

LED Driver

USCT L2 Series / USCT-040105L□□

USCT L2

Highlights & Features

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

Safety Standards



Class 2

Dimensions (L x W x D)

USCT-040105L2A	280 x 30 x 25.4 mm (11.02 x 1.18 x 1 inch)
USCT-040105LA	280 x 30 x 25.4 mm (11.02 x 1.18 x 1 inch)

General Description

Delta USCT L2 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. Two 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 DALI 2 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	□□
Safety Approval – UL	Constant current	Metal with terminal		Output Power 040 – 40W	Max Output Current 105 – 1050mA	Dimming Type DALI	Channel Type 2A – Two Channels A – One Channel

LED Driver

USCT L2 Series / USCT-040105L□□

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	0.43A
	277Vac	0.2A	0.2A
Efficiency ¹⁾	230Vac	90% typ	90% typ
Inrush Current (Apk / 50% - μ S @ Cold Start)		25A/50us @ 230Vac	
Max. no. of LED Drivers circuit breaker at 230Vac	B16	23 pcs	
Power Factor		Full Load: > 0.9 @ 110-277Vac,	
Total Harmonic Distortion		THD < 20% with load \geq 50% at 110-277Vac input	
Leakage Current		< 0.7mA peak @ 277Vac	
Standby Power		0.5W @ Dim to off, 120Vac, 1W @ Dim to off, 277Vac	

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

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	\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) at full load	
Start-up Time	1500ms max. @ 110-277Vac (full load)	

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

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

LED Driver

USCT L2 Series / USCT-040105L□□

Model Number	USCT-040105L2A	USCT-040105LA
--------------	----------------	---------------

Mechanical

Casing	Metal sheet, Color: Natural	
Dimensions (L x W x H) [mm] [inch]	280.0 x 30 x 25.4 11.02 x 1.18 x 1.00	280.0 x 30 x 25.4 11.02 x 1.18 x 1.00
Unit Weight [kg] [lb]	0.25 0.55	0.24 0.53
Cooling System	Convection	
Input connector	Terminal, 2&3-pole (Line/Neutral)&(PE/DALI1/DALI2), Conductor 0.5~1.5 mm ² , Strip length 8.5...9.5mm	
Output connector	Terminal, 4-pole (LED1+/LED1-/LED2+/LED2-), Conductor 0.5~1.5 mm ² , Strip length 8.5...9.5mm	Terminal, 2-pole (LED+/LED-), Conductor 0.5~1.5 mm ² , 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. Insulation Class according to IEC 60598

Reliability Data

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

LED Driver

USCT L2 Series / USCT-040105L□□

Safety Standards / Directives

Electrical Safety	- UL8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products - UL/cUL for UL8750 and CAN/CSA-C22.2 No. 250.13 - Type TL (75/65 deg. C) - Class P - Class 2				
Material and Parts	RoHS Directive Compliant				
Galvanic Isolation		Mains (Input)	Output	DALI	Case
	Mains (Input)	N/A	2500V	1500V	1875V
	Output	2500V	N/A	1500V	500V
	DALI	1500V	1500V	N/A	1500V

