

## Series AMEPR10D-AZ

up to 0.7A | AC-DC LED driver



### FEATURES:

- AC-DC Constant current LED Driver
- Input range 90-264VAC/47-440Hz
- High Efficiency up to 81%
- Operating temperature -20 to 80°C
- Total Harmonic Distortion < 20%
- 5 Year Limited Warranty
- Over Temperature Protection
- IP20 and IP67 Case
- Active PFC with TRIAC dimmable<sup>②</sup>
- SCP, Over Voltage Protection
- Leading or Trailing Edge Triac

### Models Single output



| Model                               | Max Output Power (W) <sup>①</sup> | Output Voltage Range (V) | No Load Output Voltage (V max.) | Output Current (A) | Input Voltage (VAC/Hz) | Efficiency (%) |         |
|-------------------------------------|-----------------------------------|--------------------------|---------------------------------|--------------------|------------------------|----------------|---------|
|                                     |                                   |                          |                                 |                    |                        | 115 VAC        | 230 VAC |
| AMEPR10D-5020AZ+Suffix <sup>②</sup> | 10                                | 36-50                    | 62                              | 0.2                | 90-264/47-440          | 78             | 79      |
| AMEPR10D-4025AZ+Suffix <sup>②</sup> | 10                                | 30-40                    | 62                              | 0.25               | 90-264/47-440          | 81             | 80      |
| AMEPR10D-3630AZ+Suffix <sup>②</sup> | 10.8                              | 24-36                    | 52                              | 0.3                | 90-264/47-440          | 80             | 81      |
| AMEPR10D-3035AZ+Suffix <sup>②</sup> | 10.5                              | 15-30                    | 34                              | 0.35               | 90-264/47-440          | 77             | 78      |
| AMEPR10D-1564AZ+Suffix <sup>②</sup> | 9.6                               | 8-15                     | 23                              | 0.64               | 90-264/47-440          | 77             | 76      |
| AMEPR10D-1270AZ+Suffix <sup>②</sup> | 8.4                               | 5-12                     | 23                              | 0.7                | 90-264/47-440          | 78             | 79      |

<sup>①</sup> Exceeding the maximum output power will permanently damage the converter.

### ② Model Nomenclature for Ordering:

|                    |                                                              |
|--------------------|--------------------------------------------------------------|
| Add Suffix "-UD"   | Universal AC input 90-264VAC (no TRIAC dimming option), IP20 |
| Add Suffix "-UW"   | Universal AC input 90-264VAC (no TRIAC dimming option), IP67 |
| Add Suffix "-110D" | AC input 90-135VAC, IP20                                     |
| Add Suffix "-110W" | AC input 90-135VAC, IP67                                     |
| Add Suffix "-220D" | AC input 180-264VAC, IP20                                    |
| Add Suffix "-220W" | AC input 180-264VAC, IP67                                    |

NOTE: Aimtec limited warranty of 5 years is valid based on product operation at datasheet specifications at ambient temperature of 25°C, humidity<75%, nominal input voltage (115/230VAC) and at rated output load unless otherwise specified. See <http://www.aimtec.com/terms-sale>

AMEPR10D-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 |
|----------------------------------|----------------------------|---------|---------|-------|
| Inrush current <2ms (cold start) | 115VAC                     | 15      |         | A     |
|                                  | 230VAC                     | 25      |         |       |
| Leakage current                  | 115VAC                     | 0.2     |         | mA    |
|                                  | 230VAC                     | 0.25    |         |       |
| Current (Full Load)              | 115VAC                     | 110     |         | mA    |
|                                  | 230VAC                     | 55      |         |       |
| Power Factor                     | 115VAC                     |         | 0.9     |       |
|                                  | 230VAC                     |         | 0.9     |       |
| External fuse (slow blow)        | Recommended slow blow Type | 1       |         | A     |
| Start up time                    |                            | 200     |         | ms    |

## Output Specifications

| Parameters           | Conditions           | Typical | Maximum | Units |
|----------------------|----------------------|---------|---------|-------|
| Current accuracy     |                      | ±7      |         | %     |
| Line regulation      | (LL-HL)              | ±10     |         | %     |
| Load regulation      | 0-100% load          | ±7      |         | %     |
| Ripple & Noise ③     |                      | 3       |         | V p-p |
| Hold-up time         |                      | 1       |         | ms    |
| Minimum Load Voltage | See the models table |         |         |       |

③Ripple and Noise are measured at 20MHz bandwidth by using a 0.1μF (M/C) or (C/C) and 47μF (E/C) parallel capacitor.

