

# LED Driver

## USCT LINEAR Series

# USCT LINEAR



### Highlights & Features

- Constant current design
- Universal input voltage from 110-277Vac
- Up to 90% efficiency
- Adjustable constant current level through DALI tool
- DALI-2 and 1% -100% dimming range
- Two channels output current design for tunable white applications

### Safety Standards



### Dimensions (L x W x D)

USCT-040105L2A	11.0 x 1.2 x 1.0 inch (280.0 x 30.0 x 25.4 mm)
USCT-040105LA	11.0 x 1.2 x 1.0 inch (280.0 x 30.0 x 25.4 mm)

### General Description

Delta USCT Linear series of output current LED drivers with DALI control comes with affordable and reliable features. Compatible with 25.4mm linear mechanical design and mid-power LEDs from any LED manufacturer. 2 channels output current design for different color temperature lumen application. Meet major North America safety certifications and compliant with FCC and NEMA Immunity/ Emissions/ Harmonic requirements. The products are designed and rigorously tested to work in various indoor LED lighting conditions.

### Model Information

#### USCT Linear LED Driver

Model Number	Input Voltage Range	Rated Output Voltage	Program Output Current Range	Constant Power Current Range
USCT-040105L2A	110-277Vac Typical	20Vdc-50Vdc	350-1050mA	800-1050mA
USCT-040105LA	99-305Vac Range	20Vdc-50Vdc	350-1050mA	800-1050mA

### Model Numbering

US	C	T	-	□□□	□□□	L	□	A
Safety Approval – UL	Constant Current	Metal with Terminal		Output Power 040 – 40W	Max Output Current 105 – 1050mA	Dimming Type L – DALI-2	Output Channel 2 – Two Channels	Serial Number A – Delta Standard

# LED Driver

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### Specifications

Model Number	USCT-040105L2A	USCT-040105LA
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### Input Ratings / Characteristics

Normal Input Voltage		110-277Vac	
Input Voltage Range		99-305Vac	
Normal Input Frequency		50-60Hz	
Input Frequency Range		47-63Hz	
Max. Input Current	110Vac	0.43A	
	277Vac	0.2A	
Efficiency <sup>1)</sup>	277Vac	90% <sup>2)</sup>	90%
Inrush Current (Apk / 50% - μS @ Cold Start)		25A/250us @ 230Vac	
Max. no. of LED Drivers circuit breaker at 230Vac	B16	23 pcs	
Power Factor		> 0.9 @ full load	
Total Harmonic Distortion		THD < 20% with load ≥ 50% @ 110-277Vac input	
Leakage Current		< 0.75mA	
Standby Power		0.5W @ 120Vac, 1W @ 277Vac, Dim to off	

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

2) Tested under the following conditions: 1. CH1= Pmax and CH2=0W. 2. CH1=0W and CH2= Pmax

### Output Ratings / Characteristics

Output Voltage Range <sup>1)</sup>	20-50Vdc	20-50Vdc
Max. No Load Output Voltage	60V	60V
Output Power Range <sup>2)</sup>	CH1+CH2=40W <sup>2)</sup>	One Channel: 40W
Adjustable Output Current Level ( By DALI tool ) <sup>1)</sup>	350-1050mA	350-1050mA
Output Current Dimming Range	1-100%	
Minimum Output Current	10.5mA (Min dim level)	
Current Accuracy	$\pm$ 5% (For 800mA-1050mA output current)	
Line Regulation	$\pm$ 1% (@ 110-277Vac input, for 800mA-1050mA output current)	
Load Regulation	$\pm$ 5% (@ Min-Max output voltage, for 800mA-1050mA output current)	
Output Current LF Ripple	5%, ripple = (peak-average) / average @ full load	
Start-up Time	1500ms max. @ 110-277Vac	

