LED Driver
USCI Square Top

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Highlights & Features

- Constant current design
- Universal AC input voltage from 120-277Vac
- Wide operating temperature range -25°C to +55°C
- Class 2 Output
- Dry / Damp location

Safety Standards

c UL us E336604 Class 2

Dimensions (L x W x H):

USCI-020070DAA USCI-030070DAA USCI-020105DAA USCI-050105DAA USCI-050105FAA	82.9 x 75.4 x 31.5 mm (3.26 x 2.97 x 1.24 inch)

General Description

Delta LED drivers come in different series to suit different application. USCI Square Top series offers the capability to achieve different level of LED brightness via 1-10V Dim. The products are designed and rigorously tested to work with various indoor LED lighting conditions.

Model Information

USCI Square Top LED Driver

Model Number	Input Voltage Range	Rated Output Voltage	Rated Output Current	Rated Output Power
USCI-020070DAA	120-277Vac Typical 108-305Vac Range	14-30Vdc	700mA	20W
USCI-030070DAA		28-44Vdc	700mA	30W
USCI-020105DAA		10-19Vdc	1050mA	20W
USCI-050105DAA		29-48Vdc	1050mA	50W
USCI-050105FAA		29-48Vdc	1050mA	50W

Model Numbering

US	C	I	–	□□□	□□□	□	A	A
Safety Approval – UL,	Constant current	Indoor		Output Power 020: 20W 030: 30W 050: 50W	Output Current 070: 700mA 105 – 1050mA	F: Fix output current D: Dimming output current	A: Top	Variable A – Delta Standard

All parameters are specified at 25°C ambient for all products unless otherwise indicated.
www.DeltaPSU.com (July 2019, Rev. 00)

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Specifications

Model Number		USCI-020070DAA	USCI-030070DAA	USCI-020105DAA	USCI-050105DAA	USCI-050105FAA

Input Ratings / Characteristics

Normal Input Voltage		120-277Vac				
Input Voltage Range		108-305Vac				
Normal Input Frequency		50-60Hz				
Input Frequency Range		47-63Hz				
Max. Input Current	120Vac	0.23A	0.33A	0.21A	0.51A	0.51A
Efficiency [1)]	120-277Vac	80%	81%	80%	83%	83%
Inrush Current	277Vac	meet NEMA.410				
Power Factor		Full Load: > 0.9 @ 120-277Vac,				
Total Harmonic Distortion		Full Load: THD < 20% @ 120-277Vac				
Leakage Current		< 0.5mArms @ 277Vac				

1) 100% Load (typical) and tested after 30 minutes warm up.

Output Ratings / Characteristics

Output Voltage Range	14-30Vdc	28-44Vdc	10-19Vdc	29-48Vdc	29-48Vdc
Max. No Load Output Voltage	35Vrms	48Vrms	25Vrms	56Vrms	56Vrms
Output Power Range	20W	30W	20W	50W	50W
Rated Output Current	700mA	700mA	1050mA	1050mA	1050mA
Current Accuracy	± 10% (@ Typical output current range)				
Line Regulation	± 5% (@ 120-277Vac input)				
Load Regulation	± 5% (@ Min-Max output voltage)				
Output Current Ripple	30% (ripple = peak-average/average) at full load & @120V/277V 60Hz				
Start-up Time	1000ms max. @ 120-277Vac (full load)				

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Mechanical

Casing		Metal Sheet, Color: Black				
Dimensions (L x W x H)	[mm]	82.9*75.4*31.5				
	[inch]	3.26*2.97*1.24				
Unit Weight	[kg]	0.40				
	[lb]	0.88				
Cooling System		Convection				
Input Wire		Line: Black, Neural: White, Wire Length 300mm				
Output Wire		Positive: Red, Negative: Blue, Wire Length 300mm				
Dimming Wire		Dim(+): Violet, Dim(-): Gray, Wire Length 300mm				N/A
Noise (90cm distance)		Sound Pressure Level (SPL) < 24dBA				

Environment

Ambient Temperature	Operating	-25°C to +55°C				
	Storage	-40°C to +85°C				
Maximum Case Temperature		+80°C	+85°C	+80°C	+90°C	+90°C
Relative Humidity	Operating	10 to 85% RH (Non-Condensing)				
	Storage	5 to 95% RH (Non-Condensing)				
Environmental Locations		Dry / Damp				

Protections

Over Voltage		35Vrms	48Vrms	25Vrms	56Vrms	56Vrms
		Auto-Recovery when the fault is removed				
Overload / Overcurrent		Auto-Recovery when the fault is removed				
Short Circuit		Auto-Recovery when the fault is removed				
Over Temperature		Auto-Recovery when the fault is removed				

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Reliability Data

Lifetime	50,000 hours at case temp. tc & full load. Refer to “Lifetime VS Case Temperature”				
Lifetime @ tc	+65°C	+70°C	+65°C	+75°C	+75°C

Safety Standards / Directives

Electrical Safety	UL 8750, UL 60950-1 Class 2 Output
Galvanic Isolation	Mains (Input) to Output : 3.75KVac
	Mains (Input) to Case : 3.75KVac
	Output to Case : 0.5KVac
	Output to DIM : 2.25KVac

