AC ELECTRONICS™
ACELEDS.COM

Constant Current LED Driver

Model Number AC-50CD1.4APUQ

Input Voltage: 120-277V
Input Frequency: 50/60Hz
Side Mount/Leads Options
< 1 Sec. Start time
Surge Protection (2Kv)
Dim-to-0% & 10-100% (by NFC Setting)

Energy EPA POLLUTION PREVENTER

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

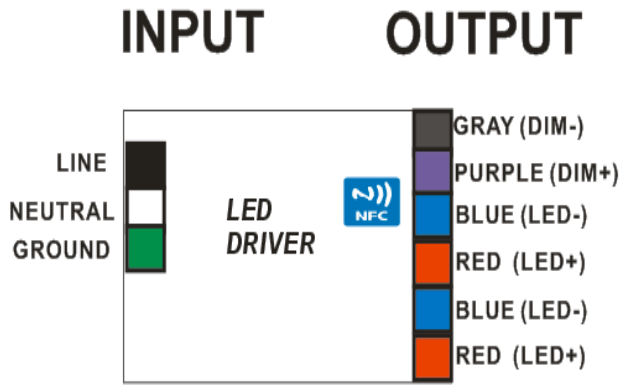
c UL us

ELECTRICAL SPECIFICATIONS:

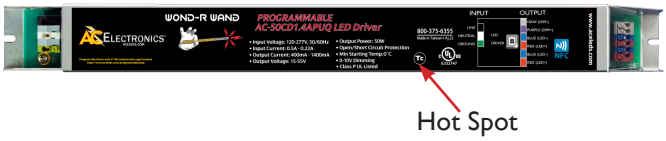
Output Power Max	Input Power	Input Current	Min PF (full load)	Max THD (full load)	Output Voltage	Output Current	T case Max	Min. Starting Temp**	Efficiency Up To	IP Rating	Dimming Protocol	Dimming Range
50W	60W	0.5A@120V 0.22A@277V	>90	<20	15-55V	400mA - 1400mA	90˚C	-40˚C	85%	30	0 to 10V	1 to 100%

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

WIRING:



PHYSICAL:



Model	Length	Width	Height	Mounting
AC-50CD1.4APUQ	12.4"	1.3"	1.08"	11.8"

PROTECTION	OVER CURRENT	105~110%
		Decade mode, recovers automatically after fault condition is removed
	SHORT CURRENT	Hiccup mode, recovers automatically after fault condition is removed
	OVER TEMP.	Shut down o/p voltage, re-power on to recover
SAFETY & EMC	WORKING TEMP.	-40'C~50'C • FCC Part 15 class A, UL8750, CSA C22.2 No. 250.13-14, ICES-005 Issue 4
	WORKING HUMIDITY	10%~90%
	STORAGE TEMP., HUMIDITY	-40'C~80'C, 10 ~ 95% RH
	TEMP. COEFFICIENT	± 3% ˚C
ENVIRONMENT	VIBRATION	10 ~ 500Hz, 5G 12min./1 cycle, period for 72min. each along X,Y, Z axes
	Maximum T-Case TEMP.	90˚C

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SAFETY:

- Class P
- 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)

Performance Characteristics

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.