1) Refer to page 5, Operation window drawing: Output Voltage Range

2) Refer to page 5, Operation window drawing: Output Power Range

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Mechanical

Casing	Metal sheet, Color: Natural		
Dimensions (L x W x H)	[inch]	11.0 x 1.2 x 1.0	
	[mm]	280.0 x 30.0 x 25.4	
Unit Weight	[lb]	0.518	0.485
	[kg]	0.235	0.22
Cooling System	Convection		
Input connector	Terminal, 2&3-pole (Line/Neutral)&(PE/DALI1/DALI2), Conductor 0.5~1.5 mm² , Strip length 8.5...9.5mm		
Output connector	Terminal, 4-pole (LED1+/LED1-/LED2+/LED2-), Conductor 0.5~1.5 mm² , Strip length 8.5...9.5mm		Terminal, 2-pole (LED+/LED-), Conductor 0.5~1.5 mm² , Strip length 8.5...9.5mm
Noise (30cm distance)	Sound Pressure Level (SPL) < 24dBA		

Environment

Ambient Temperature	Operating	-30°C to +50°C	
	Storage	-30°C to +85°C	
Maximum Case Temperature	75°C	75°C	
Lifetime Case Temperature	75°C	75°C	
Relative Humidity	Operating	10 to 90% RH (Non-Condensing)	
	Storage	5 to 95% RH (Non-Condensing)	

Protections

Over Voltage	Max. 60V, Auto-Recovery when the fault is removed
Open Load	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
Environmental Locations	For Dry & Damp locations
Suitable for Luminaires Class	Class I.

Reliability Data

Lifetime	50,000 hrs. at lifetime case temperature
MTTF	500,000 hrs.@ 50°C ambient temperature as per Telcordia SR-332



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Safety Standards / Directives

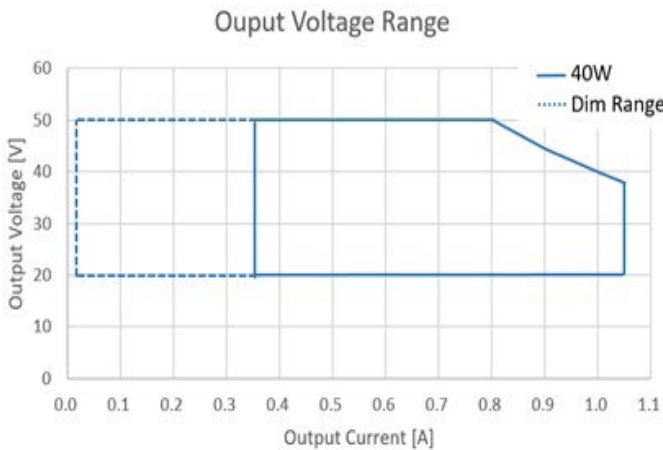
Electrical Safety	- UL8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products - UL/cUL (cRUus) to UL8750 and CAN/CSA-C22.2 No.250.13 - Type TL (75/65 deg. C) - Class 2 of UL 1310 - SELV				
Material and Parts	RoHS Directive Compliant				
Galvanic Isolation		Mains (Input)	Output	DALI	Case
	Mains (Input)	N/A	2,500V	2U+1,000	2U+1,000
	Output	2,500V	N/A	1500V	500V
	DALI	2U+1,000	2U+1,000	N/A	2U+1,000

EMC

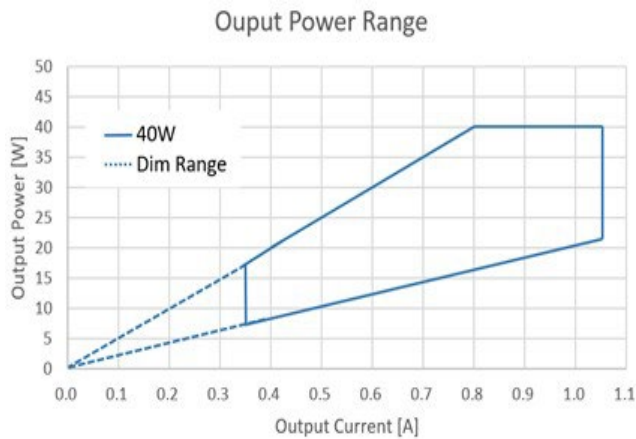
Emissions	47CFR FCC Part 15, Subpart B, Class A
Surge	ANSI C62.41-Category A1 with a 2.5kV/100kA ring wave, Criteria A <sup>1)</sup>

