ADVANCE by signify

LED Driver

CertaDrive X

CI045C093V048CDX1



Advance CertaDrive indoor LED drivers are designed to meet basic lighting needs. These drivers are offered with specific voltage-current settings and are, thus, optimized with specifications that are appropriately suited for the application, making LED conversion affordable.

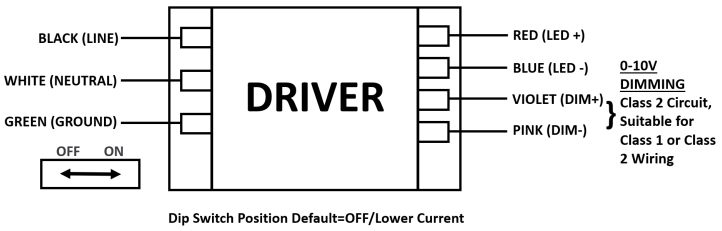
Specifications

Input Voltage (Vac)	Output Power (W)	Output Voltage (V)	Output Current (A)	Efficiency @ Max Load	Max Case Temp. (°C) Life/UL	Input Current (A)	Input Power (W)	THD @ Max Load (%)	Power Factor @ Max Load	Surge Protect (Combi Wave, KV)	Dimming	Dimming Range (%)	Min Dimming Current (mA)	Drive Type
120	45	28-48	0.9-0.935	86.0	70 / 80	0.43	50.2	<20	>0.9	2.5	0-10V	10-100	90	CC
277				88.0		0.19	50.2	<20	>0.9					

Enclosure

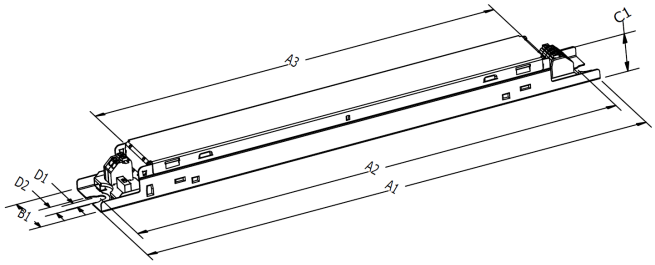
Item	In(mm)	Tolerance (mm)
Overall length (A1)	11.02(280)	+/-0.5
Mounting Length (A2)	10.52(267.3)	+/-0.5
Case Length (A3)	8.81(223.8)	+/-0.5
Case Width (B1)	1.18(30)	+/-0.5
Case Height (C1)	0.83(21)	+/-1
Mounting Hole Diameter (D1)	0.2(5.1)	+/-0.3
Mounting Hole Diameter (D2)	0.3(7.7)	+/-0.3

Wiring Diagram



Dip Switch Position Default=OFF/Lower Current

Mechanical Diagram



- Install in accordance with national and local electrical codes.
- The field-wiring leads or push-in terminals shall be fully enclosed.
- Use 18 AWG Solid Copper Wire Rated >= 90 °C.
- Strip Wire 3/8".
- For Class 2 Wiring, Use 20 AWG-16 AWG.
- Driver case must be grounded.

RoHS COMPLIANT NOM c UL us LISTED

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Features

- 50,000+ hour lifetime
- Excellent thermal performance
- High power factor & low THD

Benefits

- Enables long life luminaire designs
- Allows operability in indoor (low-bay) ambient conditions
- Suitable for commercial indoor applications

Application

- Indoor linear troffers, pendants
- Office areas
- Retail centers
- Educational facilities

Logistical data

Specification item	Value
Product name	CI045C093V048CDX1
EOC	CI045C093V048CDX1
Logistic code 12NC	9290 017 91813
Product code	CI045C093V048CDX1M
Pieces per box	18
Weight	195 gram

All the specifications are typical and at $T_{ambient}$ = 25°C unless specified otherwise