EMC Compliance

Emissions (CE & RE)	47 CFR FCC Part 15, Subpart B, Class B	
Electrostatic Discharge	IEC 61000-4-2	Air Discharge: 8kV Contact Discharge: 4kV Criteria A[1)] or Criteria B[2)]
Radiated Field	IEC 61000-4-3	80MHz-1GHz, 3V/m with 1kHz Sine Wave / 80% Modulation Criteria A[1)]
Electrical Fast Transient / Burst	IEC 61000-4-4	1KV, Criteria A[1)] or Criteria B[2)]
Surge		7 Strikes 2.5KV Ring wave
Conducted	IEC 61000-4-6	150kHz-80MHz, 3Vrms :Criteria A[1)]
Power Frequency Magnetic Fields	IEC 61000-4-8	3A/Meter : Criteria A[1)]
Voltage Dips	IEC 61000-4-11	100% dip; 0.5 cycle , Criteria A[1)] or Criteria B[2)] 30% dip; 10 cycle, Criteria A[1)] or Criteria B[2)]
Harmonic Current Emission	IEC 61000-3-2	Class C
Voltage Fluctuation & Flicker	IEC 61000-3-3	

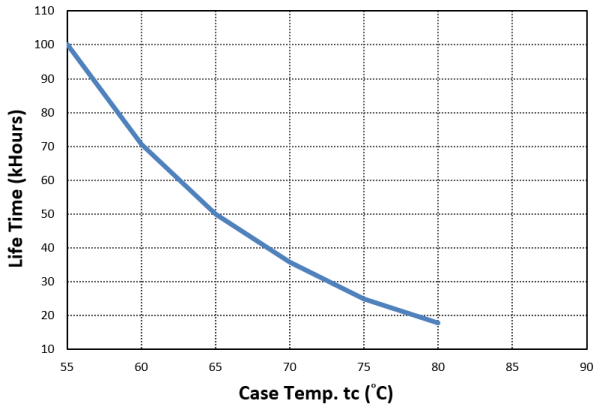
1) Criteria A: Normal performance within the specification limits
2) Criteria B: Temporary degradation or loss of function, which is self-recoverable
3) Asymmetrical: Common mode (Line to earth)
4) Symmetrical: Differential mode (Line to line)

1-10V Dimming Specification

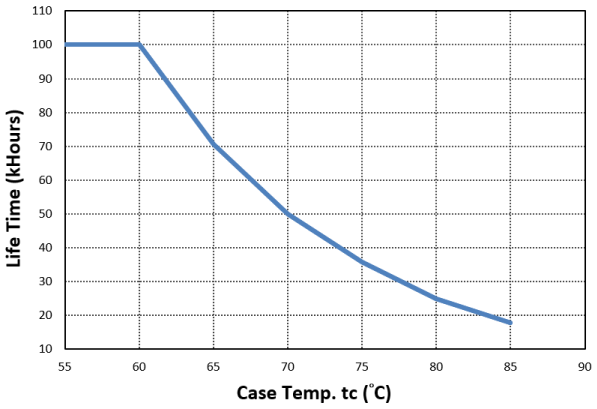
Absolute Maximum Voltage	± 20V	NA
Source Current	275μA ±5%	NA
Dimming Input Range	0-1V : 10% duty , 1-10V: 10~100% duty	NA

Lifetime VS Case Temperature

USCI-020070DAA



USCI-030070DAA



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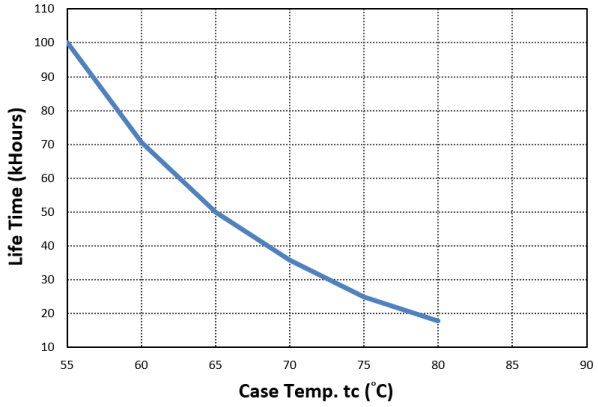

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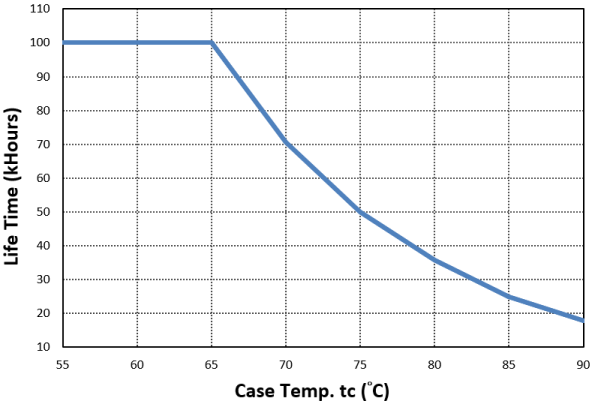

