Series AMEPR30D-AZ

up to 2A | AC-DC / DC-DC LED driver



FEATURES:

- AC-DC or DC-DC Constant current LED Driver
- Input range 90-264VAC/47-440Hz
- Active PFC with TRIAC dimmable②
- Operating temperature -20 to 80°C
- Total Harmonic Distortion < 20%
- Over Temperature Protection
- IP67 Case
- High Efficiency up to 84%
- 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)	Input Voltage (VDC)	Efficiency (%)
AMEPR30D-5070AZ$^{+Suffix}$ ②	35	36-50	64	0.7	90-264/47-440	120-370	85
AMEPR30D-4270AZ$^{+Suffix}$ ②	29.4	32-42	54	0.7	90-264/47-440	120-370	84
AMEPR30D-3670AZ$^{+Suffix}$ ②	25.2	24-36	52	0.7	90-264/47-440	120-370	83
AMEPR30D-36100AZ$^{+Suffix}$ ②	36	24-36	52	1	90-264/47-440	120-370	84
AMEPR30D-24125AZ$^{+Suffix}$ ②	30	12-24	34	1.25	90-264/47-440	120-370	82
AMEPR30D-24140AZ$^{+Suffix}$ ②	33.6	12-24	34	1.4	90-264/47-440	120-370	83
AMEPR30D-15200AZ$^{+Suffix}$ ②	30	8-15	23	2	90-264/47-440	120-370	81

① Exceeding the maximum output power will permanently damage the converter

②Model Nomenclature for Ordering:	
Add Suffix “-U”	Universal AC input 90-264VAC(no TRIAC dimming with this option)
Add Suffix “-110”	AC input 90-135VAC,
Add Suffix “-220”	AC input 180-264VAC

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.

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Inrush current <2ms	115VAC	10		A
	230VAC	20		
Leakage current	115VAC	0.2		mA
	230VAC	0.25		
AC current	115VAC	0.35		A
	230VAC	0.15		
Power Factor	115VAC	0.9		
	230VAC	0.9		
External fuse			250V/1A	
Start up time		200		ms

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Current accuracy		±5		%
Line regulation	LL-HL	±7		%
Load regulation	0-100% load	±5		%
Ripple & Noise ③	20MHz Bandwidth	1-3		V p-p
Hold-up time		1		ms
Minimum Load Voltage	See the models table			

③ Tested with 0.1μF (M/C) or (C/C) and 47μF (E/C) parallel capacitors at the end.

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		65		KHz
Over load protection		110% of Iout		
Over voltage protection		110% of Vout		
Short circuit protection		Continuous		
Short circuit restart		Auto recovery		
Over temperature protection		>105°C		
Operating temperature	With derating over 55°C	-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 20AWG * 10CM		
Weight		200		g
Dimensions (L X H X W)		133x33x30mm (5.24 x 1.30 x 1.18 inch)		
MTBF		>400,000 hrs (MIL-HDBK-217F at +25°C)		