Electrical input data

Specification item	Value	Value	Unit	Condition
Rated input voltage range	108...305		V_{ac}	Performance range
Rated input voltage	120	277	V_{ac}	
Rated input frequency	50...60	50...60	Hz	Performance range
Rated input current	0.43	0.19	A	@ rated output power @ rated input voltage
Rated input power	50.2	50.2	W	@ rated output power @ rated input voltage
Efficiency	86.0	88.0	%	@ rated output power @ rated input voltage

Electrical output data

Specification item	Value	Unit	Condition
Output voltage	28...48	V_{dc}	Class 2 Output
Output voltage max.	60	V	Open Circuit Voltage
Output current	900...935	mA	Dip Switch Off / Dip Switch On
Min output current	90	mA	
Output current tolerance ±	5	%	within performance window
Output current ripple LF	≤ 30	%	@ max Iout
Output P_{st}^{LM}	≤ 1.0		Flicker in compliance per NEMA 77
Output SVM	≤ 1.6		Flicker in compliance per NEMA 77
Output power	2.5...45.0	W	

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Control interfaces

Specification item	Value	Unit	Condition
Control method	0-10V		
Dimming range	10...100	%	Default range
Dimming Source Current	0.2	mA	
Maximum Dimming Voltage	12	V	
Dimming Leakage Current	0.01	mA	Max number of driver in parallel, refer to Design-in Guide

Isolation

U = Max. input voltage

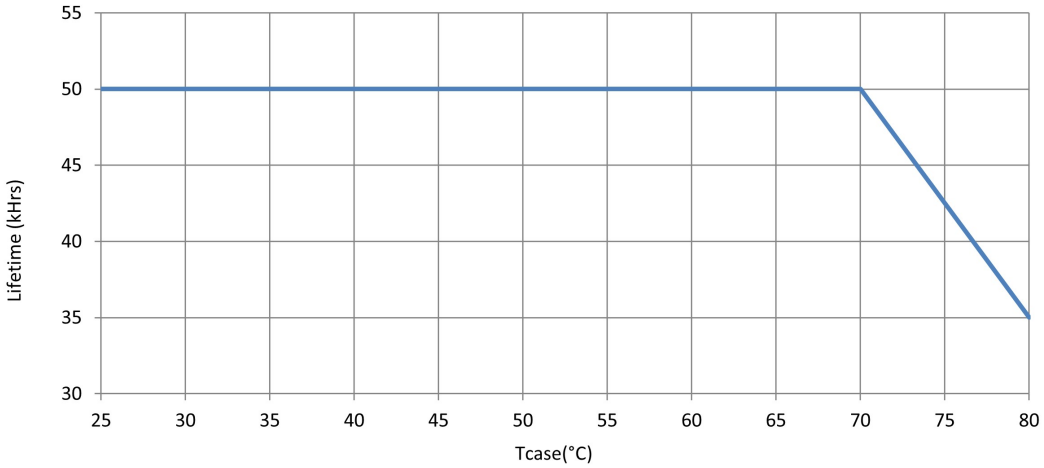
Isolation per UL-8750	Input	Output	0-10V	Enclosure
Input	-	2U + 1kVac	2U + 1kVac	2U + 1kVac
Output	2U + 1kVac	-	2U + 1kVac	500Vac
0-10V	2U + 1kVac	2U + 1kVac	-	2U + 1kVac
Enclosure	2U + 1kVac	500Vac	2U + 1kVac	-

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+40	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-UL	80	°C	Max. temperature measured at T_{case}-point
Tcase-life	70	°C	C10 = 50000 hours measured at T_c-point

Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	50,000	hours	Measured temperature at Tcase-point is Tcase-life. Maximum failures = 10%



Maximum failures = 10%

Programmable features

Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	DipSwitch	900 mA	

Non-programmable features

Specification item	Value		Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering

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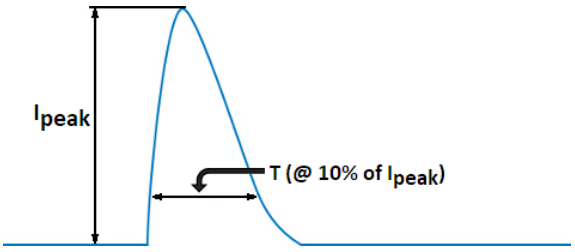
Inrush current