## Isolation Specifications

| Parameters           | Conditions | Typical | Maximum | Units |
|----------------------|------------|---------|---------|-------|
| Tested I/O voltage   | 60 sec     |         | 3000    | VAC   |
| Isolation Resistance |            | >1000   |         | MΩ    |

## General Specifications

| Parameters                  | Conditions                                 | Typical                                       | Maximum | Units  |
|-----------------------------|--------------------------------------------|-----------------------------------------------|---------|--------|
| Switching frequency         |                                            | 65                                            |         | KHz    |
| Over load protection        |                                            | ≥110                                          |         | %      |
| Over voltage protection     |                                            | ≥110                                          |         | %      |
| Short circuit protection    |                                            | Auto recovery                                 |         |        |
| Over temperature protection |                                            | >105°C                                        |         |        |
| Operating temperature       | With derating over 55°C<br>(for IP67 case) | -20 to +80                                    |         | °C     |
| Maximum case temperature    |                                            |                                               | 100     | °C     |
| Storage temperature         |                                            | -40 to +95                                    |         | °C     |
| Temperature coefficient     |                                            | ±0.02                                         |         | % / °C |
| Cooling                     |                                            | Free air convection                           |         |        |
| Humidity                    |                                            |                                               | 95      | % RH   |
| Case material               |                                            | Plastic                                       |         |        |
| Wires                       |                                            | UL1015 Input 18AWG*10CM/ Output 20 AWG * 10CM |         |        |
| Weight                      |                                            | IP20 160<br>IP67 200                          |         | g      |
| Dimensions (L X H X W)      |                                            | 133 x 33 x 30mm (5.24 x 1.30 x 1.18 inch)     |         |        |
| MTBF                        |                                            | >400,000 hrs (MIL-HDBK-217F at +25°C)         |         |        |

## Environment Approval

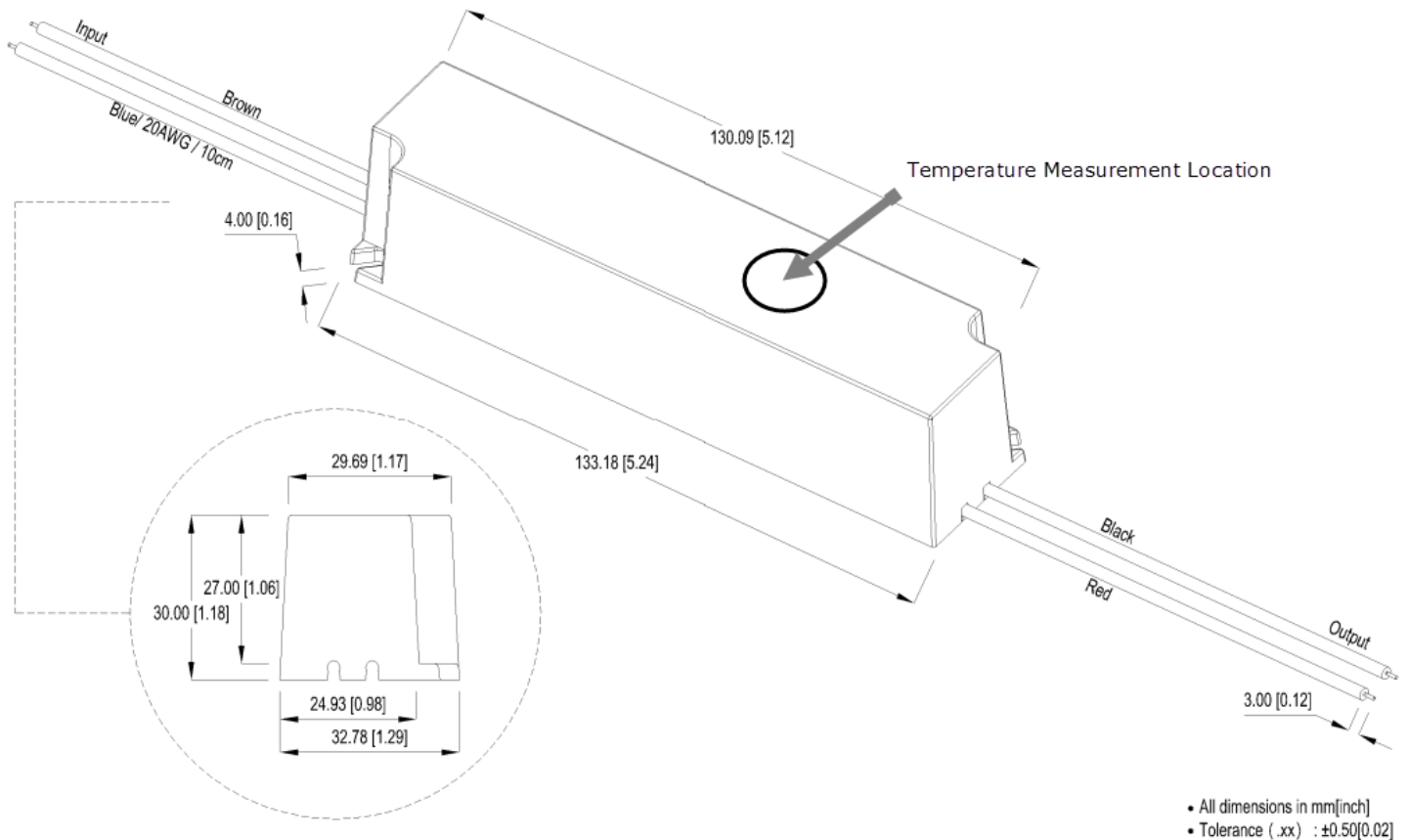
| Test      | Parameters             | Conditions                                               |
|-----------|------------------------|----------------------------------------------------------|
| Shock     | Wave form              | Half sine wave                                           |
|           | Acceleration amplitude | 5gn                                                      |
|           | Bump duration          | 30 ms                                                    |
|           | 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           | 1 mm                                                     |
|           | Acceleration           | 3g, 3 loops 30min one cycle, 3h total, every axis tested |
|           | Converter operation    | Before and after test, body mounted (on chassis)         |