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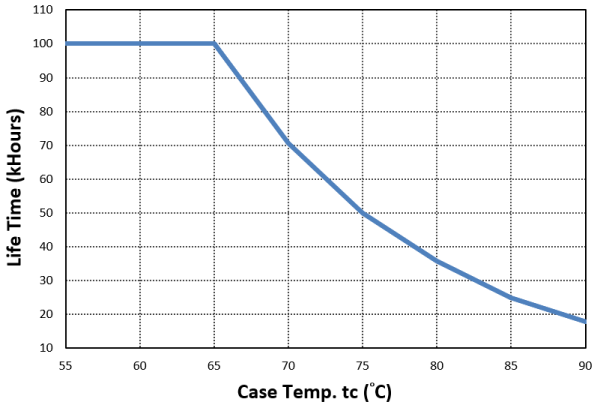

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Dimensions

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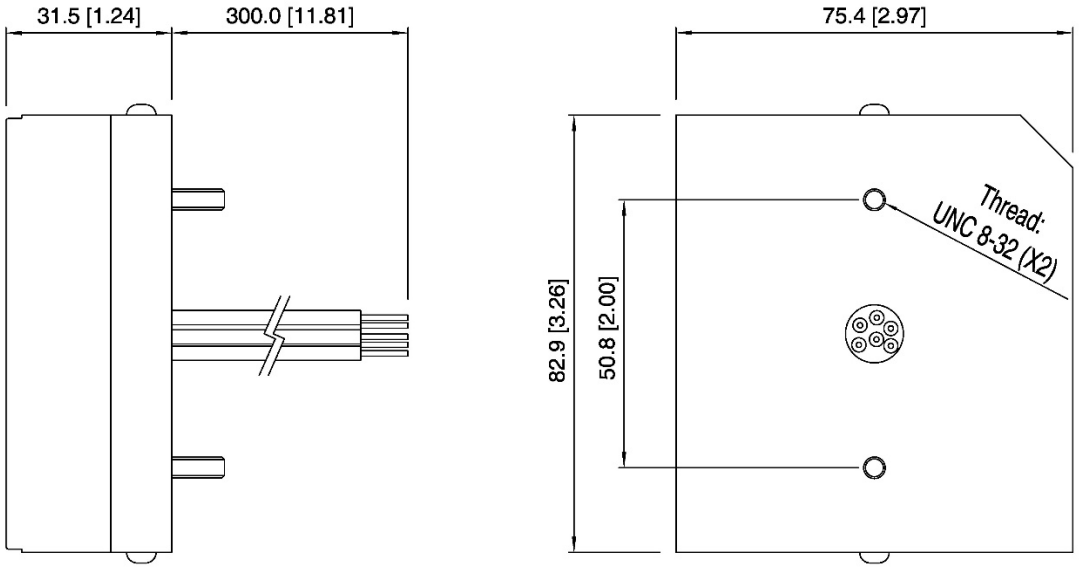

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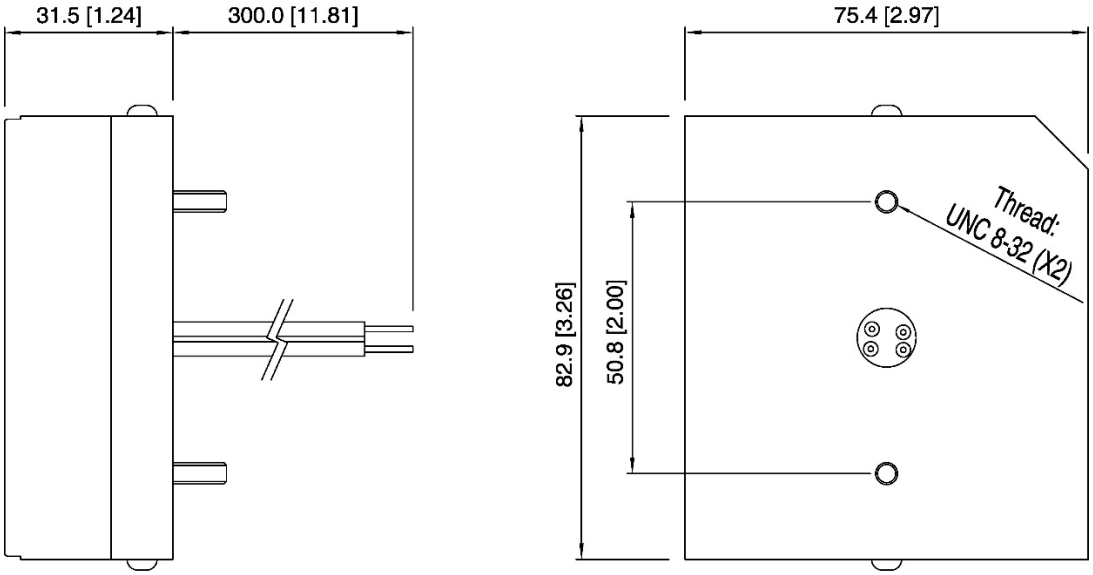

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