- 1) Criteria A: Normal performance within the specification limits  
2) Criteria B: Temporary degradation or loss of function which is self-recoverable

Operation Window Drawing:



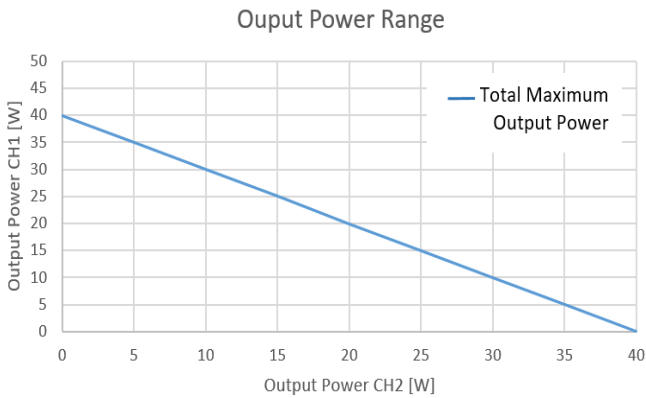
Output Voltage Range



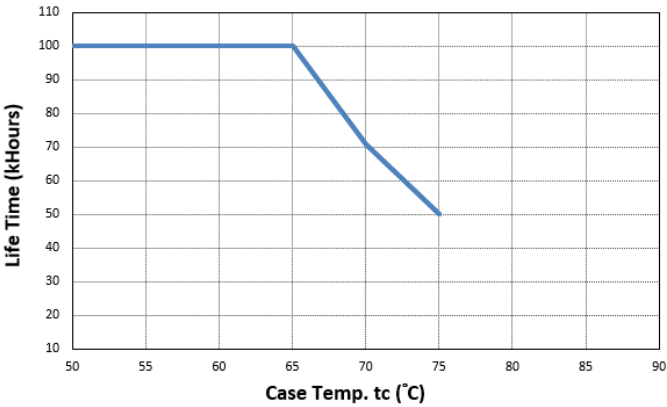
Output Power Range

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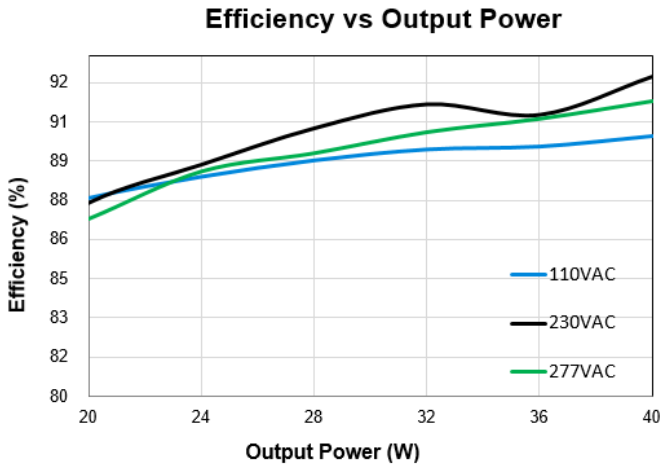
Output Power CH1 V.S. CH2 for USCT-040105L2A