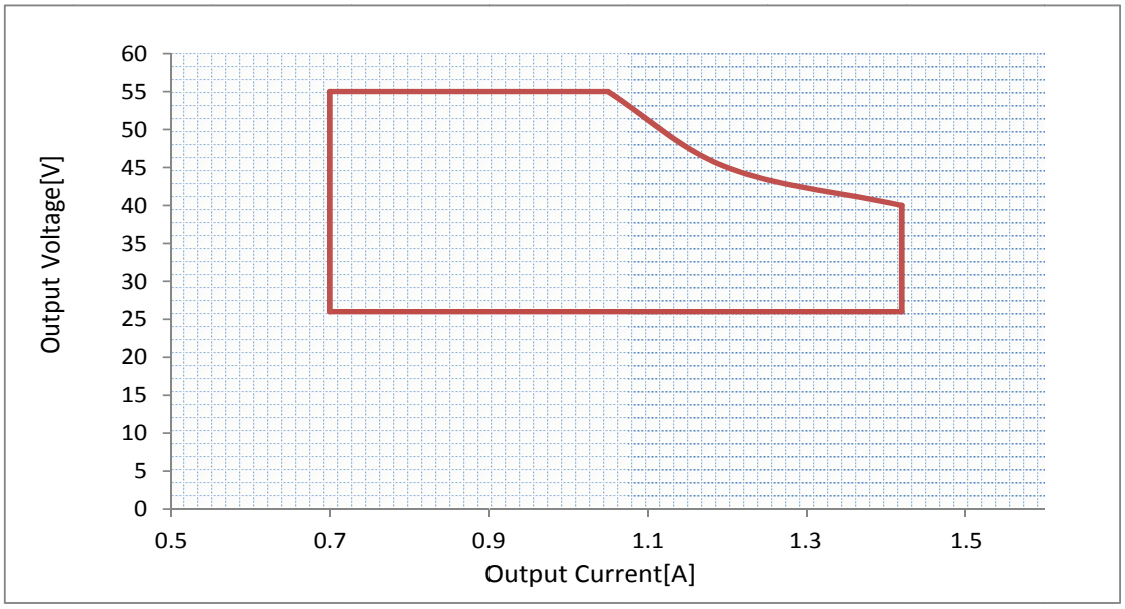
GENERAL INFORMATION

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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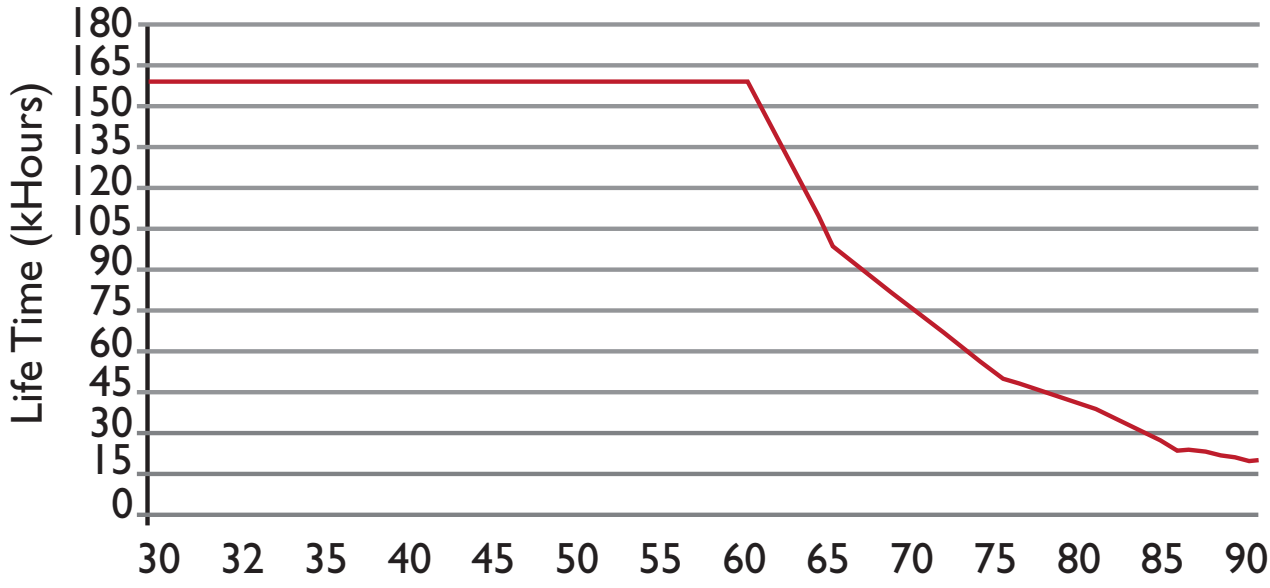
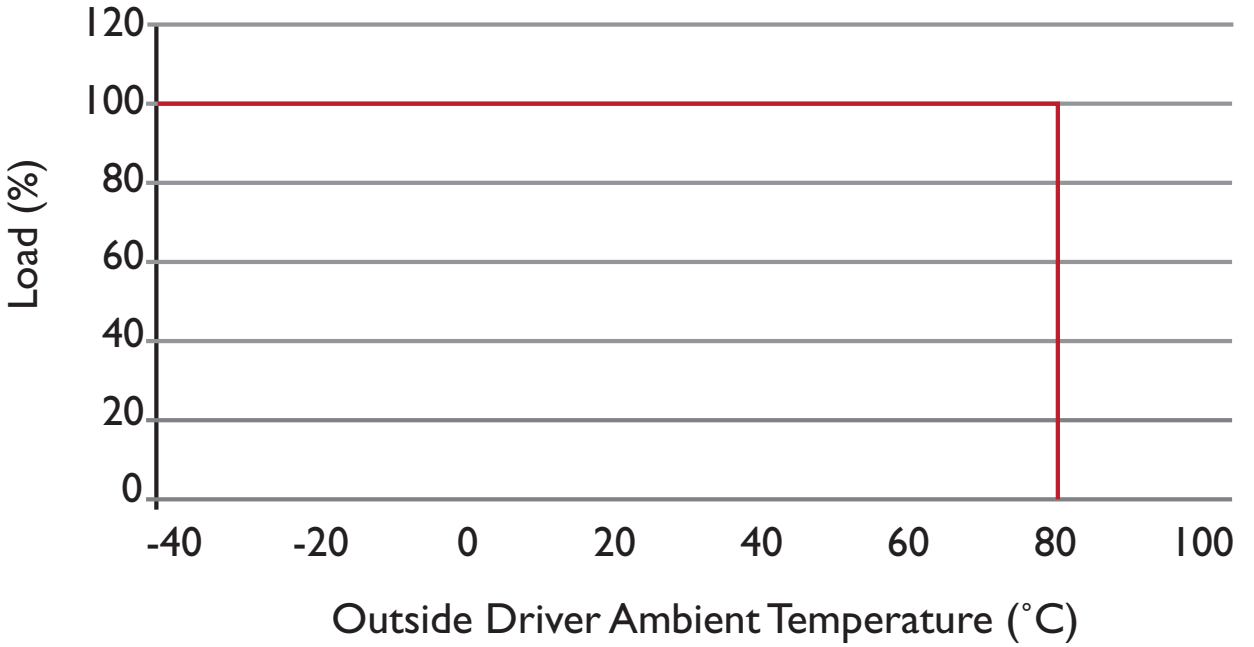
Performance Characteristics