Specification item	Value	Unit	Condition
Inrush current	10.8	A	Input voltage 120V
Inrush current	25.8	A	Input voltage 277V
Inrush peak width	5.8	µs	Input voltage 120V, measured at 10% height
Inrush peak width	6.1	µs	Input voltage 277V, measured at 10% height



Surge immunity

Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	2.5	kV	ANSI Surge Type 100kHz Ring Wave (w/t 30 ohm)
Mains surge immunity (comm. mode)	2.5	kV	ANSI Surge Type 100kHz Ring Wave (w/t 30 ohm)

Approbation

Specification item	Value
Approval Marks / Agency Approbations	NOM / RoHS / UL Class P / UL Listed US & Can
EMI standards	FCC Title 47 Part 15; Class A
Environmental protection rating	UL damp & dry
Audible Noise	<24dB Class A

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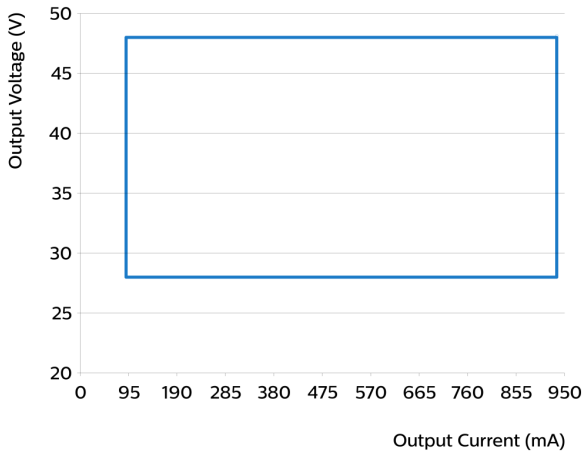
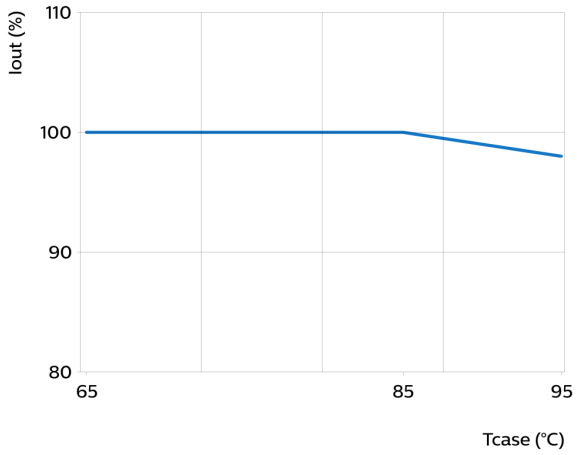
Graphs