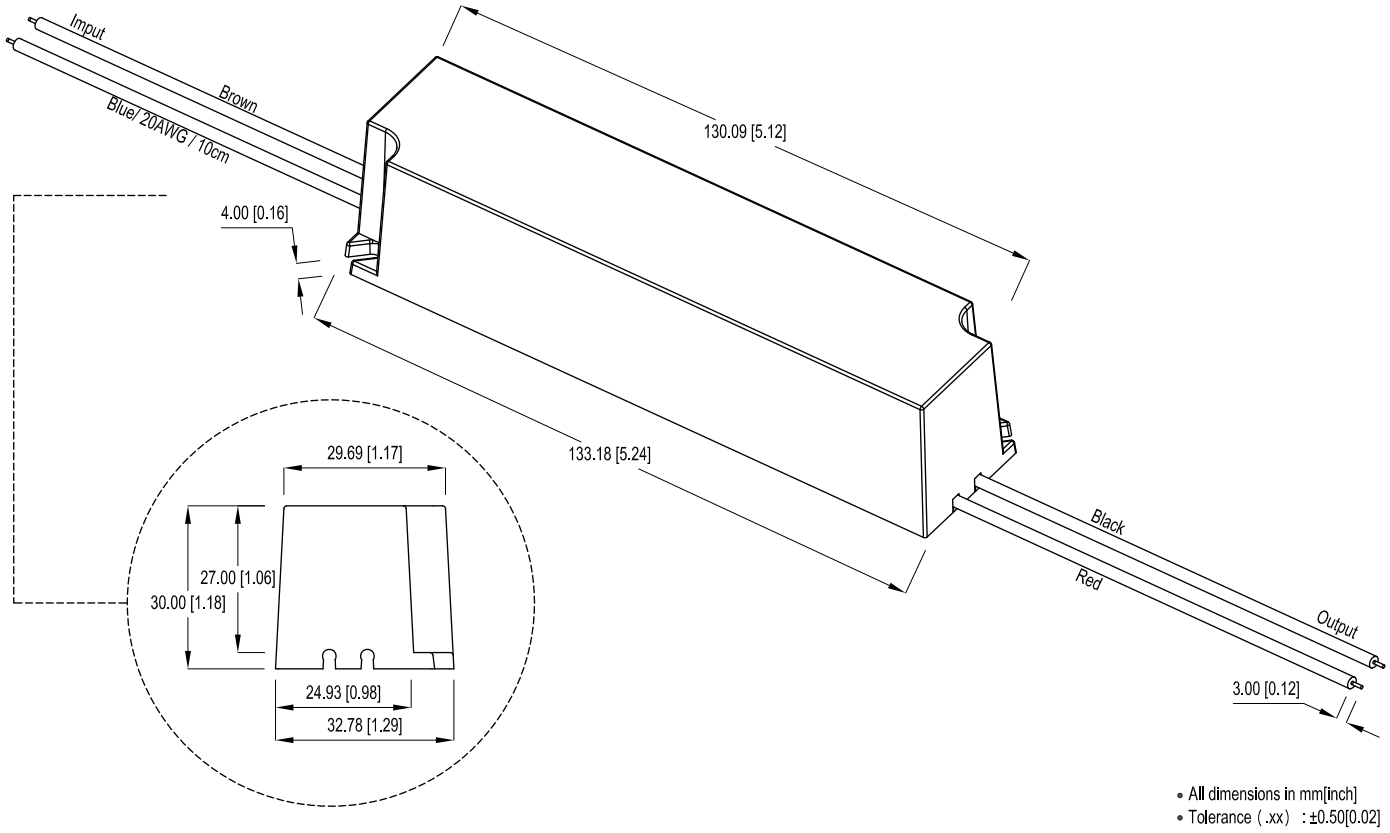
Environment Approval

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)

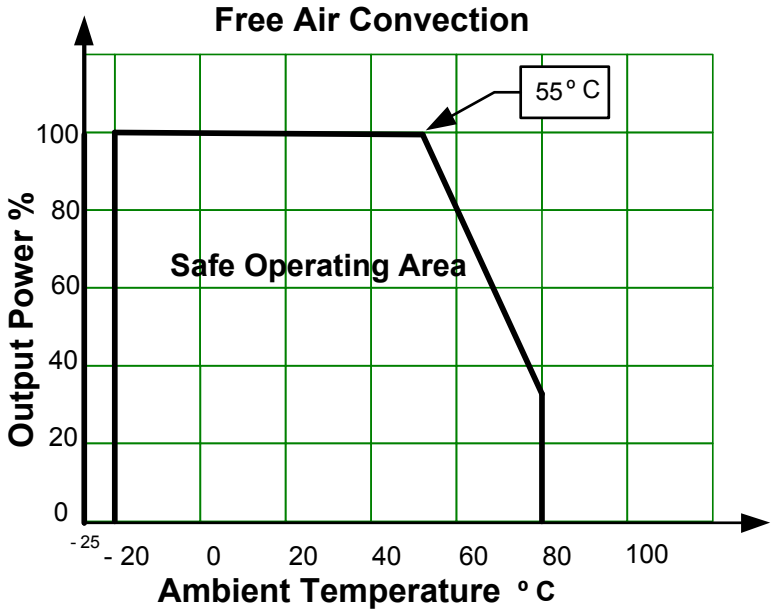
Safety Specifications

Parameters		
Agency approvals	cULus, CE, FCC	
Standards	EN61347-1, EN61347-2-13, IEC62384, UL8750, UL60950-1, EN55015, EN55024	
Standards	Radiated and Conducted Emission	FCC Part 15 Subpart B, Class B, ANSI C63.4 :2003
	EMI - Conducted and radiated emission	EN 55022
	Harmonic Current Emissions	IEC/EN 61000-3-2, (EN60555-2)
	Voltage fluctuations and flicker	IEC/EN 61000-3-3, (EN60555-3)
	Electrostatic Discharge Immunity	IEC 61000-4-2
	RF, Electromagnetic Field Immunity	IEC 61000-4-3
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4
	Surge Immunity	IEC 61000-4-5
	RF, Conducted Disturbance Immunity	IEC 61000-4-6
	Power frequency Magnetic Field Immunity	IEC 61000-4-8
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11