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⁾

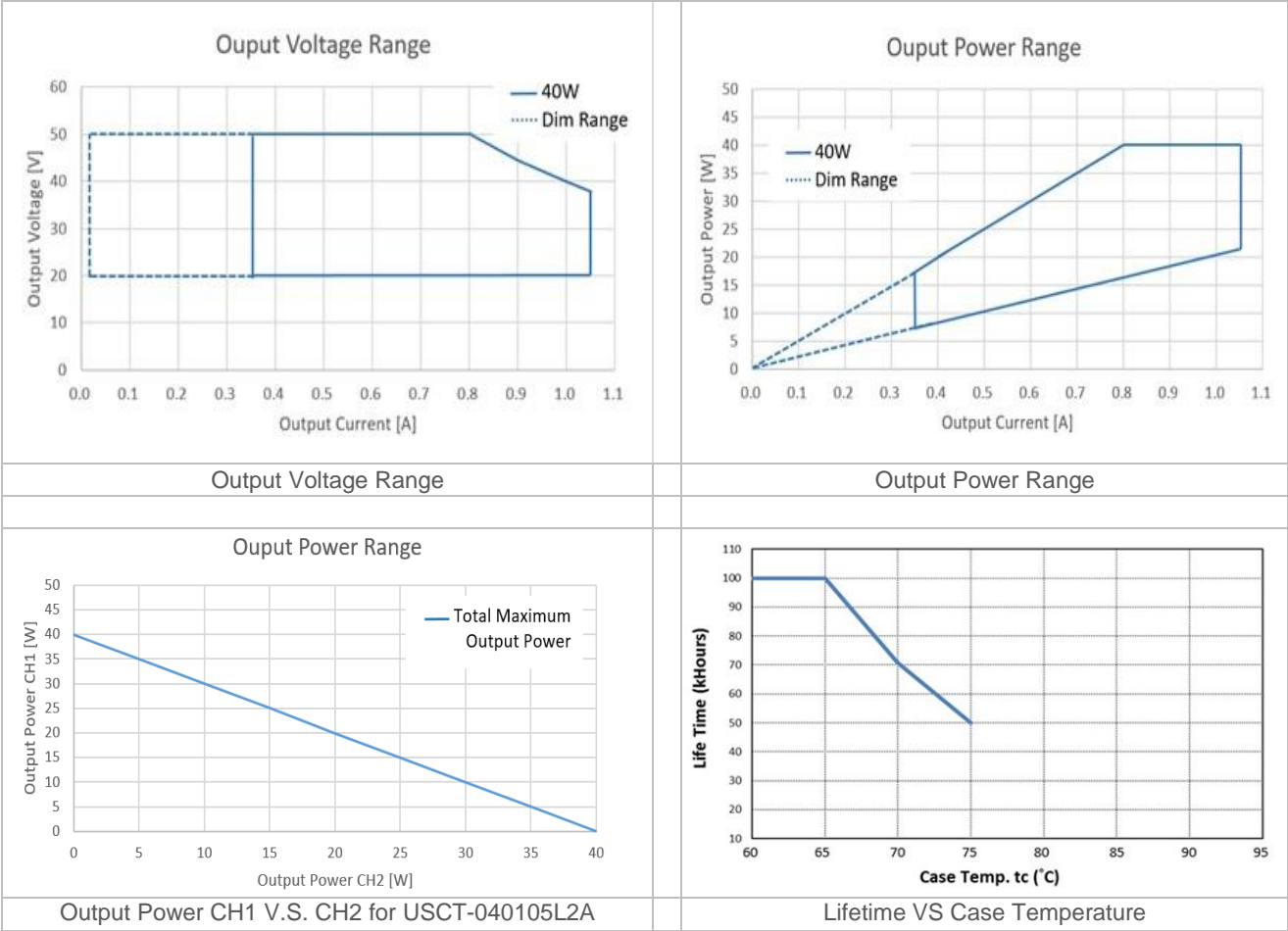
1) Criteria A: Normal performance within the specification limits

2) Criteria B: Temporary degradation or loss of function which is self-recoverable

LED Driver

USCT L2 Series / USCT-040105L□□

Operation Window Drawing:

