

# Constant Current LED Driver

Model Number:  
**AC-50CD1.4APNZ**

Input Voltage: 120-277V  
Input Frequency: 50/60Hz  
Side and Bottom Mount/Leads Options  
< 1 Sec. Start time/(Starting with batch code AKT.48)



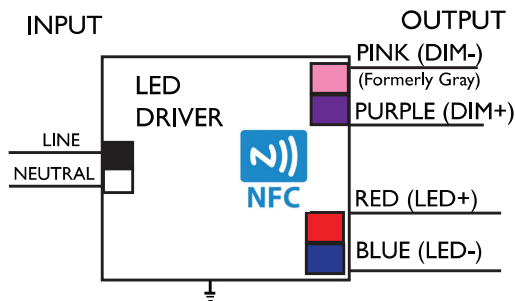
**Programmable, Digital,  
Wide-Range Adjustable Current & Dimming**

## Electrical Specifications:

Output Power Max	Input Power	Input Current	Min PF (full load)	Max THD (full load)	Output Voltage	Output Current	T case Max	Min, Starting Temp**	Efficiency Up To	IP Rating	Dimming Protocol	Dimming Range
50W	60W	0.5A @ 120V 0.22A @ 277V	>0.90	<20%	15 to 55V	400 to 1400mA	90°C	-40°C	85%	64	0 to 10V	1 to 100%

\*\* This driver can operate down to -40°C in a non-dimming condition. Below 0°C some flicker may be observed.

## WIRING:



**Note: Gray (-) dimming wire has been changed to pink per the 2020 NEC section 410.69 and NEMA.**

## Lead Lengths

Black	5.9"	Blue	5.9"	Purple	7.1"
White	5.9"	Red	5.9"	Pink	7.1"

## PHYSICAL:



Dimensions	Length	Width	Height	Mounting
AC-50CD1.4APNZ	5.23"	2.48"	1.18"	4.84"

Tref Max Value (°C)	Tc/Tref Value (°C)	Ta/Value (°C)
90	61.7	40

## SAFETY:

- Class A sound rating
- Overload Protection
- Open/Short Circuit Protection
- Input/Output Isolation
- Class P
- Class 2
- LED driver has a life expectancy of 50,000 hours at Tcase of ≤75°C
- LED driver has a life expectancy of 100,000 hours at Tcase of ≤65°C
- Warranty: 5 yrs based on max case temp of <75°C; 3 yrs based on max case temp of 90°C\*
- FCC Title 47 CFR Part 15
- Surge Protection (2 KV)
- Gray (-) dimming wire has been changed to pink per the 2020 NEC section 410.69 and NEMA.

## INSTALLATION:

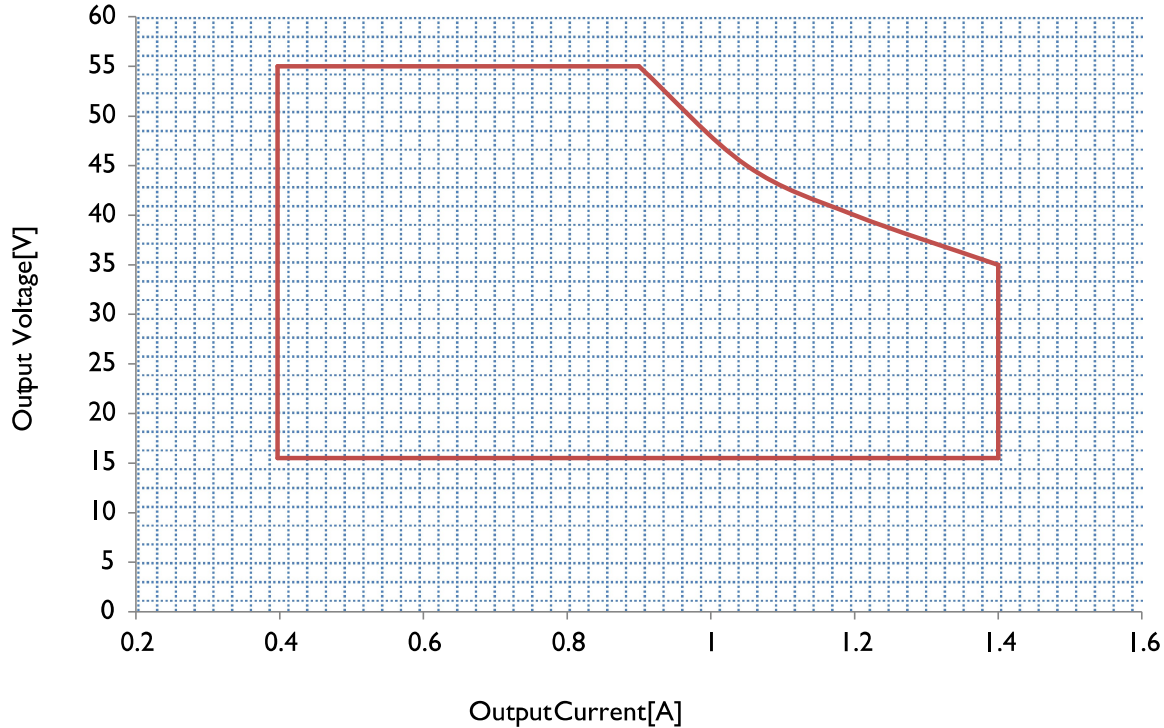
- Max Remote installation distance is 18 ft
- LED driver cases should be grounded
- LED drivers shall be installed inside electrical enclosures
- 18 AWG 600V/105C tinned stranded copper lead-wires are required for installation