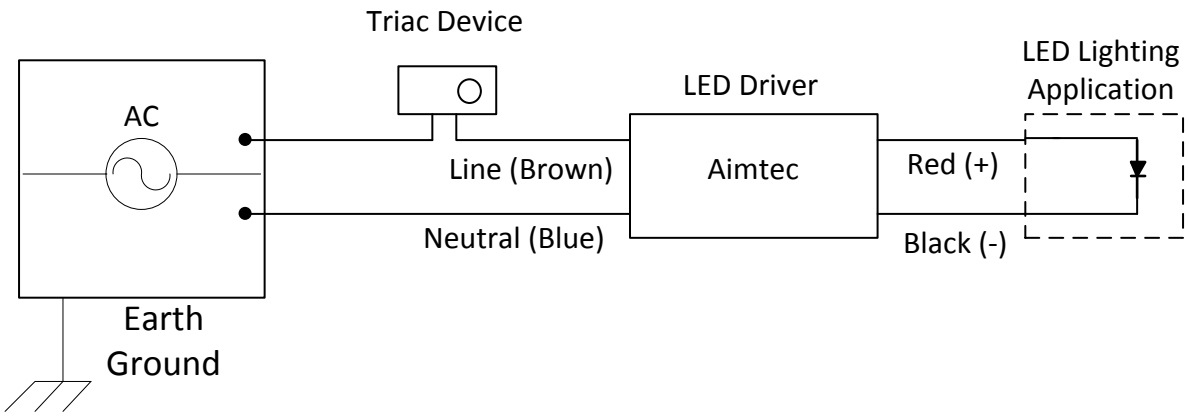
Dimensions



Temperature Graph



Triac Dimming Feature



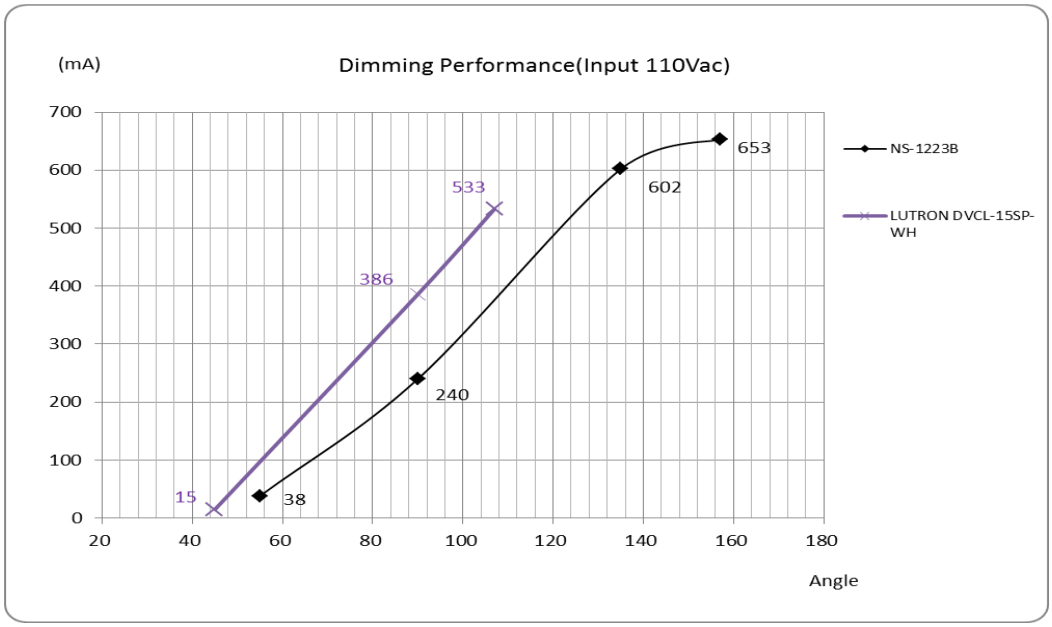
Triac Dimming Notes:
A- The triac device can be installed on either Line or Neutral
B- Aimtec LED drivers have been designed to function with a wide range of available Triac devices, however the following list of Triac devices have been tested and are recommended by Aimtec.

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.

Triac Dimming Performance

AMEPR30D-3670AZ





Triac dimming performance is typical as with other models, for specific details on other model performance, please see the Aimtec Triac Dimming Application note at www.aimtec.com

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