AC ELECTRONICS™
ACELEDS.COM

Constant Current LED Driver

Model Number
AC-50CD1.4APC7

P1

PROGRAMMABLE, DIGITAL, WIDE-RANGE AJUSTABLE CURRENT & DIMMING CLASS P LISTED

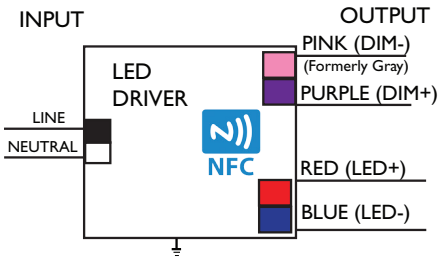
Input Voltage: 120-277V
Input Frequency: 50/60Hz
Side Mount/Leads Options
Start time <1 Second
Dims to 0%-100% By NFC Settings

ELECTRICAL SPECIFICATIONS:

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

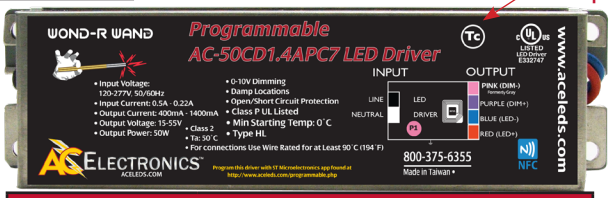
** This driver can operate down to -40°C in a non-dimming condition. Below 0°C some flicker may be observed.

WIRING:



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

PHYSICAL:



Dimensions			
Length	6.22"	Width	1.73"
Height	1.22"	Mounting Length	5.86"

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

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

PROTECTION	OVER VOLTAGE	Output Current decade mode, recovers automatically after fault condition is removed
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed
	OVER TEMP.	Shut down o/p voltage, re-power on to recover
SAFETY & EMC ENVIRONMENT	Operation TEMP.	0°C~50°C
	WORKING HUMIDITY	10%~90%
	STORAGE TEMP., HUMIDITY	-40'C~80'C
	Maximum T-Case TEMP.	90°C
	EMI/EMS	FCC Part 15 class A, UL8750, CSA C22.2 No. 250.13-14

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SAFETY:

- Class P
- Class 2
- Class A sound rating
- Overload Protection
- Open/Short Circuit Protection
- 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*
- Input/Output Isolation
- 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 for complete warranty policy.