Life Time v.s. Case Temperature Curve



Derating Curve 120Vac & 277Vac



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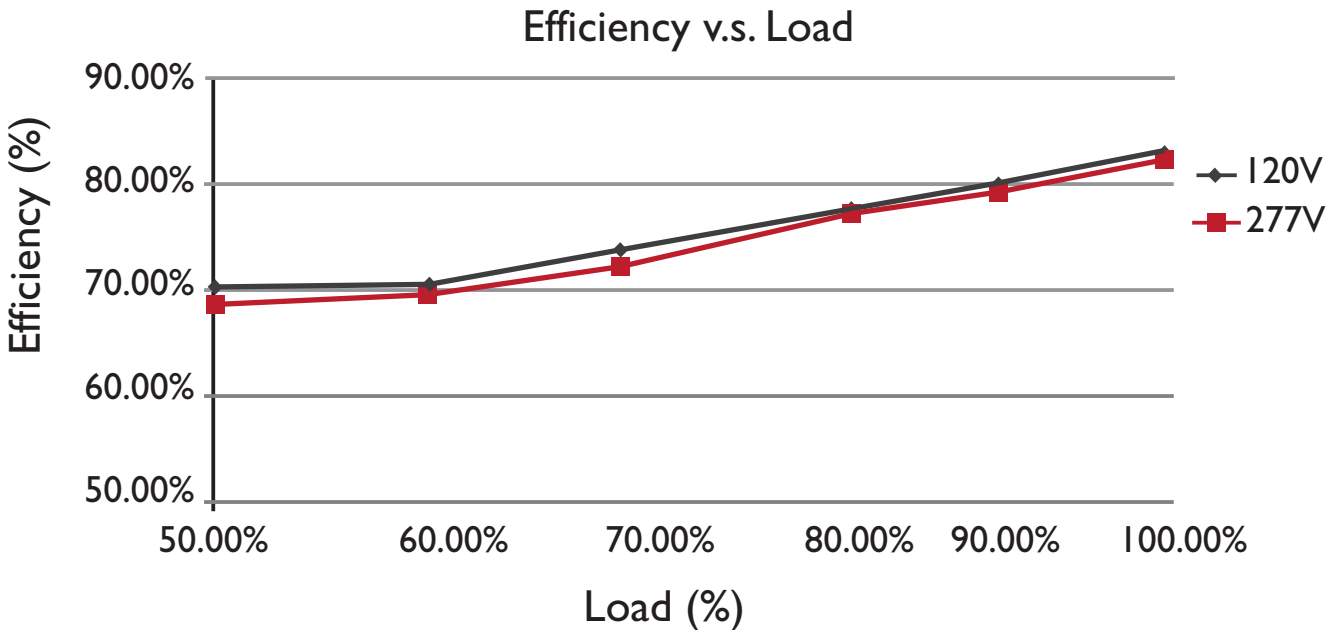

