

USCI PRO

Highlights & Features

- Constant current design
- Universal AC input voltage from 108-305Vac
- High efficiency up to 94%
- Wide operating temperature range -40°C ~ +55°C
- Built-in Active PFC and conforms to harmonic current IEC/EN 61000-3-2, Class C
- Adjustable constant current level through program tool
- Common mode 6kV and differential mode 6kV surge immunity
- Suitable for Dry / Damp location
- UL LISTED, Class P & Type HL

CB Certified for worldwide use

Safety Standards











General Description

Delta LED drivers come in different series to suit different application needs. The USCI-PRO series features program output current level. All the models come in metal casing and major international safety certifications. USCI-PRO series offers the capability to achieve different level of LED brightness via built-in 0-10V dimming function to meet various application and energy optimization needs. The products are designed and rigorously tested to work with various indoor and outdoor LED lighting conditions. Featuring high surge immunity (CM: 6kV, DM: 6kV) and complying to IP52 make Delta USCI-PRO series an essential part of an energy efficient LED lighting power solution for both indoor and outdoor applications.

Model Information

Model Number	Input Voltage Range	Output Voltage	Program Output Current Range	Constant Power Current Range
USCI-075140GA	120-277Vac Typical	36-107Vdc	500 – 1400mA	700 – 1400mA
USCI-100140GA	(108-305Vac) Range	47-143Vdc	600 – 1400mA	700 – 1400mA
USCI-150140GC		72-214Vdc	600 – 1400mA	700 – 1400mA
USCI-200140GA		75-190Vdc	600 – 1400mA	1050 – 1400mA
USCI-200175GA		56-133Vdc	700 – 1750mA	1500 – 1750mA
USCI-200175GLA		56-133Vdc	700 – 1750mA	1500 – 1750mA

Model Numbering

USCI -	000	000	G	A/C,LA
LED Driver	Output Power 075: 75W 100: 100W 150: 150W 200: 200W	Maximum Output Current 140: 1400mA 175: 1750mA	Dimming Type G – Programmable	Variable A or C– 0-10V DIM & +12V/50mA LA: DALI + 12V/100mA (Note: USCI-200175GLA without 12V/100mA)

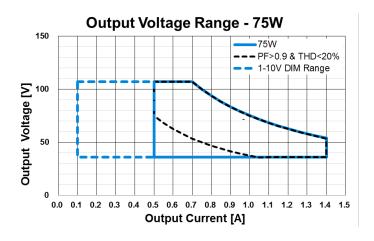


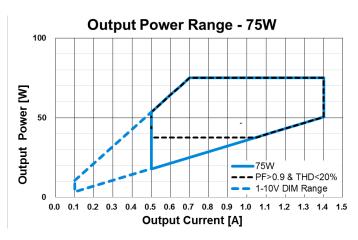
	USCI-075140GA							
Model Number		USCI-100140GA	USCI-150140GC	USCI-200140GA	USCI-200175GA USCI-200175GL/			
Characteri	stics							
oltage	120-277Vac (108-305Vac)							
equency	50-60Hz (47-64Hz)							
	Full Load: PF>0.98@120Vac, PF>0.95@230Vac, PF>0.92@277Vac >70% Load: PF>0.92@220Vac							
Distortion	THD<20% with load	d <u>≥</u> 50% at 120/230Vac	input and load≧75%	at 277Vac input				
Maximum 120Vac Input Current		1.04A	1.53A	2.1A	2.1A			
120Vac	91.0%@0.7A	91.0%@0.7A	91.5%@0.7A	93.0%@1.05A	92.0%@1.05A			
230Vac	92.5%@0.7A	92.5%@0.7A	93.0%@0.7A	94.0%@1.05A	93.5%@1.05A			
277Vac	92.5%@0.7A	92.5%@0.7A	93.0%@0.7A	94.0%@1.05A	93.5%@1.05A			
Inrush Current (Cold Start) @277Vac		80A/250uS	130A/250uS	200A/200uS	200A/200uS			
B16	8	8	5	4	4			
C16	14	12	8	6	6			
Leakage Current		<0.7mA peak @ 277Vac						
	<0.5W @ Dim to off & 230Vac							
ge	Can survive input over-voltage stress of 320VAC for 48 hours and 350VAC for 2 hours							
/ Characte	eristics							
	75W	100W	150W	200W	200W			
	36-107Vdc	47-143Vdc	72-214Vdc	75-190Vdc	56-133Vdc			
utput	120Vrms	150Vrms	250Vrms	230Vrms	160Vrms			
ut Current	500-1400mA	600-1400mA	600-1400mA	600-1400mA	700 – 1750mA			
	With steps of 1 mA, configurable via software							
Current	100mA (Min dim level) (note: 70mA (Min dim level) for GLA)							
Current Accuracy		± 5% (@ Typical output current range)						
Line / Load Regulation		± 1% (@ 120-277Vac input) / ± 3% (@ Min-Max output voltage)						
	†							
F Ripple	5% (ripple = peak-a	iverage/average)						
F Ripple	+		note: 1000ms max for	GLA)				
t g	Distortion 120Vac 230Vac 277Vac Cold Start) B16 C16 ge / Characte	So-60Hz (47-64Hz)	oltage 120-277Vac (108-305Vac) equency 50-60Hz (47-64Hz) Full Load: PF>0.98@120Vac, PF>0.95@270% Load: PF>0.92@220Vac Distortion THD<20% with load≥50% at 120/230Vac	bitage 120-277Vac (108-305Vac) equency 50-60Hz (47-64Hz) Full Load: PF>0.98@120Vac, PF>0.95@230Vac, PF>0.92@2>70% Load: PF>0.92@2220Vac Distortion THD<20% with load≥50% at 120/230Vac input and load≥75%	120-277Vac (108-305Vac)			