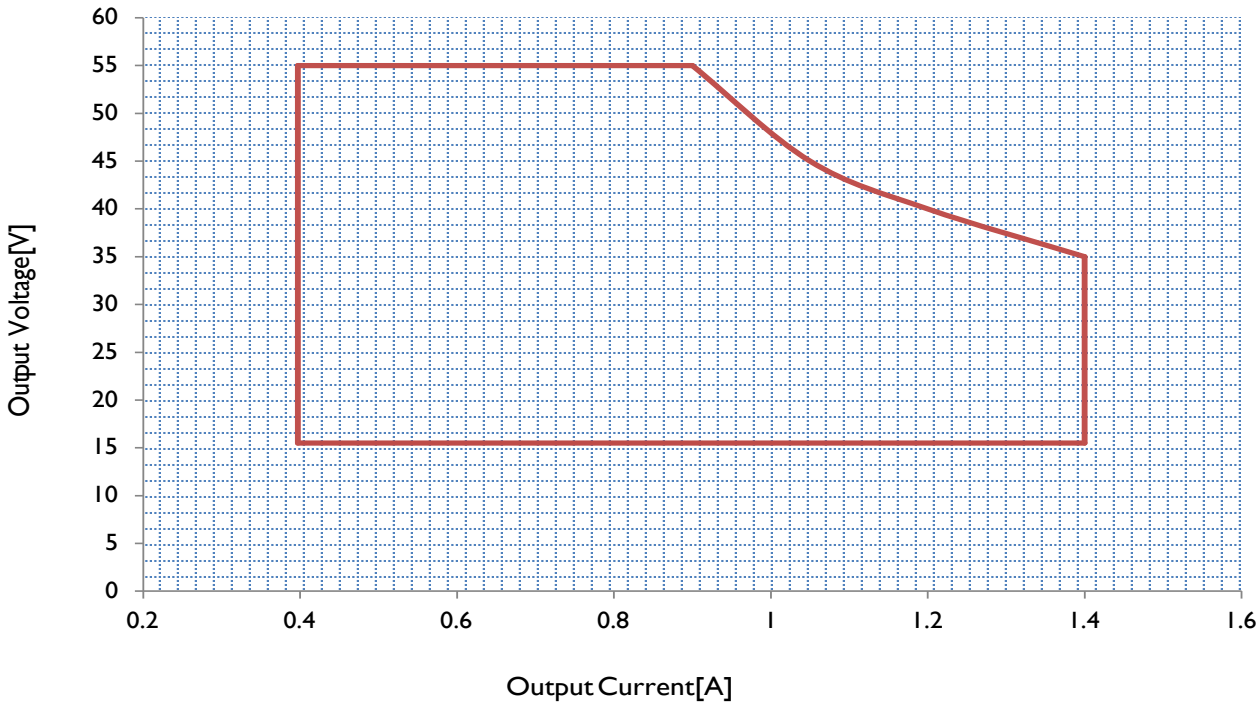
GENERAL INFORMATION

WARRANTY	5 Years TC≤75°C, 3 Years 75°C≤TC≤90°C
Inrush Current	35A
MTBF	10,000 Hrs Type
Protection	Overload/Over temperature/Short circuit protection

APPROVALS

UL Class2, FCC Class A, RoHs, Type HL

IOUT/VOUT CURVE



CONTROL THE IOUT WITH THE PROGRAMMING WAND. DOWNLOAD SOFTWARE FROM http://www.aceleds.com/products-programmable.php