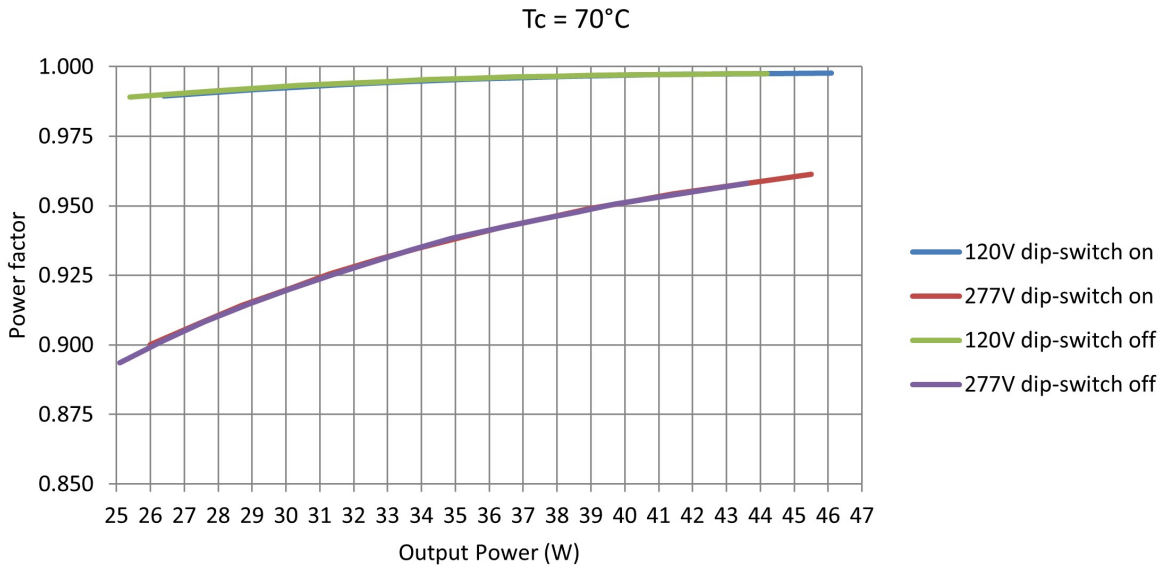
Operating window



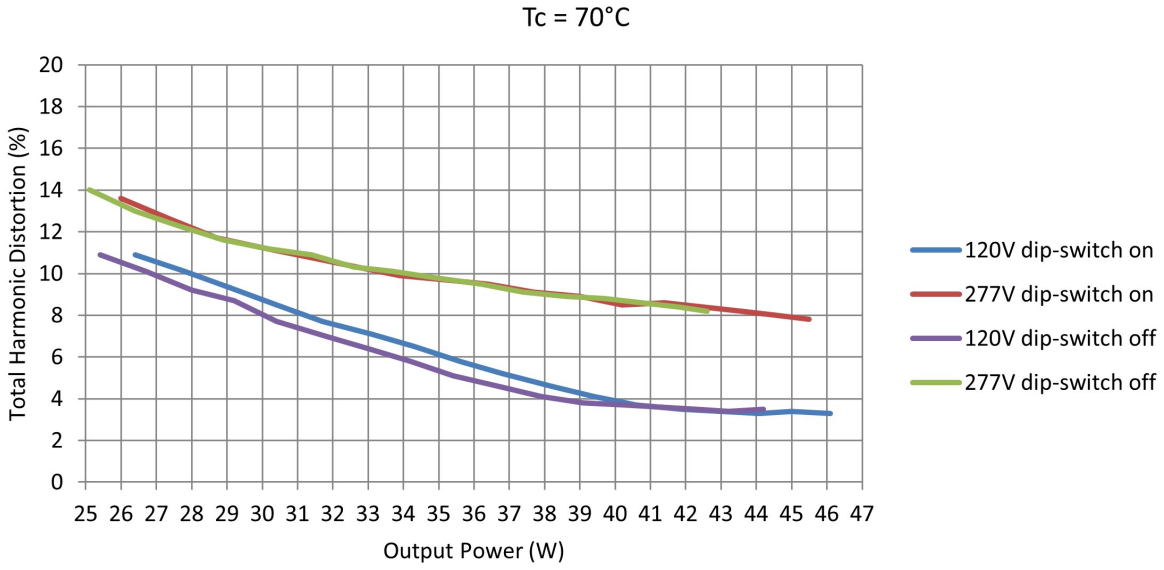
Over Temperature Protection



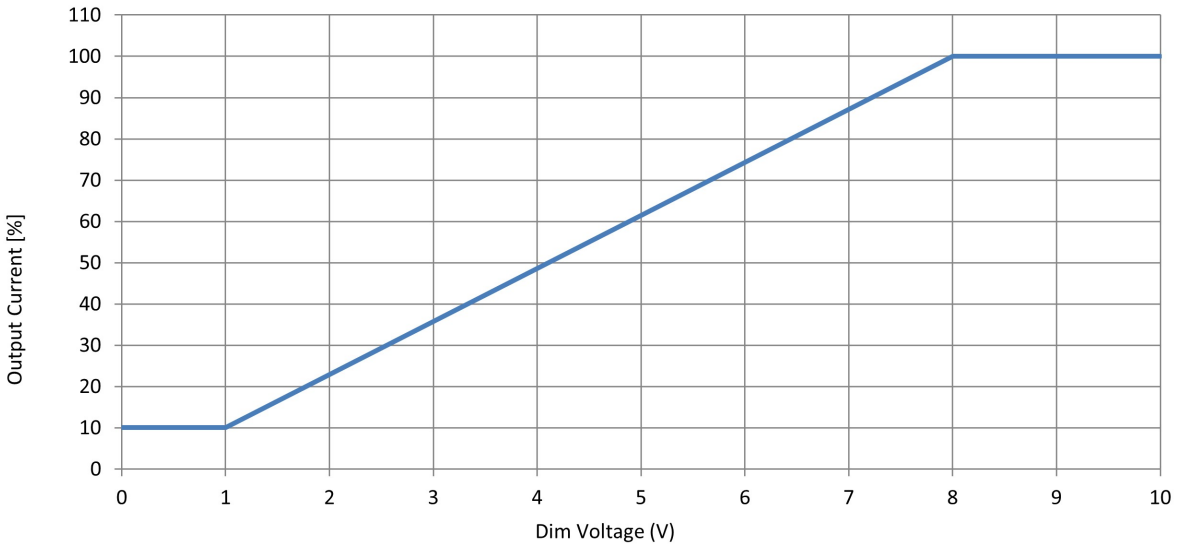
Power factor versus output power



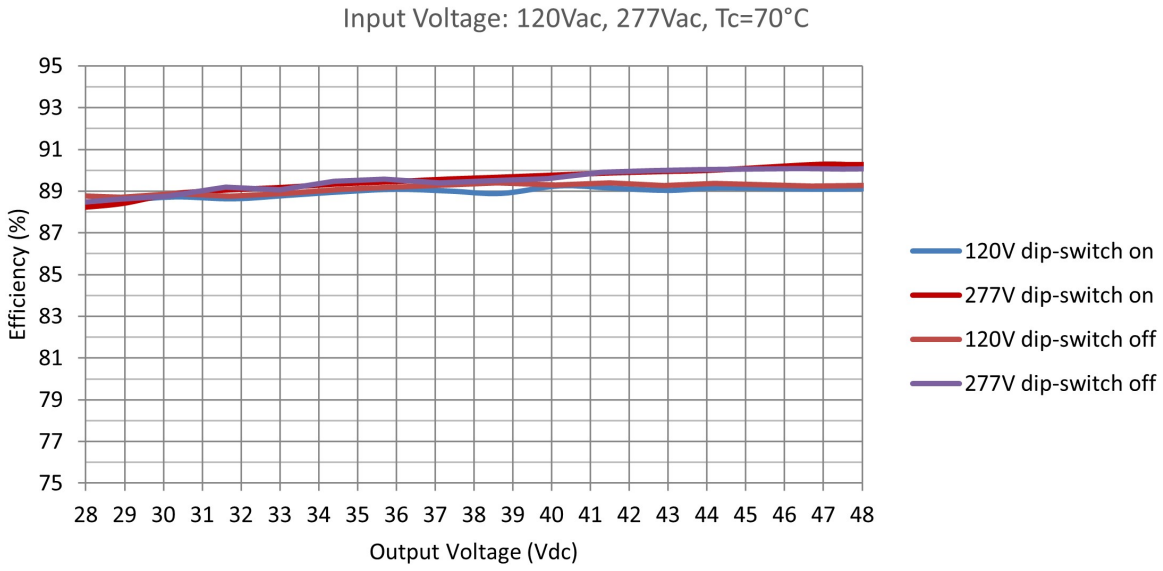
THD versus output power



I_out as function of 0-10V interface



Efficiency as function of V_{out}



Appendix

Approved Dimmer List

Manufacturer	Manufacturer Part Number
Lutron	Visit www.lutron.com/
Leviton	IllumaTech IP7 series
Philips	Sunrise - SR1200ZTUNV

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