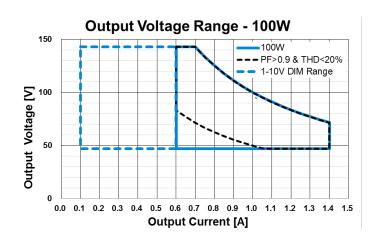
^{1.} Efficiency tested after 30 minutes warm up

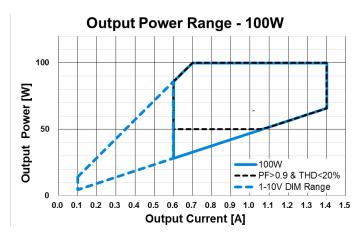


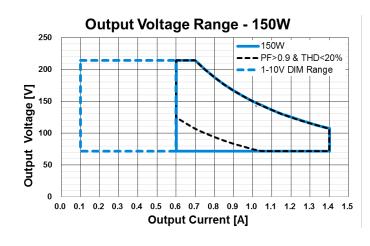
Operational Window

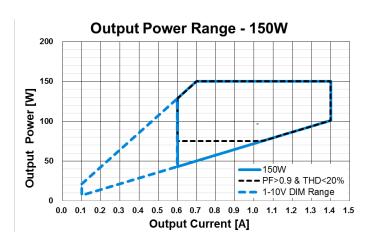








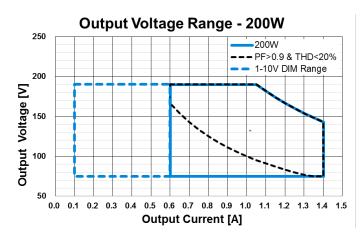


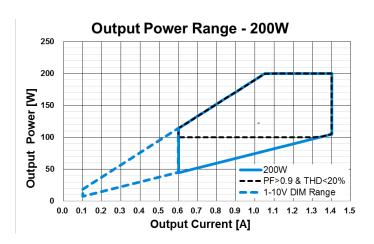




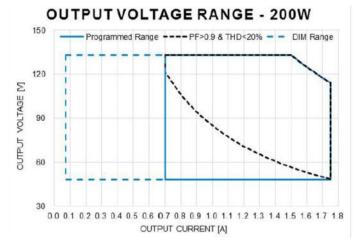
Operational Window

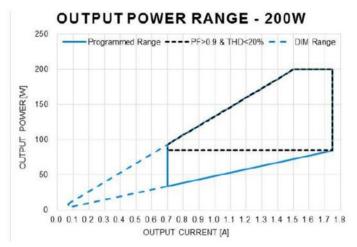
USCI-200140GA





USCI-200175GA/GLA







Model Number						USCI-200175GA USCI-200175GLA		
Mechanical								
Casing		Steel case, color : B	lack					
Dimensions (L inch mm	x W x D)	6.6"x2.36"x1.5" 167.5x60.0x37.5	6.6"x2.36"x1.5" 167.5x60.0x37.5	9.5"x2.36"x1.5" 240.5x60.0x38.0				
Unit Weight (gr	am)	900	900	1100				
Noise (30cm di	stance)	Sound Pressure Level (SPL) < 24dbA						
Wire	Input	L: Black, N: White; U	JL1316 18AWG solid	copper wires Length	300mm			
	Output	Positive: Red, Nega	tive: Blue; NTC/PRG:	Black; wires Length	300mm			
	Dimming	Dim(+): Violet, Dim(-): Gray, +12V: Black	/White; wires Length 3	300mm			
Environment								
Ambient	Operating	-40°C to +65°C ((+55deg for full load and +65deg for de-rating))						
Temperature	Storage	-40°C to +85°C						
Maximum Case Temperature		+85°C	+80°C	+85°C	+90°C			
Power De-rating		> 55°C de-rating power & < 120Vac de-rating power "OUTPUT LOAD VS INPUT VOLTAGE" & "OUTPUT LOAD VS AMBIENT TEMPERATURE"						
Humidity	Operating	10 to 90% RH (Non-Condensing)						
	Storage	5 to 95% RH (Non-Condensing)						
Shock Test (No Operating)	on-	IEC 60068-2-27, Half Sine Wave: 50G for a duration of 11ms, 3 shocks for each 3 directions						
Vibration (Non-	Operating)	IEC 60068-2-6, Random: 5Hz to 500Hz (2.09G); 20 min per axis for all X, Y, Z direction						
Protections								
Over Voltage		108-120Vdc	144-160Vdc	215-250Vdc	191-230Vdc	56-133Vdc		
		Auto-Recovery when the fault is removed						
Over Load Reduce output current. Auto-Recovery when to				hen the fault is remov	ed			
Over Temperat	ure	Reduce output current. Auto-Recovery when the fault is removed						
Output Short C	ircuit	Auto-Recovery when the fault is removed						
Suitable for Lur Class	minaires	Class II. Insulation Class according to IEC60598						