Lifetime VS Case Temperature

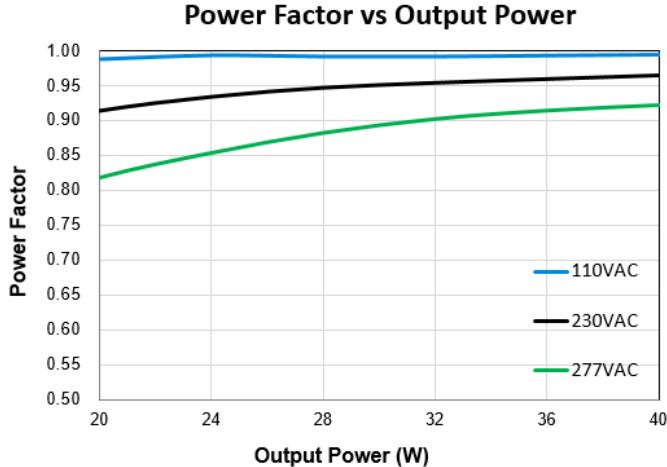
### Efficiency VS Output Power

USCT-040105L2A / USCT-040105LA ( $I_o=800\text{mA}$ )



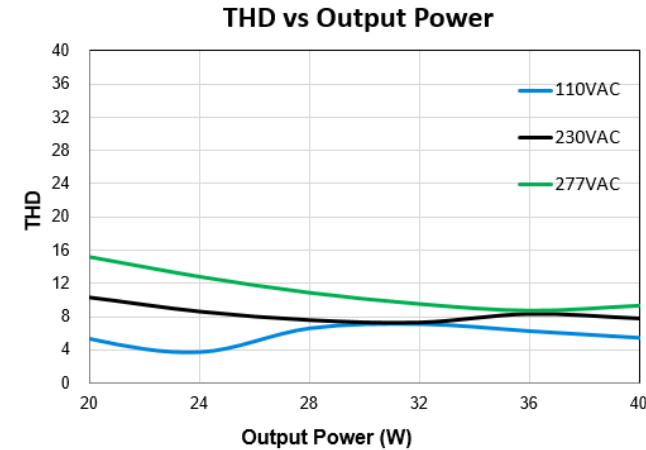
### Power Factor VS Output Power

USCT-040105L2A / USCT-040105LA ( $I_o=800\text{mA}$ )



### Total Harmonic Distortion VS Output Power

USCT-040105L2A / USCT-040105LA ( $I_o=800\text{mA}$ )