\*AC Electronics/AC LED Power Designs warrants to the purchaser that each LED Driver will be free from defects in material or workmanship for a period of 5 years when operated at max case temp of up to <75°C; 3 years from date of manufacture when operated at a max case temp of up to 90°C when properly installed and under normal conditions of use. See [aceleds.com](http://aceleds.com) for complete warranty policy.

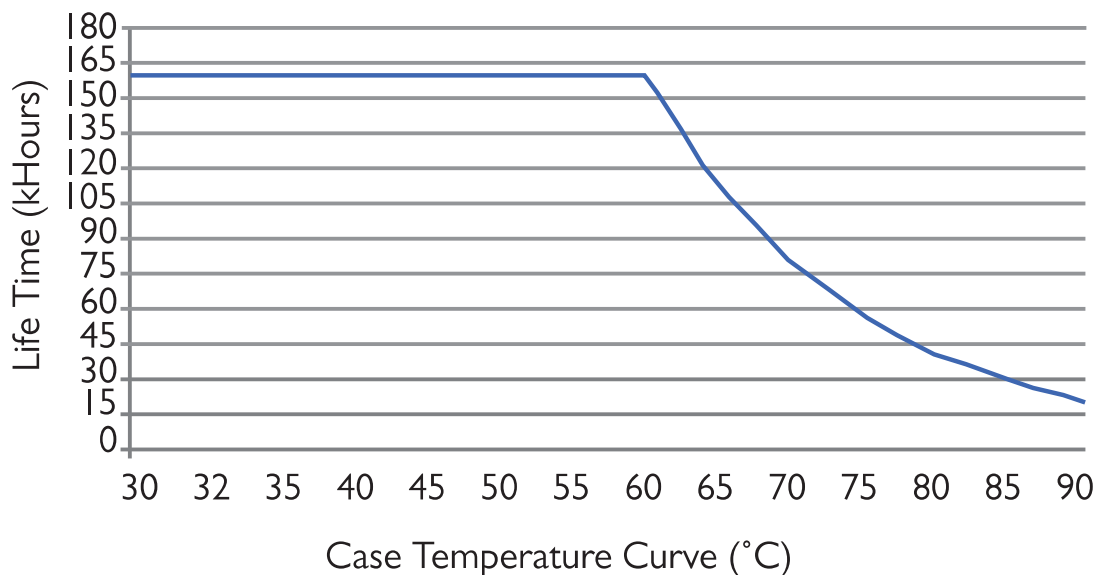
**For questions or to place an order contact us at [oemsales@aceleds.com](mailto:oemsales@aceleds.com) or 800-375-6355 or your local WPG American Sales representative at [inquiry@wpgamericas.com](mailto:inquiry@wpgamericas.com) or 888-WPG8881**