Reliability Dat	a	1						
Lifetime 50,000 hours at case temp & full load. Refer to "LIFETIME VS CASE TEMPERATURE" or "LIFE VS AMBIENT TEMPERATURE"					RE" or "LIFETIME			
MTBF		500 khours at +45°C ambient temperature, Telcordia SR-332.						



Model Number		USCI-075140GA	USCI-1001	40GA	USCI-150140GC	USCI-200140GA	USCI-200175GA USCI-200175GLA		
Certificate	s and standards								
Safety		CB scheme to IEC 61347-1, IEC 61347-2-13 (Built-in) EN 61347-1, EN 61347-2-13 UL/cUL (cRUus) to UL 8750 Compliance to IEC/EN/UL 60950-1 SELV for 75W UL LISTED, Class P & Type HL							
CE		In conformance with	In conformance with EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC						
Galvanic Isolation		Mains (Input)	Earth (Cas	e)	Output/PROG	DIM +/- & +12V (DALI)			
isolation	Mains (Input)	N/A	3750V		3750V	3750V			
	Earth (Case)	3750V	N/A		3750V	3750V			
	Output/PROG	3750V	3750V		N/A	1875V			
	DIM +/- &+12V	3750V	3750V		1875V	N/A			
EMC Com	pliance								
EMC / Emissions Compliance to EN 550		55015:2013 C	2013 Class B; 47 CFR FCC Part 15, Subpart B, Class B						
Immunity to		Compliance to EN 61547:2009							
Electrostatic Discharge		IEC 61000-4-2:2008 ED.2.0		ESD, Criteria A ¹ or B ² Air Discharge: 8kV Contact Discharge: 4kV					
Radiated Field IEC 61000-4-3:201		0 ED.3.2	RS, Criteria A ¹ 80MHz-1GHz, 3V/m with 1kHz Sine Wave / 80% AM Modulation			Sine Wave / 80%			
Electrical Fast Transient IEC 61000-4-4:2012 ED.3.0 /Burst		2 ED.3.0	EFT, Criteria A ¹ or B ² 1kV						
Surge		IEC 61000-4-5:2014 ED.3.0		Criteria A ¹ or B ² Common Mode ³ : 6kV; Differential Mode ⁴ : 6kV,1.2/50µs, 8/20µs Combination Wave with 2ohms (L-N), 12ohms (L-PE & N-PE) source impedance					
Conducted		IEC 61000-4-6:2013 ED.4.0		CS, Criteria A¹ 150kHz-80MHz, 3Vrms					
Power Frequency Magnetic Fields		IEC 61000-4-8:2009 ED.2.0		PFMF, Criteria A¹ 3A/Meter					
Voltage Dips IEC 61000-4-11:2004 ED.2.0		Criteria A ¹ or B ² ; 100% dip; 0.5 cycle; Self Recoverable 30% dip; 10 cycle; Self Recoverable							
Harmonic Current IEC 61000-3-2:2014 Emission		Class	C (230Vac @ ≥ 50%	load)					
Voltage Fluctuation & IEC 61000-3-3:2013 Flicker		3							