## Safety Specifications

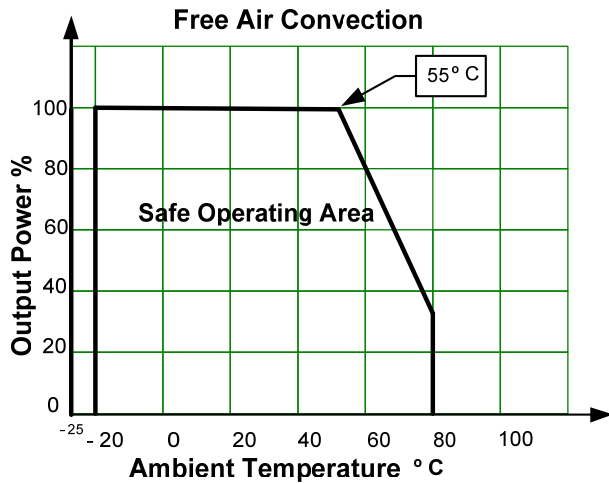
### Parameters

|                  |                                                                                                                          |                               |
|------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Agency approvals | cULus, CE, FCC                                                                                                           |                               |
| Standards        | EN61347-1, EN61347-2-13, IEC62384, UL8750, UL60950-1, EN55015, EN55024, FCC part 15 Subpart B, Class B, ANSI C63.4 :2003 |                               |
|                  | Harmonic Current Emissions                                                                                               | IEC/EN 61000-3-2, Class C     |
|                  | Voltage fluctuations and flicker                                                                                         | IEC/EN 61000-3-3, (EN60555-3) |
|                  | Electrostatic Discharge Immunity                                                                                         | IEC 61000-4-2 Level 3         |
|                  | RF, Electromagnetic Field Immunity                                                                                       | IEC 61000-4-3 Level 2         |
|                  | Electrical Fast Transient/Burst Immunity                                                                                 | IEC 61000-4-4 Level 2         |
|                  | Surge Immunity                                                                                                           | IEC 61000-4-5 Level 1         |
|                  | RF, Conducted Disturbance Immunity                                                                                       | IEC 61000-4-6 Level 2         |
|                  | Power frequency Magnetic Field Immunity                                                                                  | IEC 61000-4-8 Level 2         |
|                  | Voltage dips, Short Interruptions Immunity                                                                               | IEC 61000-4-11                |

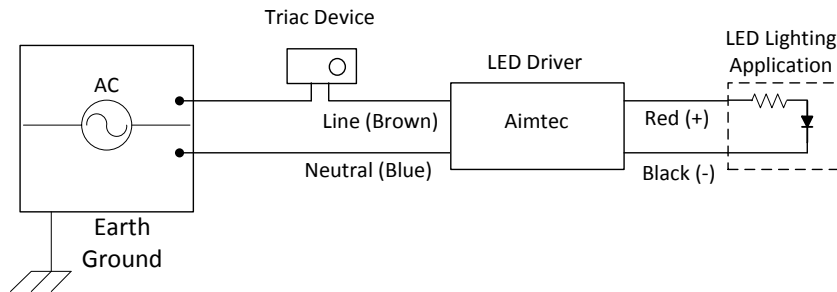
## Dimensions



## Temperature Graph



## 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.

- 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](http://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.