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 99-305Vac Range	20Vdc-50Vdc	350-1050mA	800-1050mA
USCT-040105LA		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

All parameters are specified at 25°C ambient for all products unless otherwise indicated.
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Specifications

Model Number	USCT-040105L2A	USCT-040105LA

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 [1]	277Vac	90% [2]	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 [1]	20-50Vdc	20-50Vdc
Max. No Load Output Voltage	60V	60V
Output Power Range [2]	CH1+CH2=40W [2]	One Channel: 40W
Adjustable Output Current Level (By DALI tool) [1]	350-1050mA	350-1050mA
Output Current Dimming Range	1-100%	
Minimum Output Current	10.5mA (Min dim level)	
Current Accuracy	± 5% (For 800mA-1050mA output current)	
Line Regulation	± 1% (@ 110-277Vac input, for 800mA-1050mA output current)	
Load Regulation	± 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 [inch]	11.0 x 1.2 x 1.0	
(L x W x H) [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

ΔELTA

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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[1]

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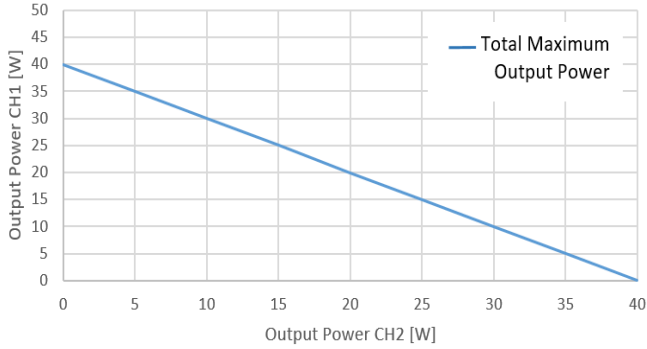
Operation Window Drawing:
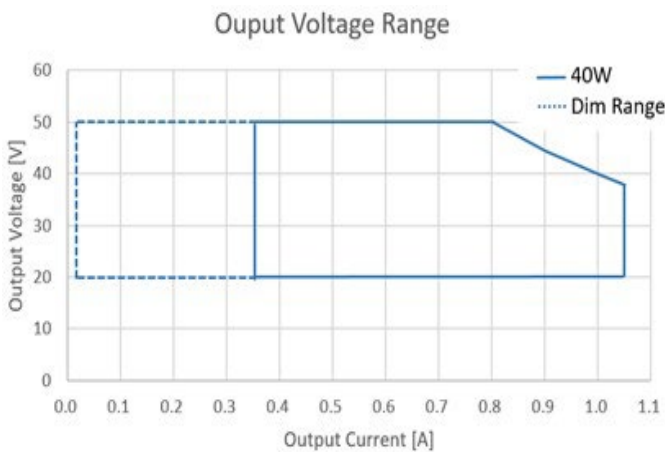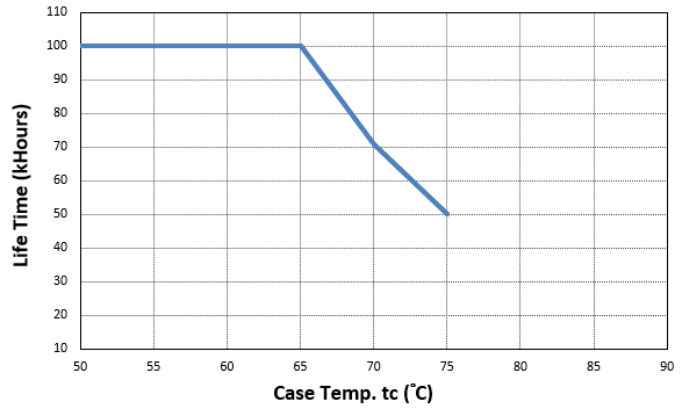