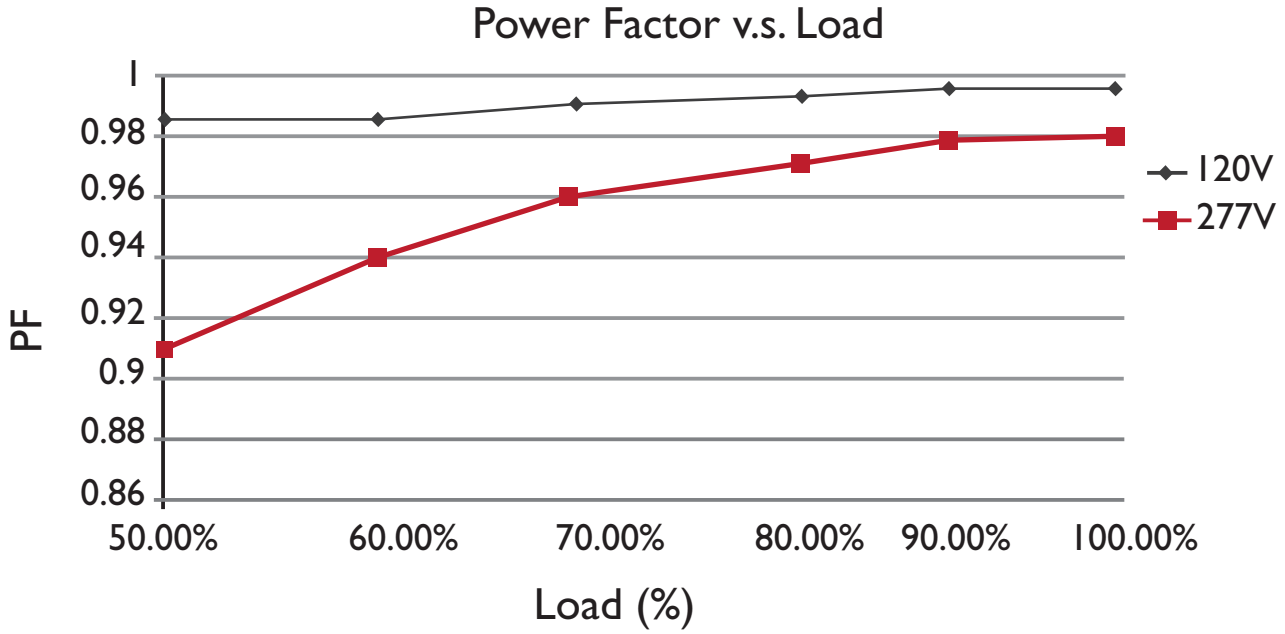

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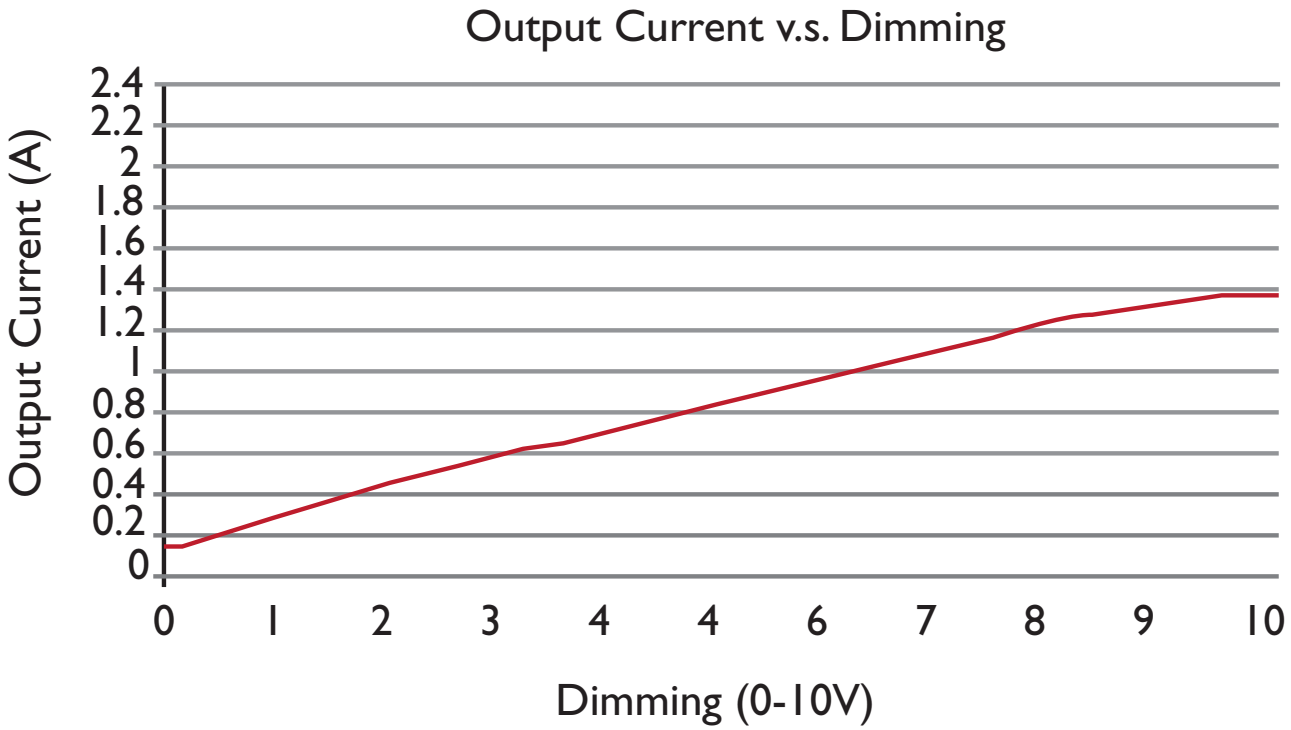

