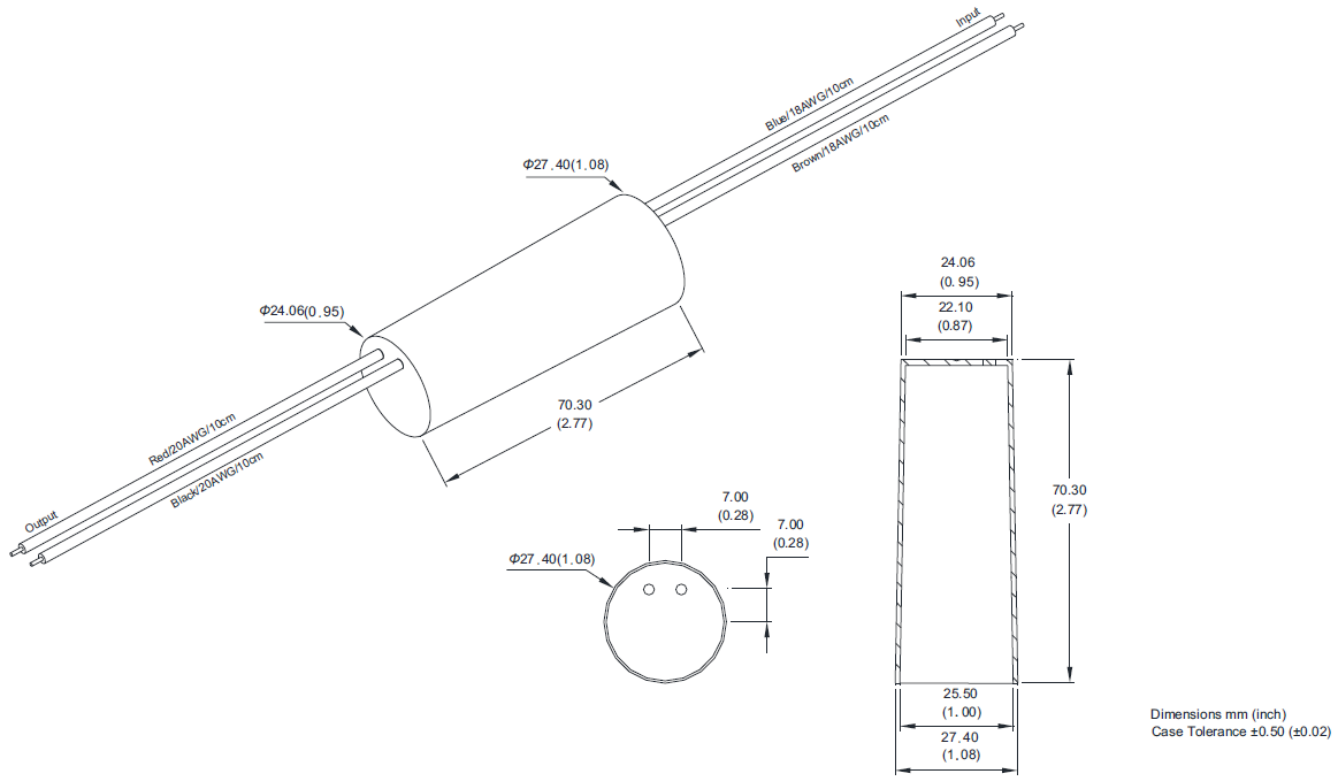
Safety Specifications

| Parameters | |
|------------------|--|
| Agency approvals | cULus, FCC |
| Standards | UL8750, UL60950-1, class 2 power supply per UL1310, FCC15, |