Output Voltage Range
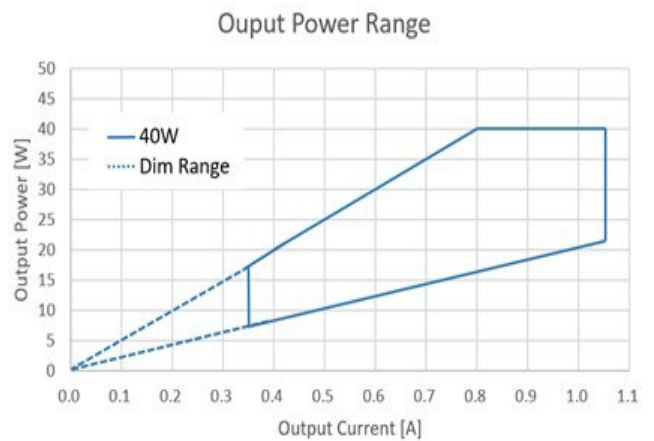
Output Power Range

LED Driver
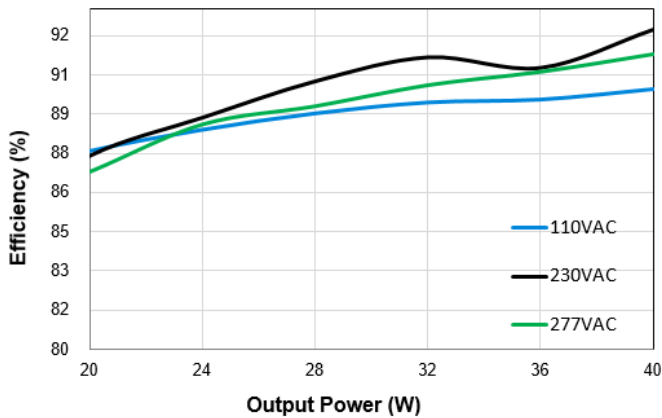## USCT LINEAR Series

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

Lifetime VS Case Temperature

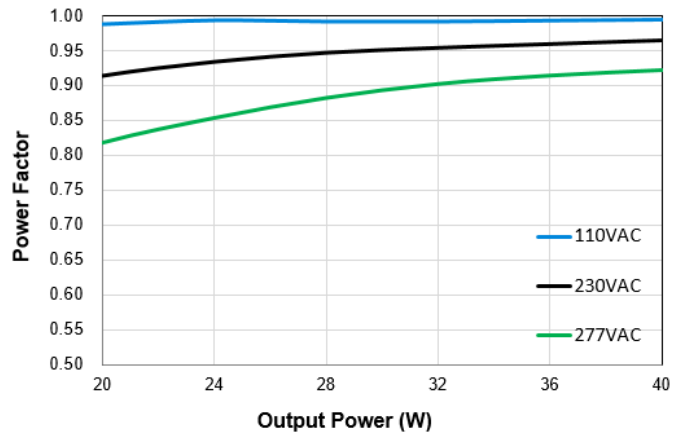### Efficiency VS Output Power

USCT-040105L2A / USCT-040105LA (Io=800mA)

Power Factor VS Output Power

USCT-040105L2A / USCT-040105LA (Io=800mA)

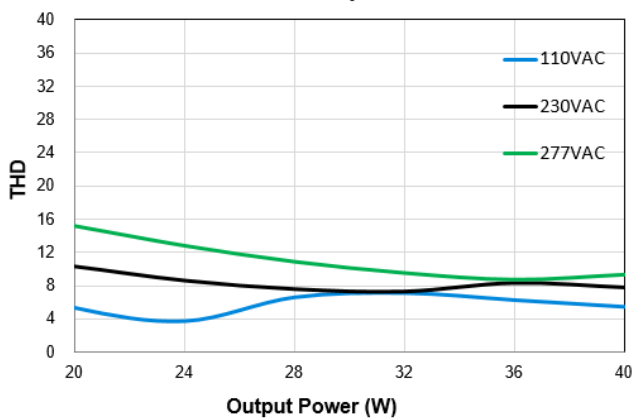### Total Harmonic Distortion VS Output Power

USCT-040105L2A / USCT-040105LA (Io=800mA)