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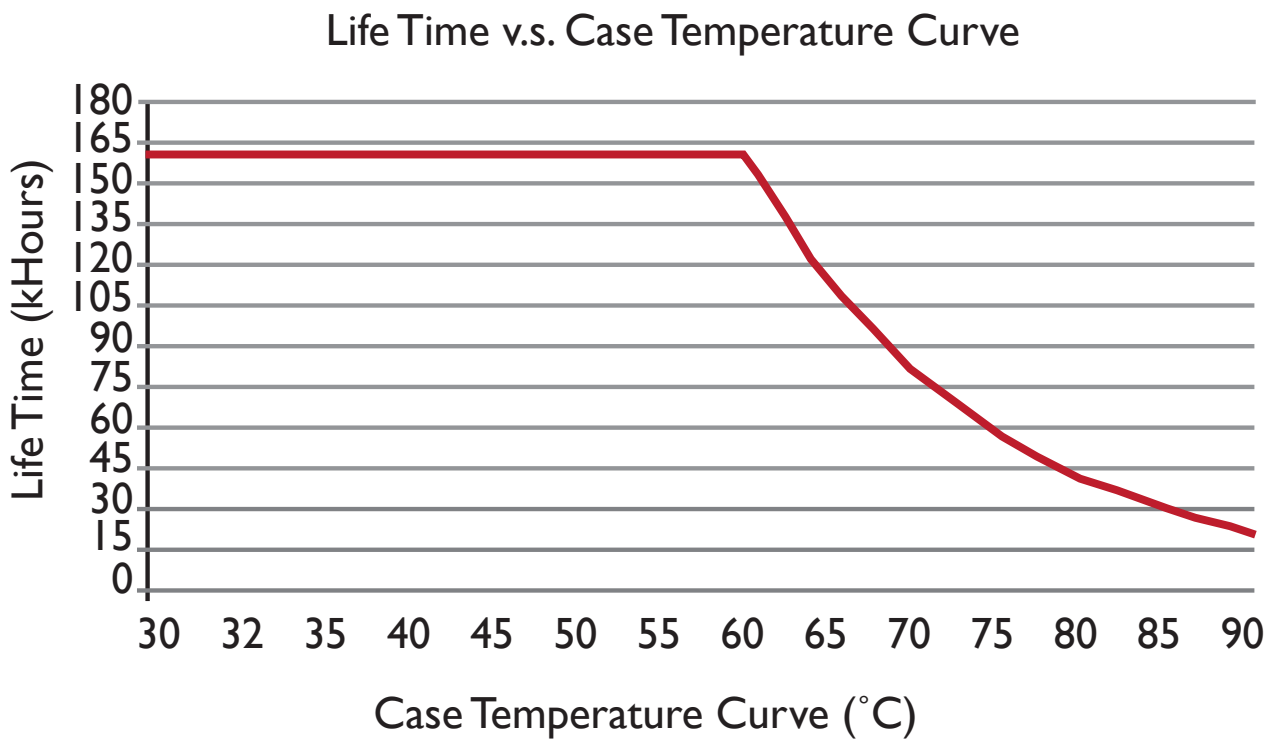
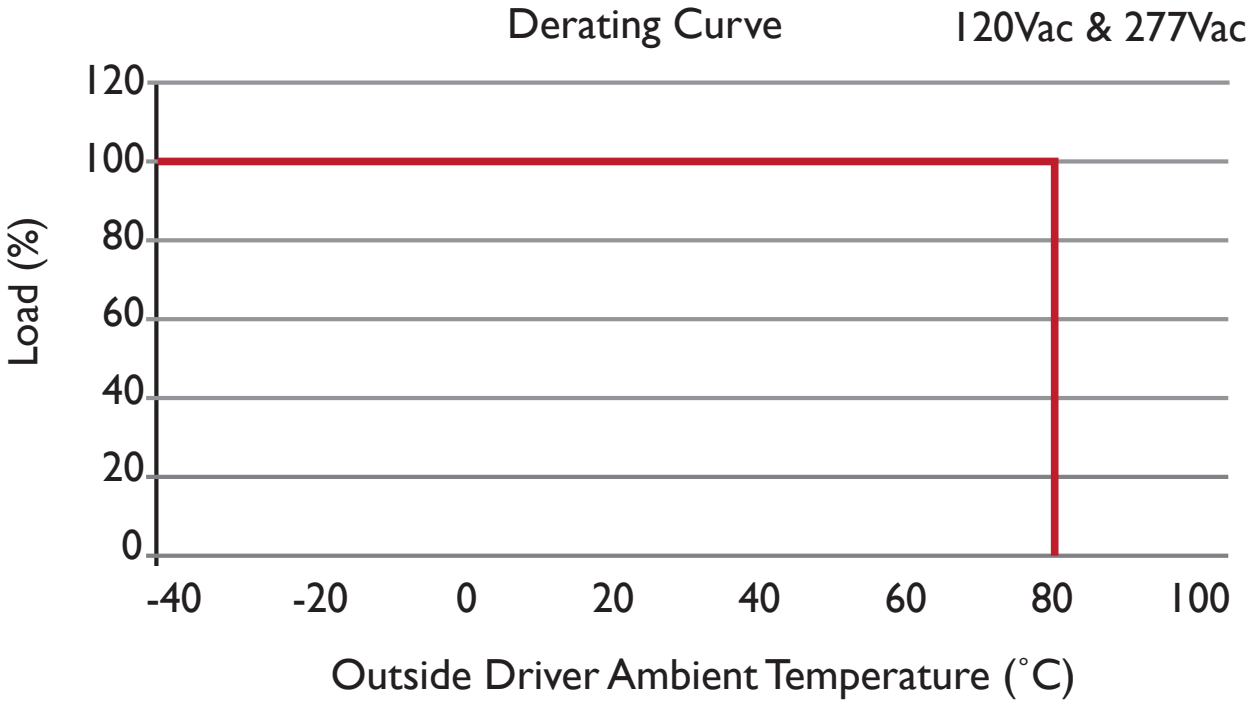
Performance Characteristics





Data is based upon tests performed by AC Electronics in a controlled environment and representative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