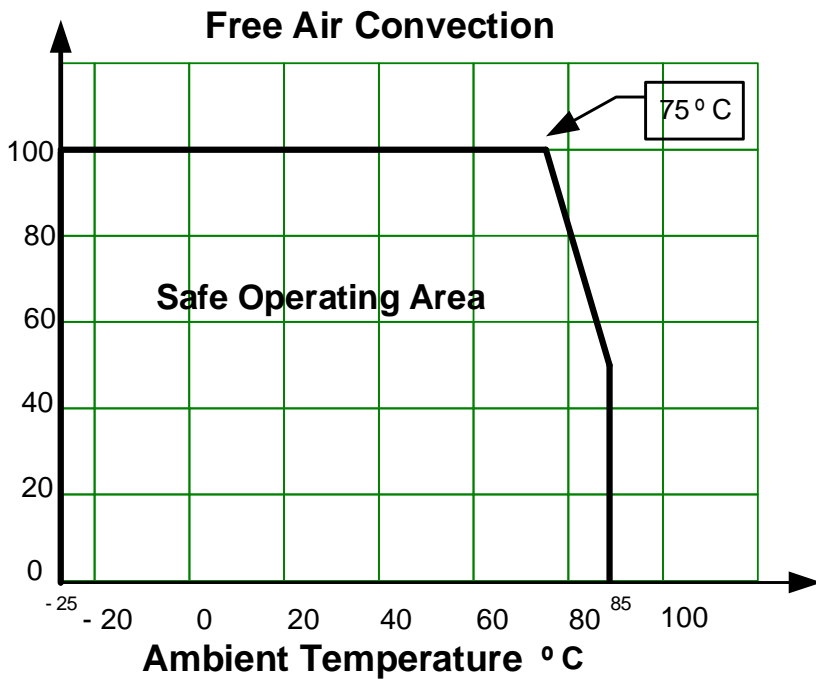
Wire Specifications

| Wire | Parameters | Color |
|--------|------------|-------|
| Input | ACN | Blue |
| | ACL | Brown |
| Output | +V Output | Red |
| | -V Output | Black |

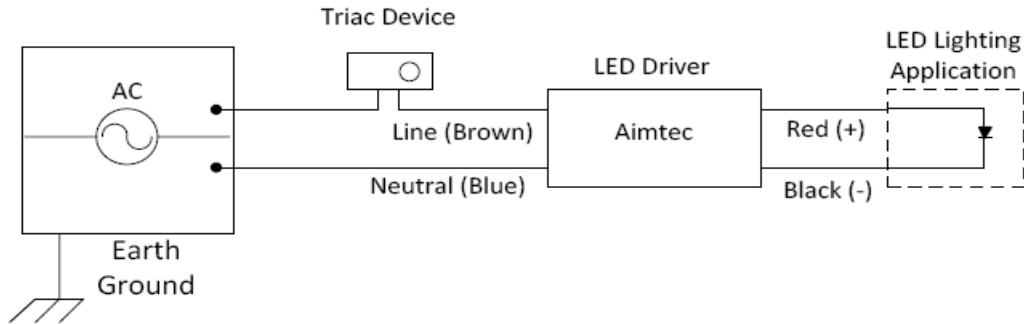
Dimensions



Derating



Triac Dimming Feature



Triac Dimming Notes:

A- The triac device can be installed on either Line or Neutral
 B- Aimtec LED drivers have been designed to function with a wide range of available Triac devices, however the following list of Triac devices have been tested and are recommended by Aimtec.

- 1) Company: LUTRON
 Series: SKYLARK
 Model: SF-10P-WH (input voltage: 120Vac)
 Model: SF-12P-277-WH (input voltage: 277Vac)
- 2) Company LUTRON
 Series: DIVA
 Model: DVF-103P-WH (input voltage: 120Vac)
 Model: DVF-103P-277-WH (input voltage: 277Vac)
- 3) Company BERKER
 Model: 2867 10 (input voltage:230Vac)

If the power voltage range is 90~135Vac, triac suggested use model SF-10P-WH or DVF-103P-WH.

If the power voltage range is 180~260Vac, triac suggested use model SF-12P-277-WH or DVF-103P-277-WH.

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. **5.** 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.