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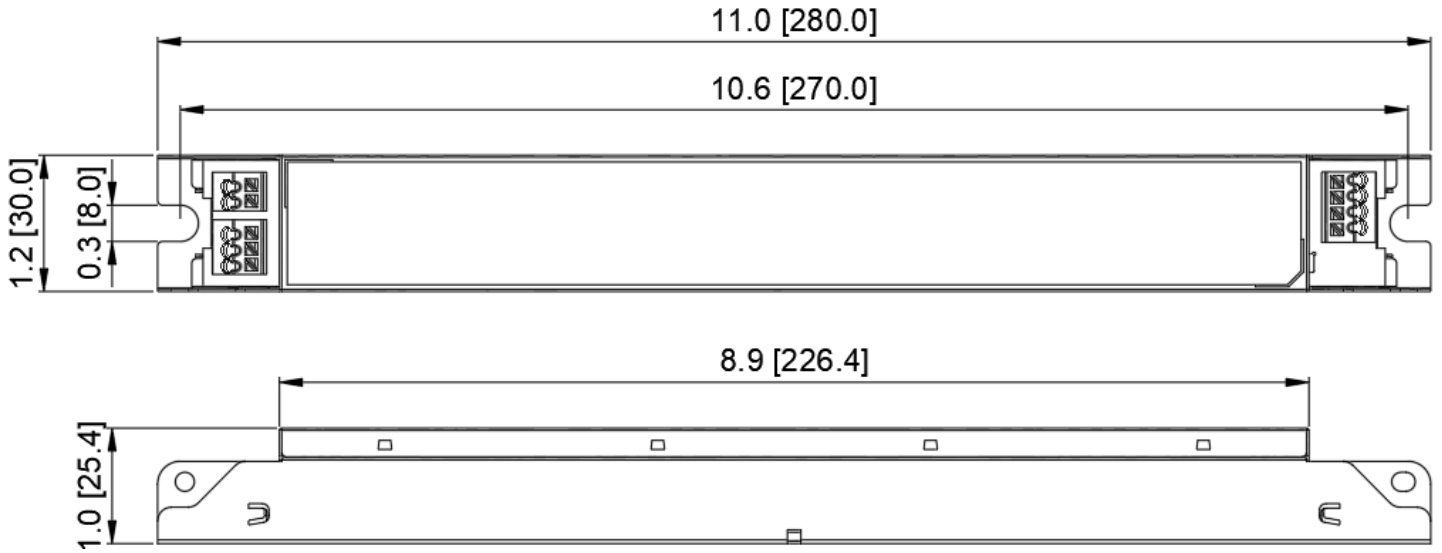**www.DeltaPSU.com (Apr 2024, Rev. 00)**
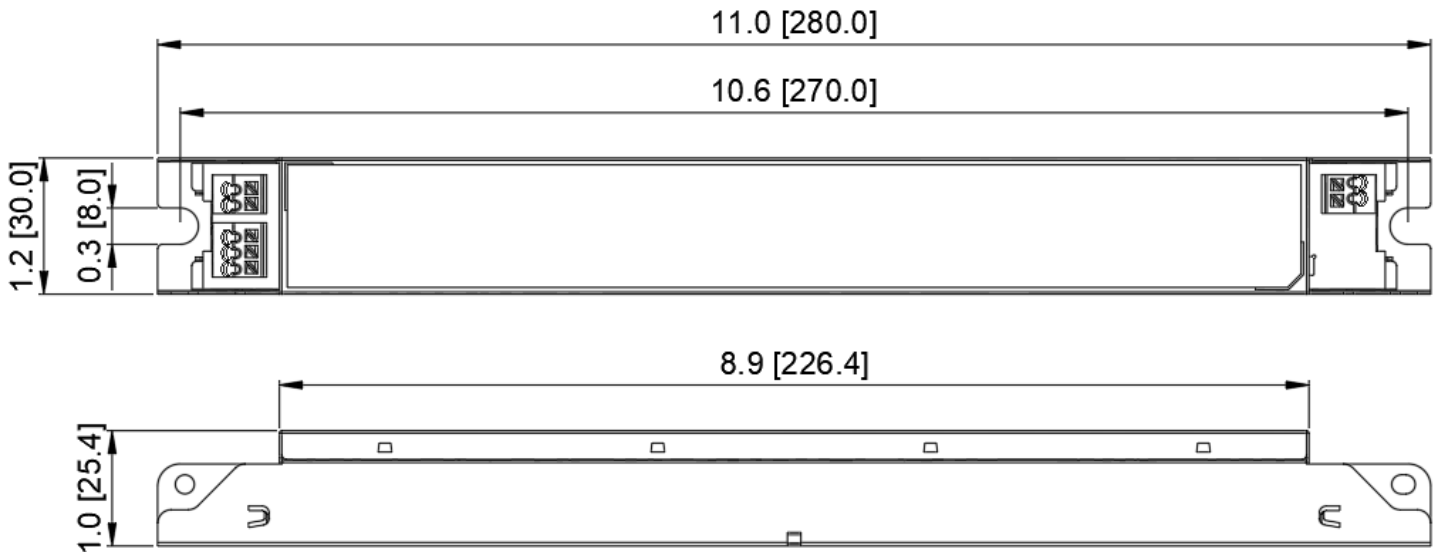
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Dimensions

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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