### IOUT/VOUT CURVE



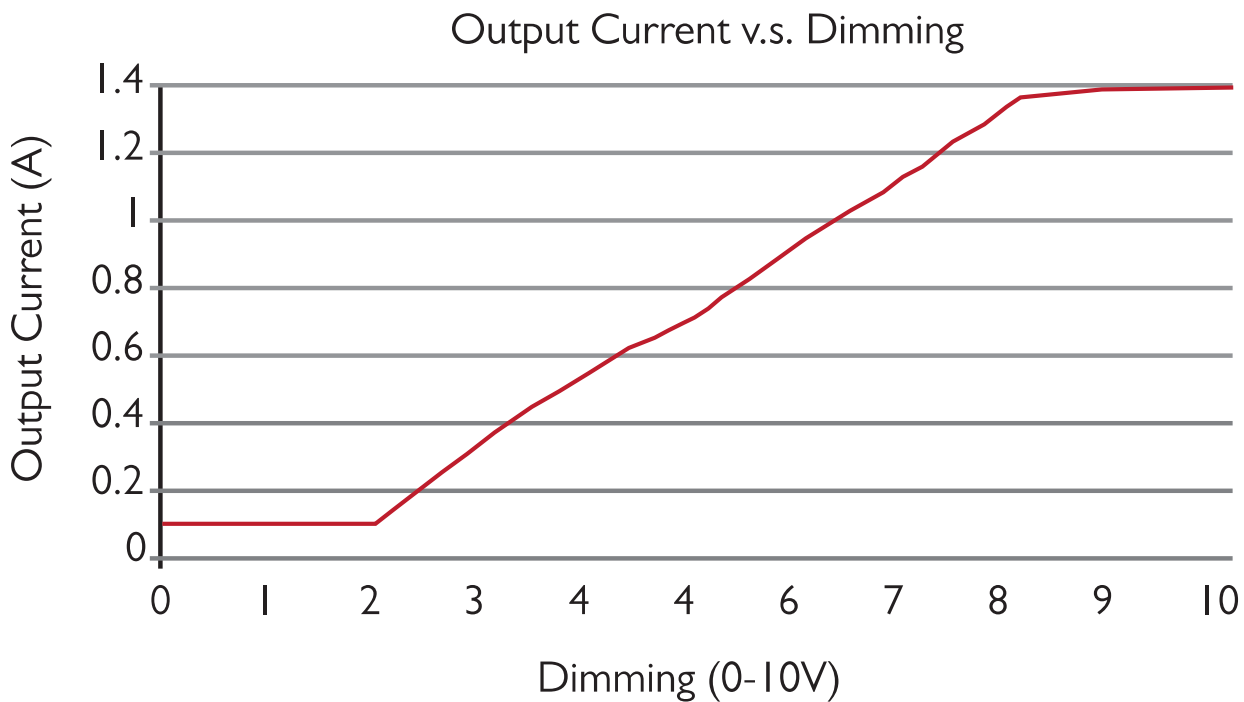
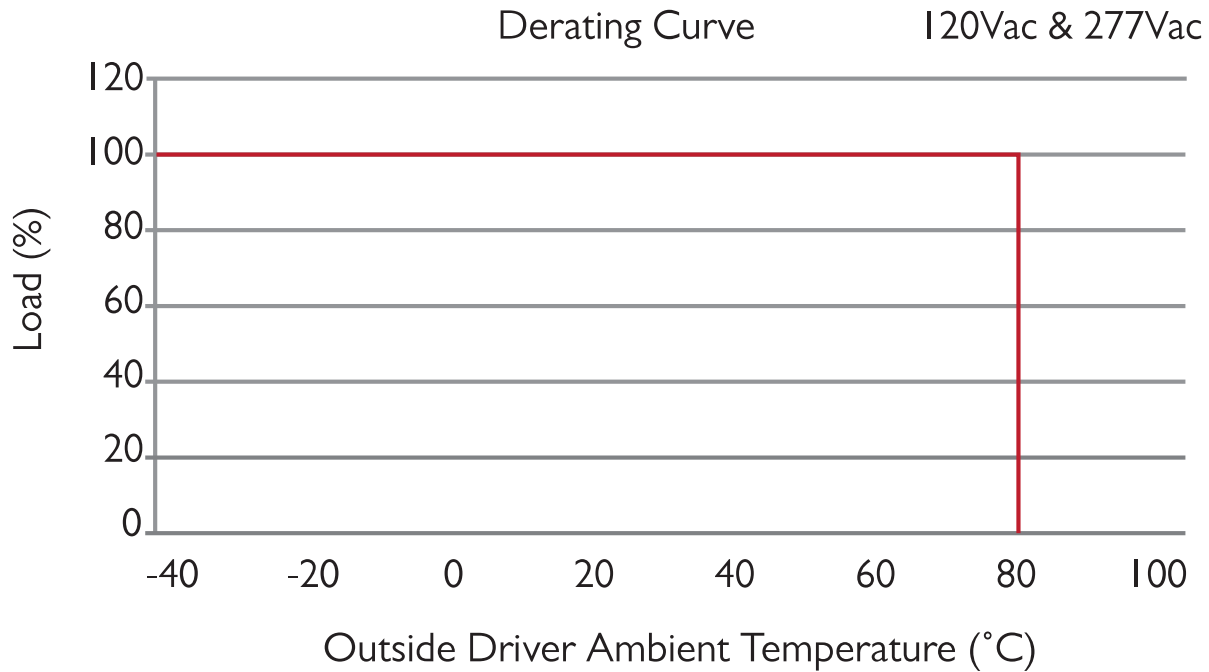
**CONTROL THE IOUT WITH THE PROGRAMMING WAND. DOWNLOAD SOFTWARE FROM <http://www.aceleds.com/programmable.php>**