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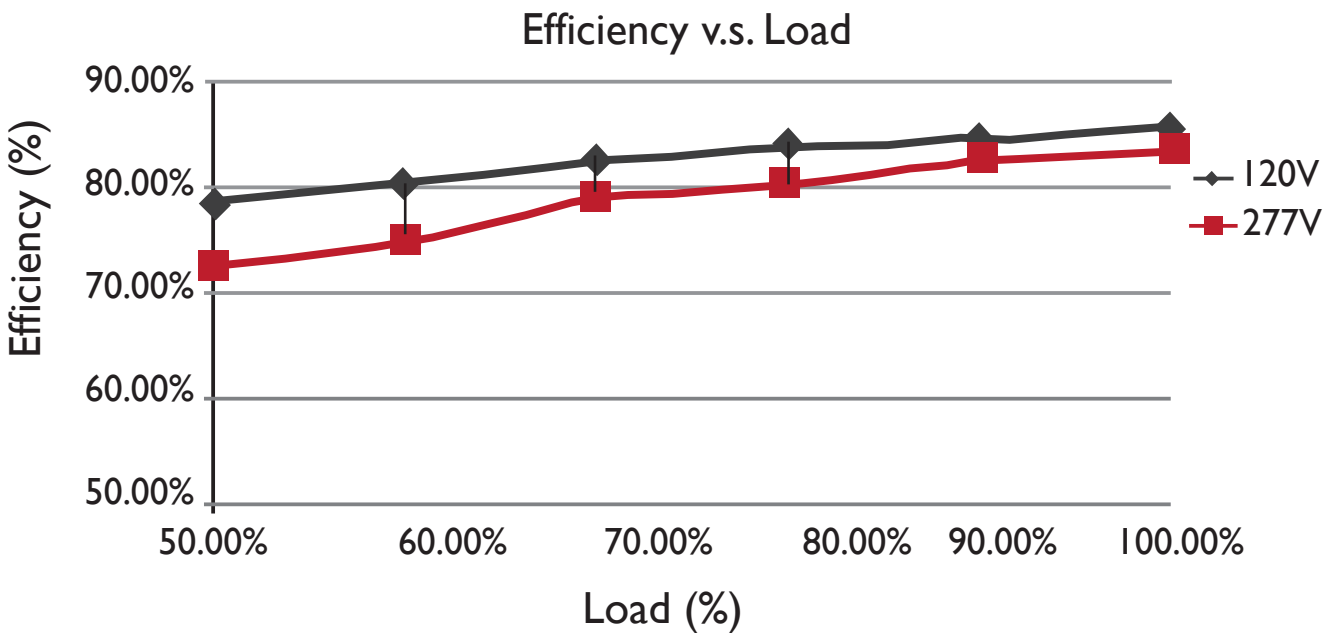
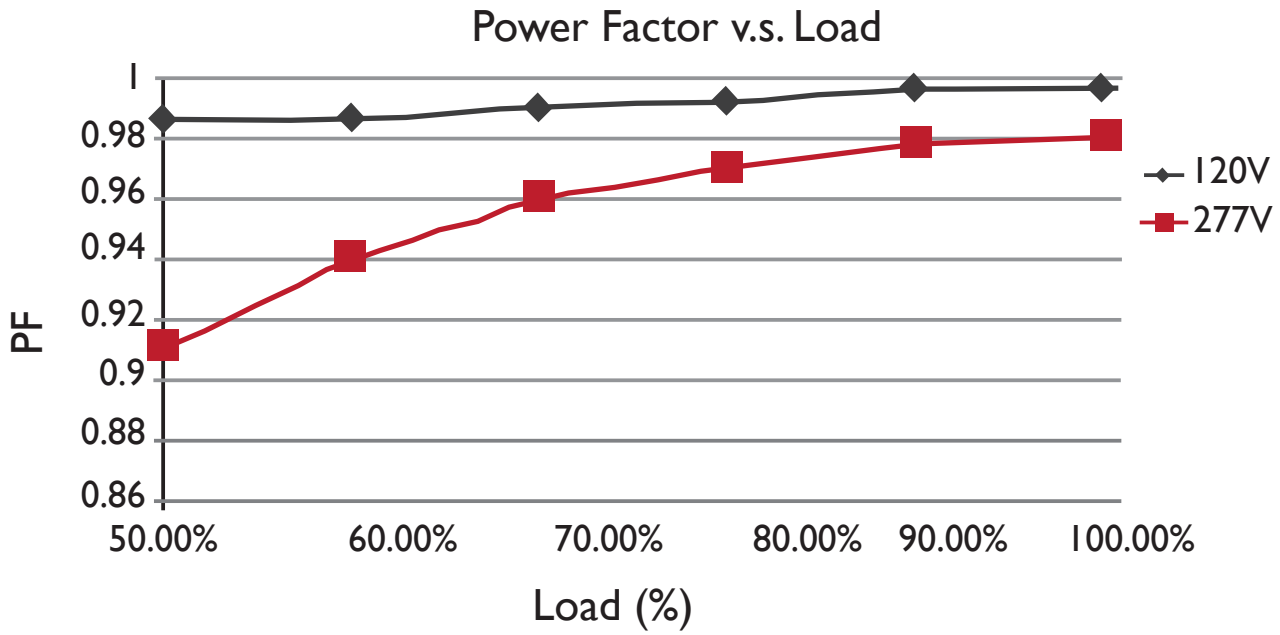
Performance Characteristics