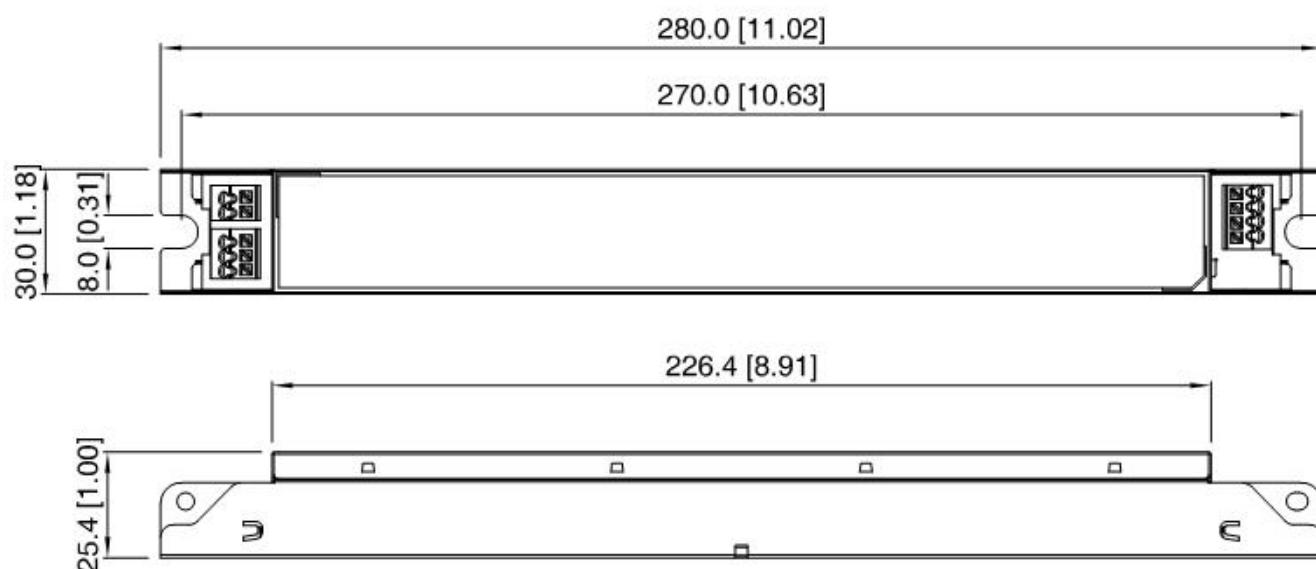


LED Driver

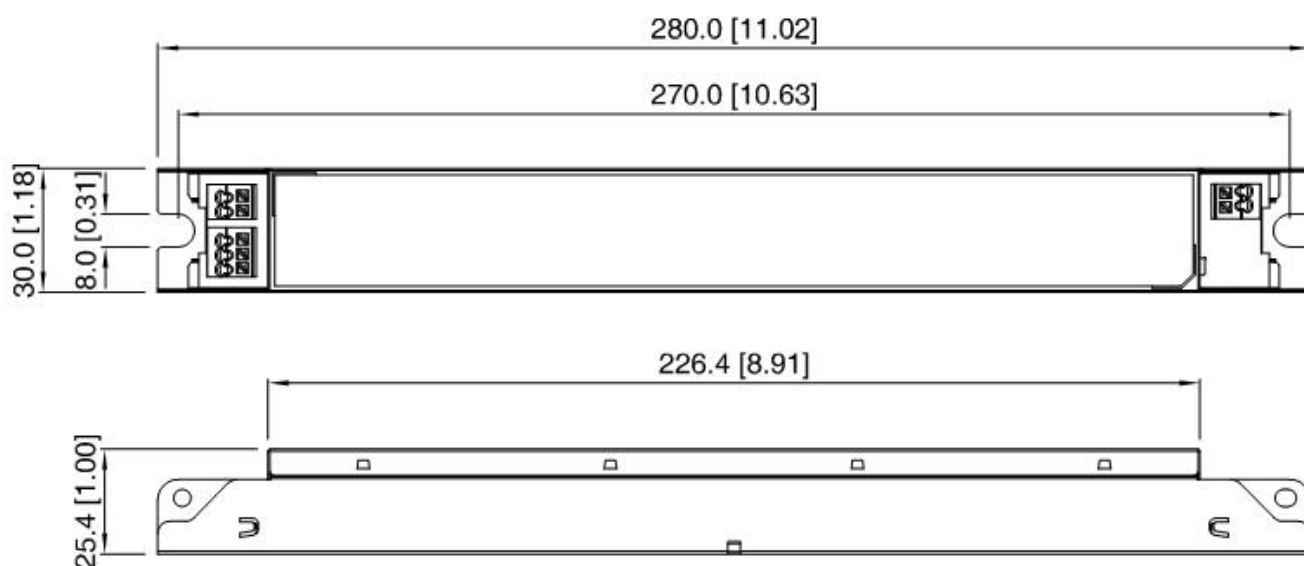
USCT L2 Series / USCT-040105L□□

Dimensions

USCT-040105L2A



USCT-040105LA



Unit: mm [inch]