AC ELECTRONICS™
ACELEDS.COM

Constant Current LED Driver

Model Number
AC98CD2.1APOV

P1

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

Input Voltage: 120-277V

Input Frequency: 50/60Hz

Side Mount/Leads Options

Dim-to-0% & 10-100% (by NFC Setting)

c UL us   RoHS COMPLIANT LEAD-FREE
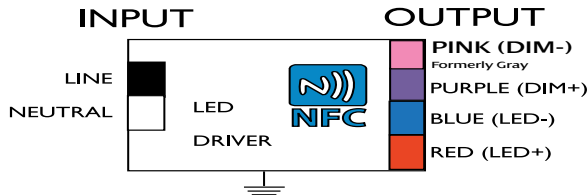
ELECTRICAL SPECIFICATIONS:

Output Power	Input Power	Input Current*	Min PF (full load)	Max THD (full load)	Output Voltage	Output Current ±15%	T case Max	Min Starting Temp**	IP Rating	Efficiency Up To	Dimming Protocol	Dimming Range
98W	113W	0.94A@120V 0.41A@277V	>0.90	≤20	27-47V	700mA-2100mA	90°C	0°C	64	86%	0 to 10V	0 to 100%

* Iout Tolerance
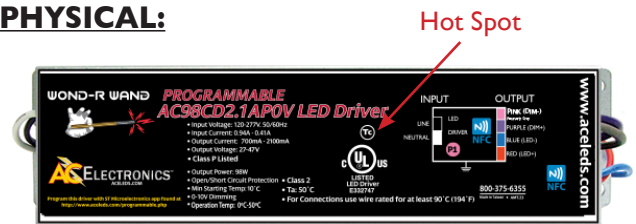• 700mA ±14% • 800mA ±10% • 900mA ± 8%
• 1050mA - 2100mA ±5%

** Spec is for full functionality. Driver will operate down to -22°F/-30°C in non-dimming applications. However if dimming is used below 10 °C, the minimum dimming level will be ≥ 4% and the potential for flicker exists at low dim settings.

WIRING:

INPUT   OUTPUT

LINE

NEUTRAL   LED DRIVER   NFC

PINK (DIM-) Formerly Gray
PURPLE (DIM+)
BLUE (LED-)
RED (LED+)

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

PHYSICAL:

Hot Spot

WOND-R WAND
PROGRAMMABLE AC98CD2.1APOV LED Driver
• Input Voltage: 120-277V, 50/60Hz
• Input Current: 0.94A - 0.41A
• Output Current: 700mA - 2100mA
• Output Voltage: 27-47V
• Class P Listed
• Output Power: 98W
• Open/Short Circuit Protection • Class 2
• Min Starting Temp: 0°C
• 0-10V Dimming
• Operation Temp: 0°C-50°C
• For Connections use wire rated for at least 90°C (194°F)

INPUT LINE NEUTRAL   LED DRIVER NFC   OUTPUT PINK (DIM-) PURPLE (DIM+) BLUE (LED-) RED (LED+)

www.aceleds.com   800-375-6355   NFC

AC ELECTRONICS   c UL us LISTED LED Driver E330747   Tc P1

Dimensions	Length	Width	Height	Mounting
AC98CD2.1APOV	9.5"	2.4"	1.46"	8.9"

Tref Max Value (°C)	Tc/Tref Value (°C)	Ta/Value (°C)
90°C	55.4°C	50°C

Lead Lengths

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

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

3401 Avenue D, Arlington, TX 76011 • 800-375-6355 • www.aceleds.com

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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SAFETY:

- 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:

- IP 64
- 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
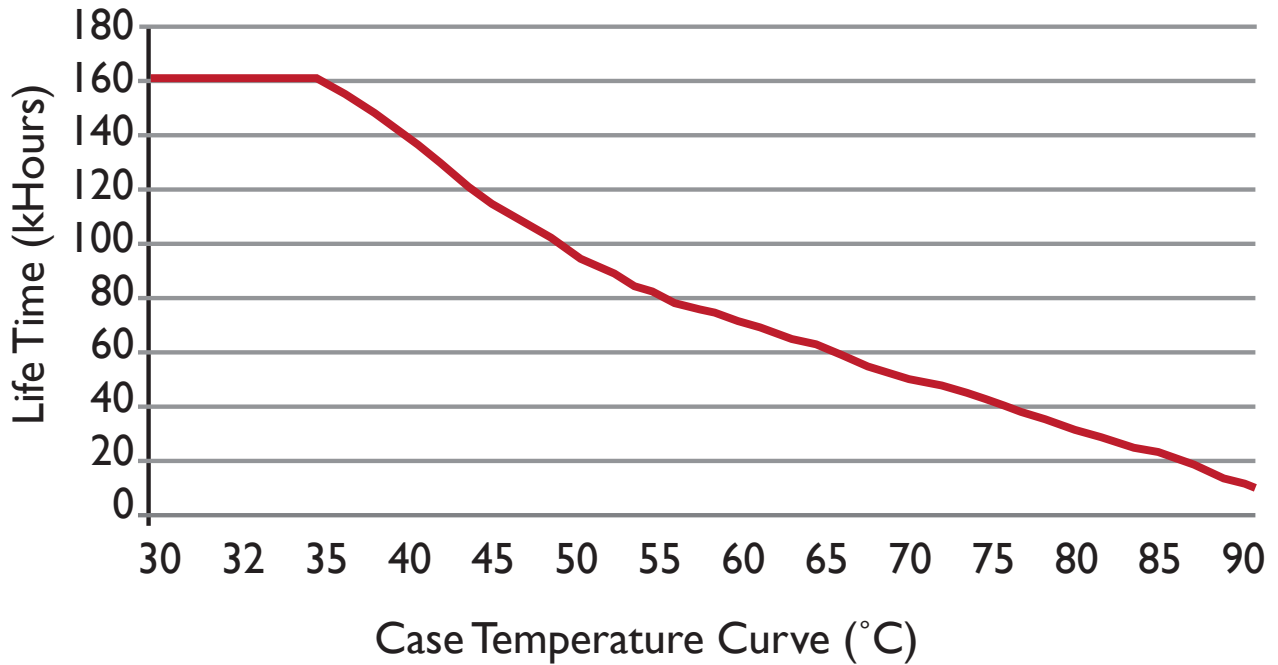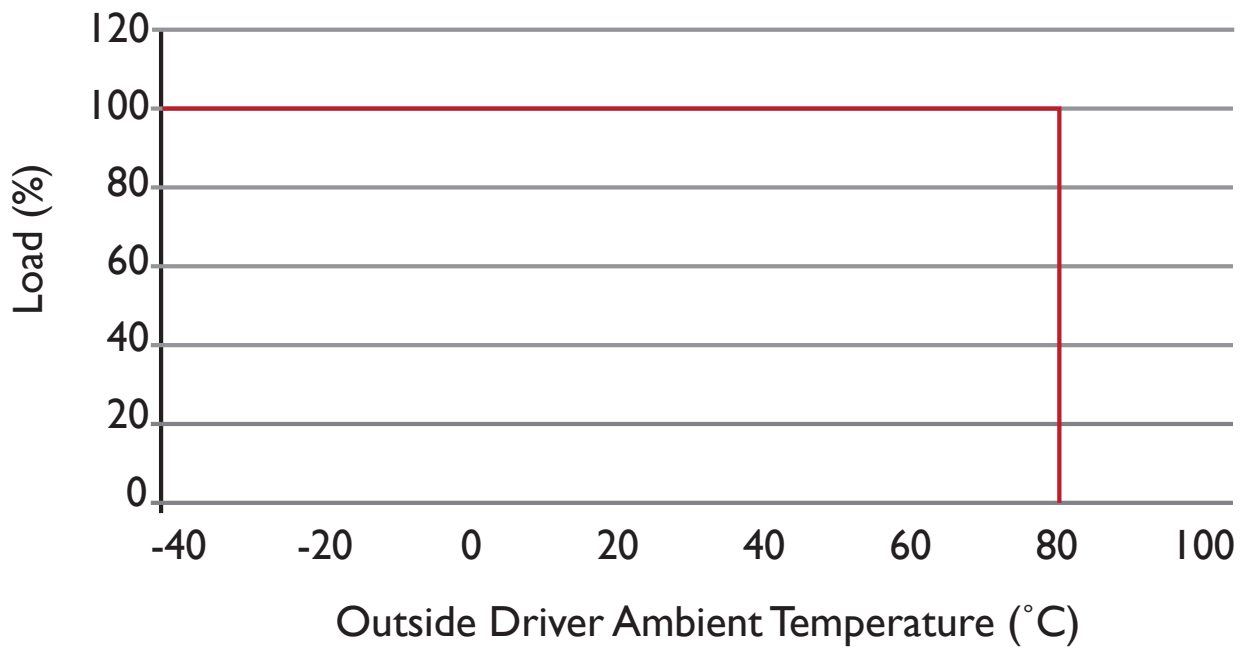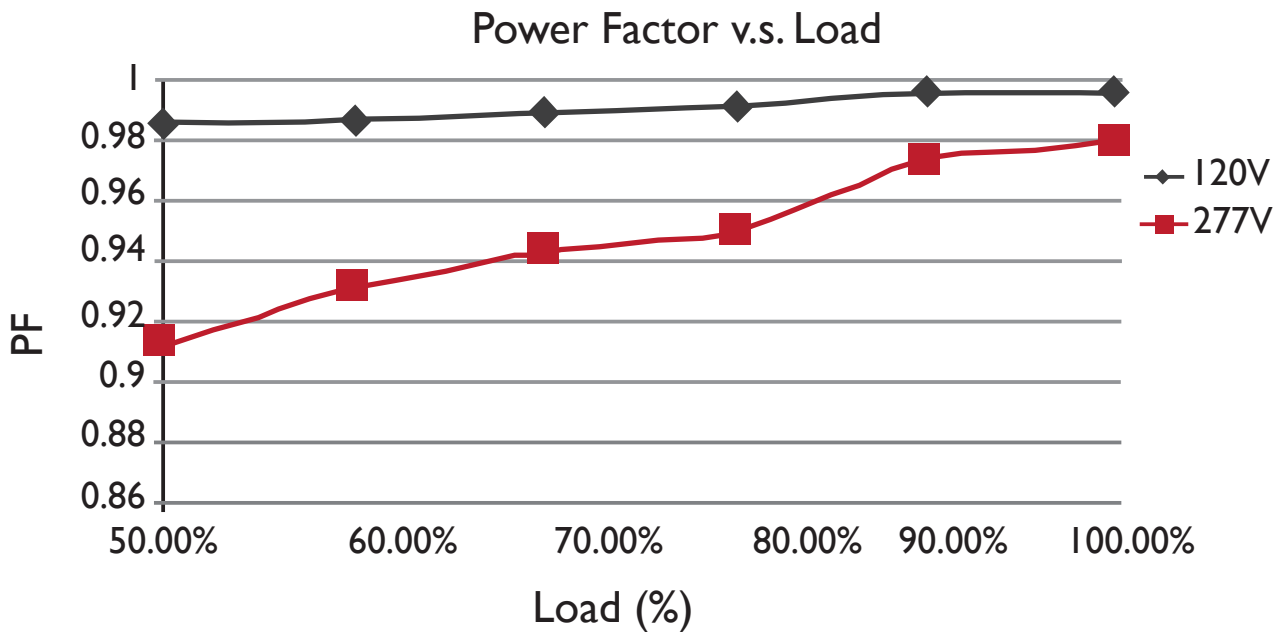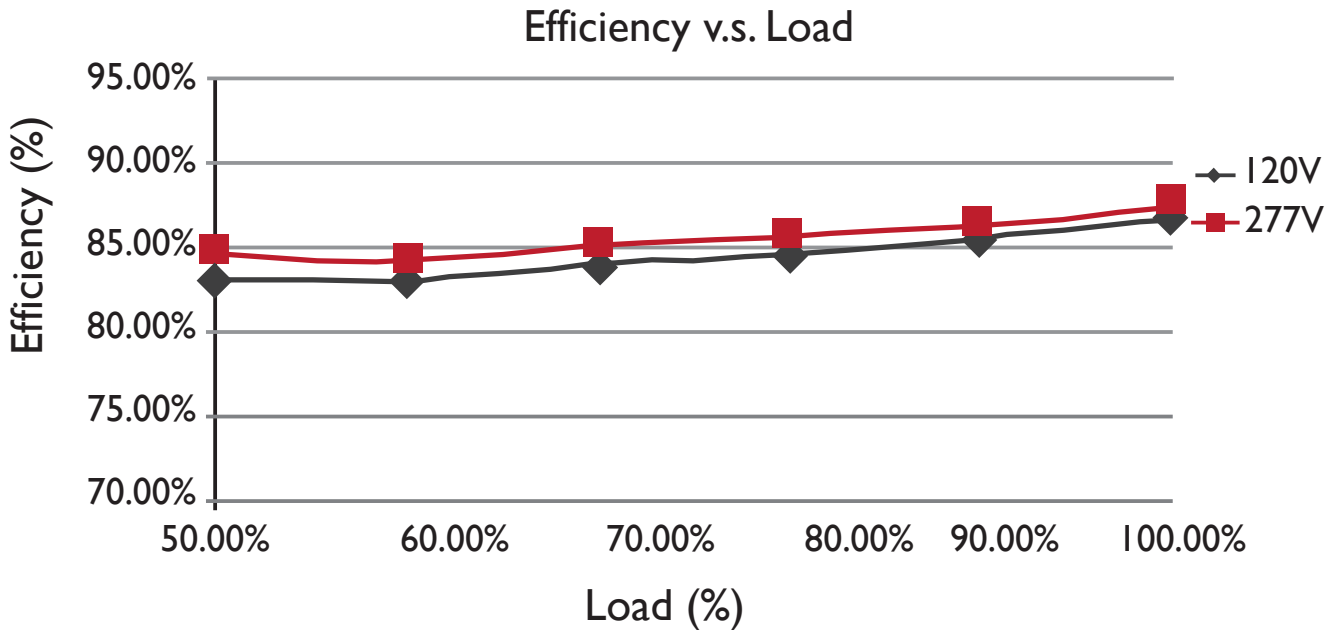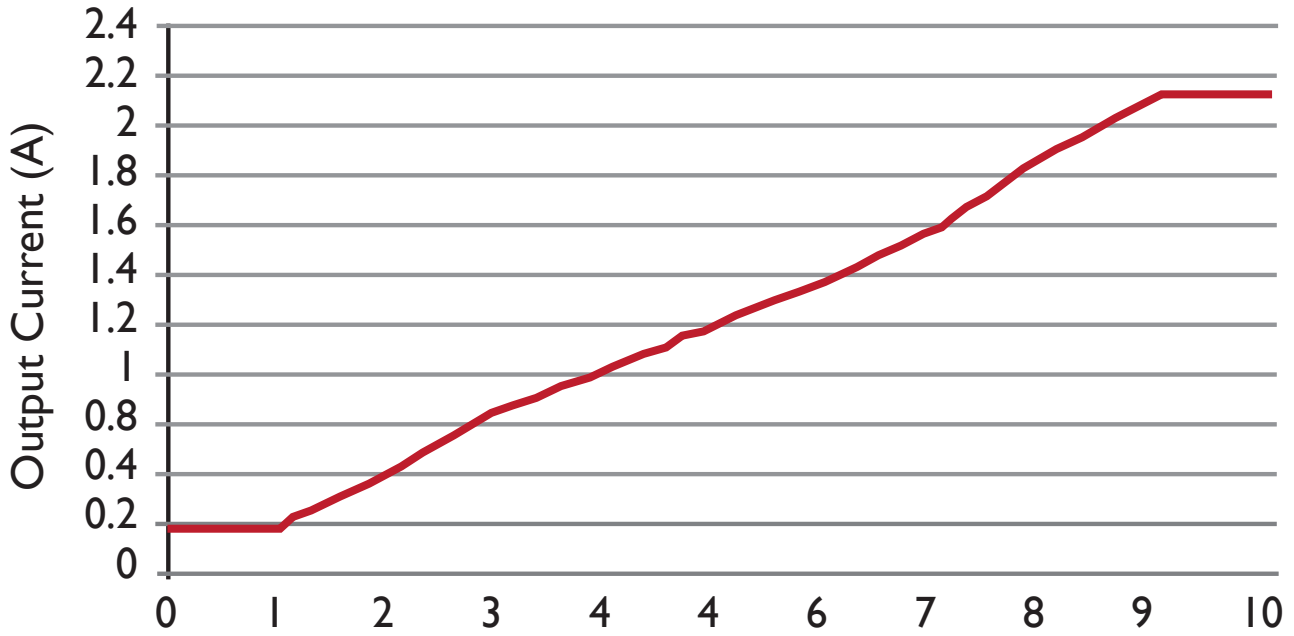
UL Class2, FCC Class A, RoHs, Type HL

IOUT/VOUT CURVE

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

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Life Time v.s. Case Temperature Curve

X-axis: Case Temperature Curve (°C)
Y-axis: Life Time (kHours)

Derating Curve 120Vac & 277Vac

X-axis: Outside Driver Ambient Temperature (°C)
Y-axis: Load (%)

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Efficiency v.s. Load

- 120V
- 277V

Power Factor v.s. Load

- 120V
- 277V

Output Current v.s. Dimming

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

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

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 3 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.