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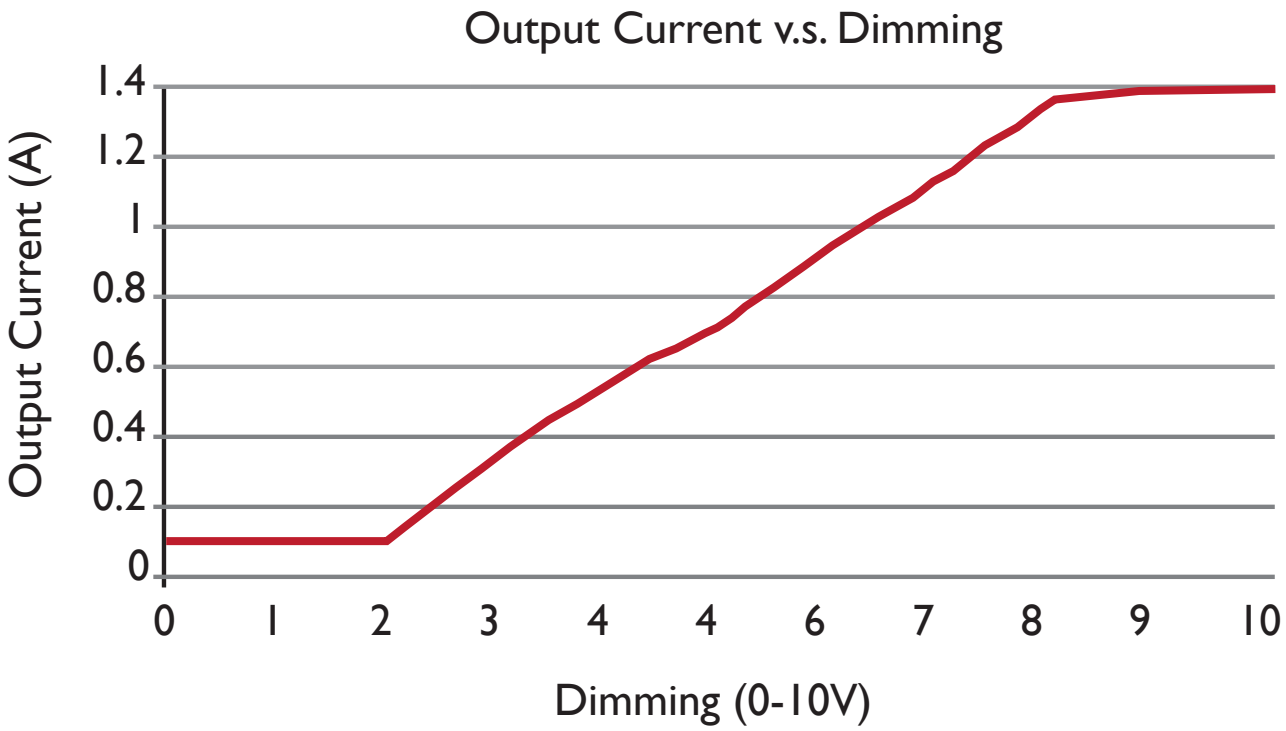

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Programmable Driver Options (App Note)

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 2 values are defined as:

- 00 => Dim to 1%, Speed ≤ 1.0 sec
- 01 => Dim-To-OFF, Speed ≤ 1.0 sec
- 02 => Dim to 10%, Speed ≤ 1.0 sec
- 03 => Dim to 1%, Speed ≥ 2.5 sec
- 04 => Dim-To-Off, Speed ≥ 2.5 sec
- 05 => Dim to 10%, Speed ≥ 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 ≤ 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 ≥ 2.5 sec.

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