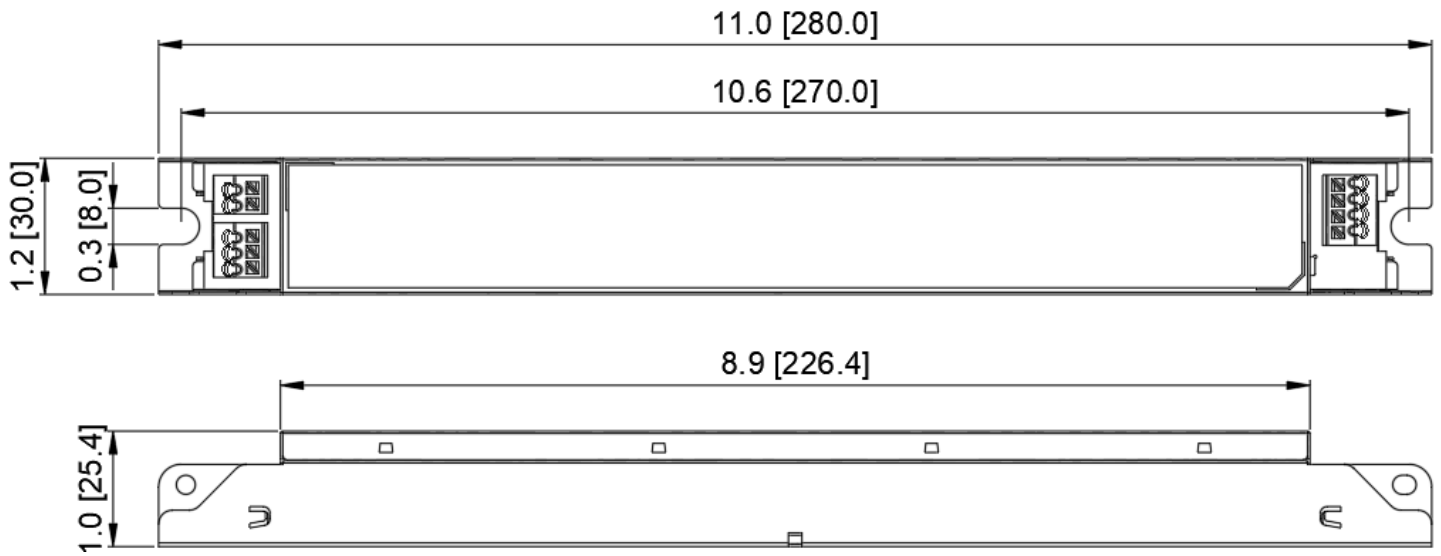


# LED Driver

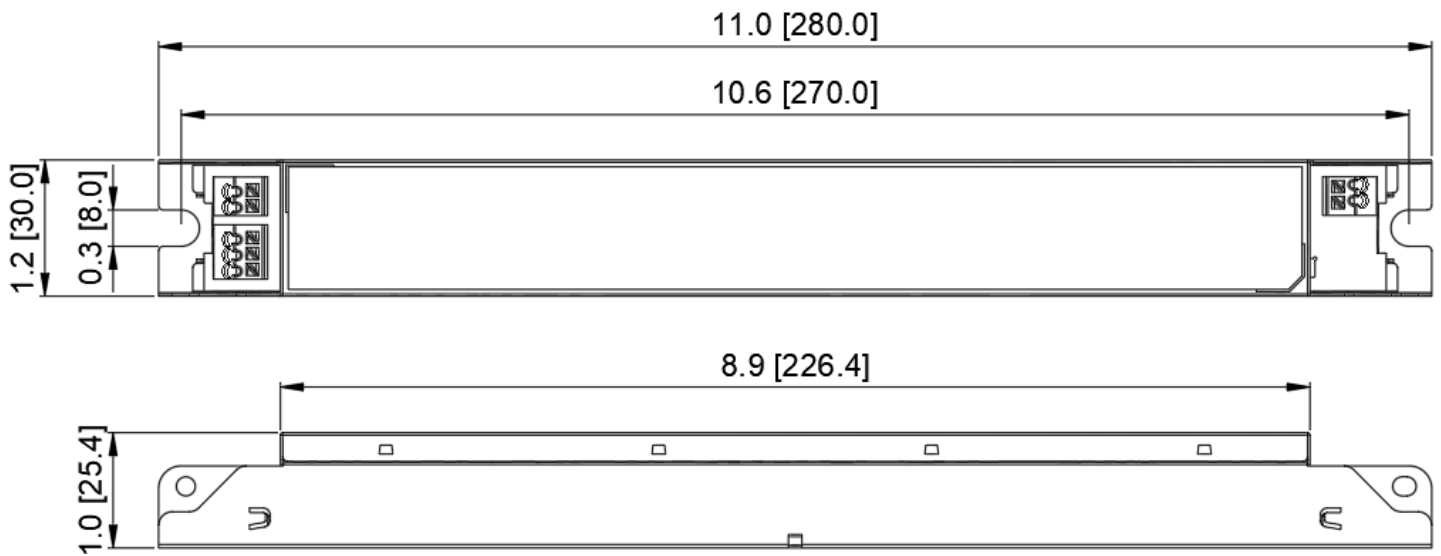
## USCT LINEAR Series

### Dimensions

USCT-040105L2A



USCT-040105LA



Unit: inch [mm]

### Others

#### Warranty Policy

Please reach out our [Warranty Policy](#) should you require any further clarification.

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