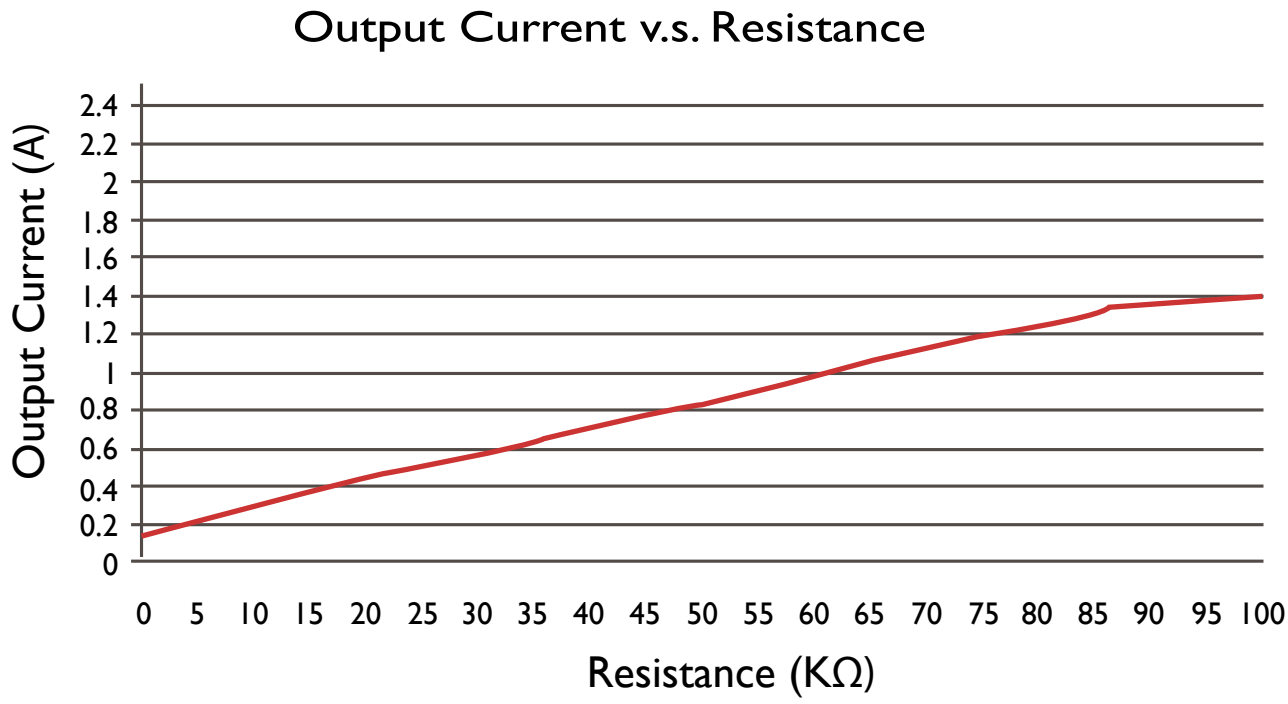

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Performance Characteristics

NFC CONTROLLER

NOTE:
1. The NFC controller can program the output current, voltage and timer delays.

2. The NFC programming is a non-contact process, therefore much safer compared to traditional programming methods

3. Power devices can be programmed without AC power applied to the driver.

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.

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