### Life Time v.s. Case Temperature Curve



For questions or to place an order contact us at [oemsales@aceleds.com](mailto:oemsales@aceleds.com) or 800-375-6355 or your local WPG American Sales representative at [inquiry@wpgamericas.com](mailto:inquiry@wpgamericas.com) or 888-WPG8881

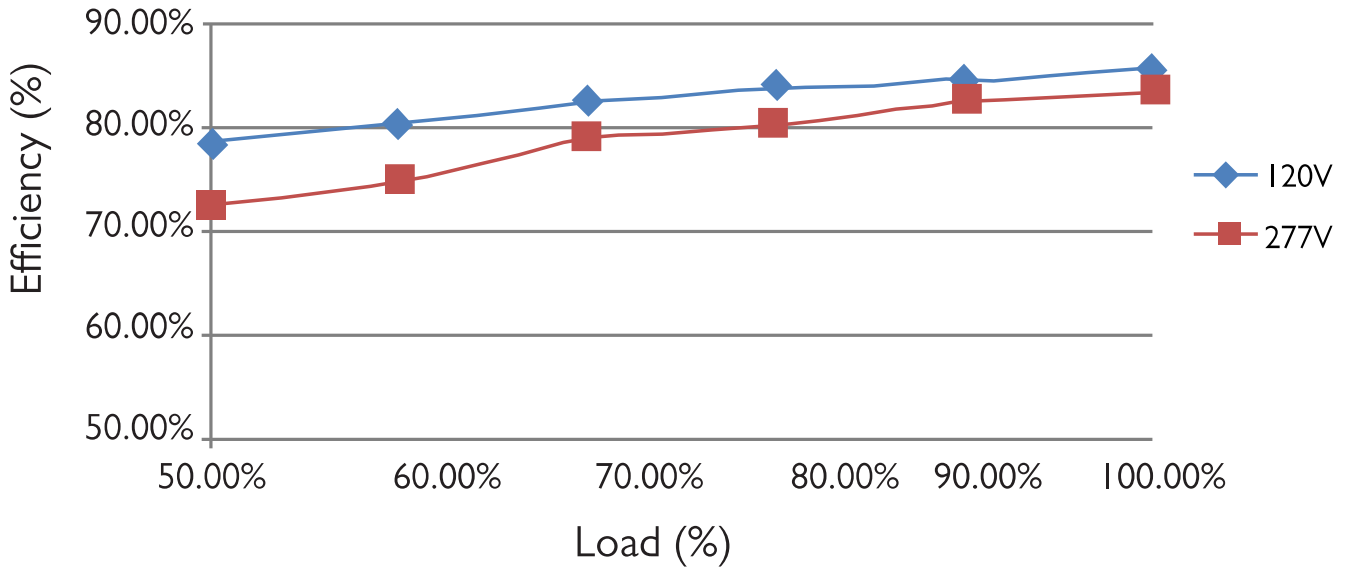
**PERFORMANCE CHARACTERISTICS**



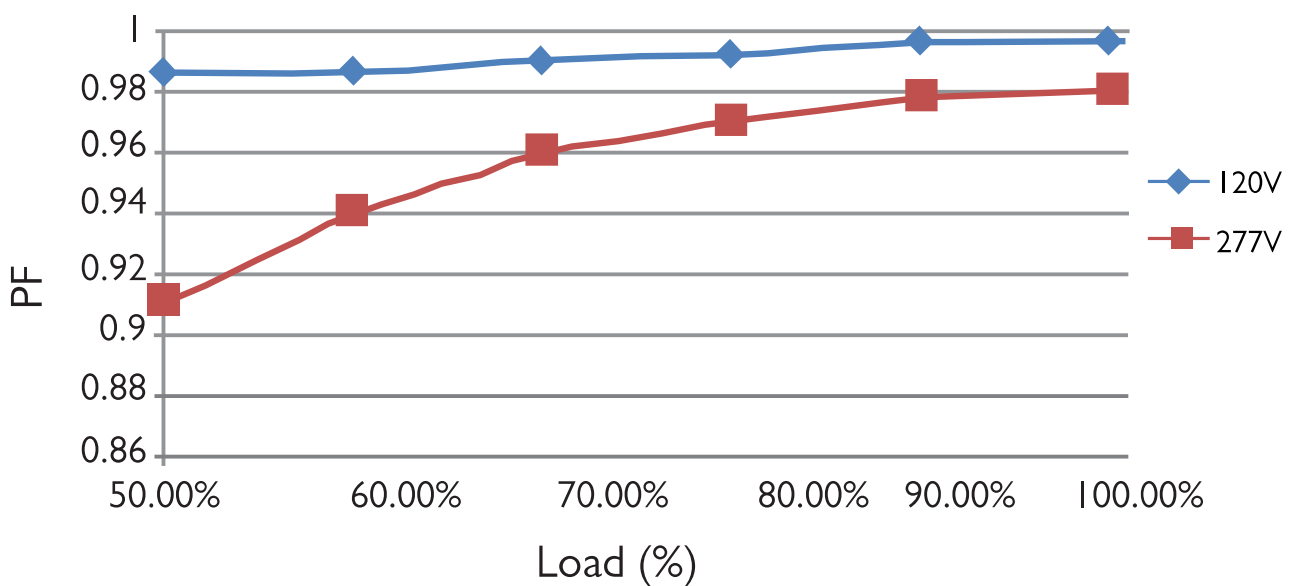
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**PERFORMANCE CHARACTERISTICS**

Efficiency v.s. Load



Power Factor v.s. Load



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## PROGRAMMABLE DRIVER OPTIONS (APP NOTE)

Put the programmable wand above the NFC mark of the driver to start programming

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All programmable drivers accept a 16-bit hexadecimal code to program the output current (Iout) of the driver. The Iout programming codes are documented in the computer based-programming software (ST-TOOLS.exe) or from the driver's IOUTCODE.pdf file. The Locations below 0, 1, 2, 3 contain the basic code for a specific output current value (example 84 03 00 01 = 1050 mA for AC-50CD1.4APNZ).

Location | 0 | 1 | 2 | 3 |

Value | 00 | 00 | 00 | 00 |

For drivers containing Revision C of their firmware (contact factory for date code of implementation), it is also possible to adjust the minimum dimming level and the dimming speed. This adjustment is made by modifying location 2 of the programming code while keeping the other locations set for the desired output current. Specifically, the location 3 values are defined as:

- 00 => Dim to 1%, Speed  $\leq$  1.0 sec
- 01 => Dim-To-OFF, Speed  $\leq$  1.0 sec
- 02 => Dim to 10%, Speed  $\leq$  1.0 sec
- 03 => Dim to 1%, Speed  $\geq$  2.5 sec
- 04 => Dim-To-Off, Speed  $\geq$  2.5 sec
- 05 => Dim to 10%, Speed  $\geq$  2.5 sec

As an example, if the programming code value of 84 03 00 01 is programmed, the output current will be 1050 mA, and the driver will dim to 1% and the dimming speed will be  $\leq$  1.0 sec. If the programming code of 84 03 04 01 is programmed, the output current will be 1050 mA, and the driver will dim to off and the dimming speed will be  $\geq$  2.5 sec.