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



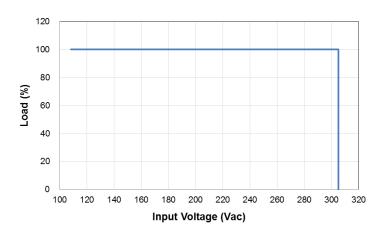
Model Number	USCI-075140GA	USCI-100140GA	USCI-150140GC	USCI-200140GA	USCI-200175GA USCI-200175GLA			
0-10V Dimming Specifica	0-10V Dimming Specification							
Absolute Maximum Voltage	+/- 20V							
Source Current	200uA +/- 50uA							
Dimming Input Range	 0-10V, 1.2V (+/-0.1V) is 10% of lo_set or 100mA minimum,≥8.5V is 100% of lo_set. Lower than 1.1V (+/-0.1V) → Dim to off is programmable. 0.1V Hysteresis. Short is 0% (dim to off) Open is 100% See 0-10V Dimming Curve 							
Dimming Current Tolerance	+/- 10% of maximum setting output current. Ex. Io_set=1000mA, tolerance is +/-100mA.							
Default settings of the dri	Default settings of the driver (can be changed with programmer tools)							
Adjustable Output Current (AOC)	700mA	700mA	700mA	1050mA	1500mA			
0-10V DIM	Enabled (DIM to OFF). Selectable for Min. Dim Level and Min. & Max. Dim Voltage though Tools							
Smart Time DIM	Disabled (Only one function will be enabled between 0-10V & Smart Time Dim)							
Module Temperature Protection (MTP)	Disabled. Settable though programmable tools							
Constant Lumen Output (CLO)	Disabled. Settable though programmable tools.							
End of Life indication (EOL)	Disabled. Settable though programmable tools							
DALI	DALI-2, According IEC 62386 -101/102/207							
Auxiliary Output Voltage (except to USCI-200175GLA)								
+12V Output Range	+12Vdc (10.8 – 13.2Vdc)							
+12V Output Current	50mA							
Maximum Output Power	0.6W							



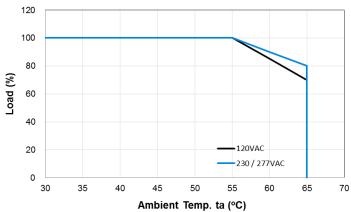
LED Driver

USCI PRO Series

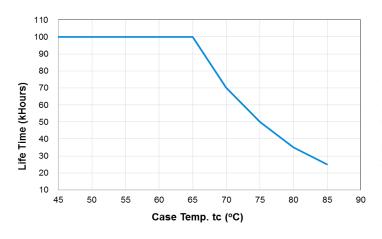
OUTPUT LOAD VS INPUT VOLTAGE



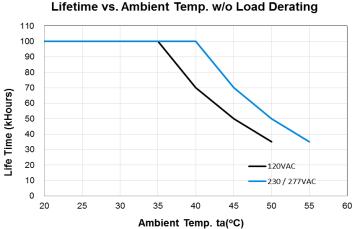
OUTPUT LOAD VS AMBIENT TEMPERATURE



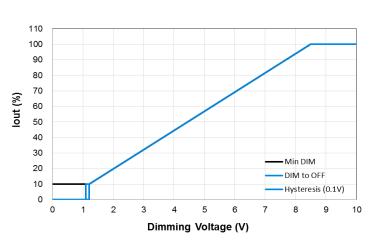
LIFETIME VS CASE TEMPERATURE



LIFETIME VS AMBIENT TEMPERATURE



DIMMING CURVE

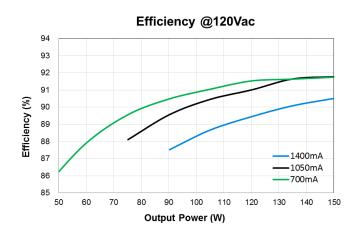


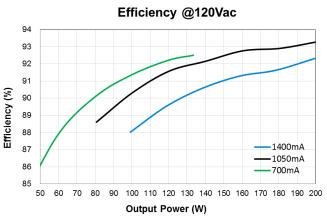


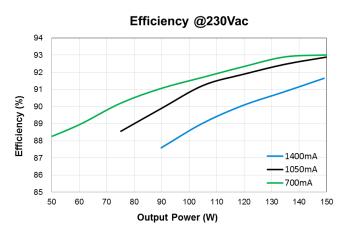
EFFICIENCY versus OUTPUT POWER

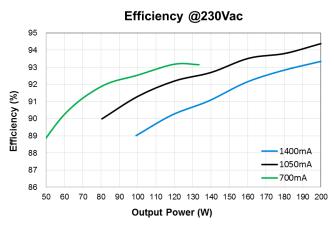
USCI-075140GA - 75W

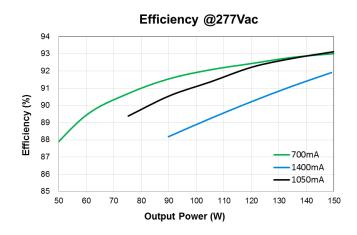
USCI-100140GA - 100W

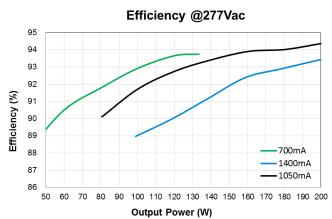










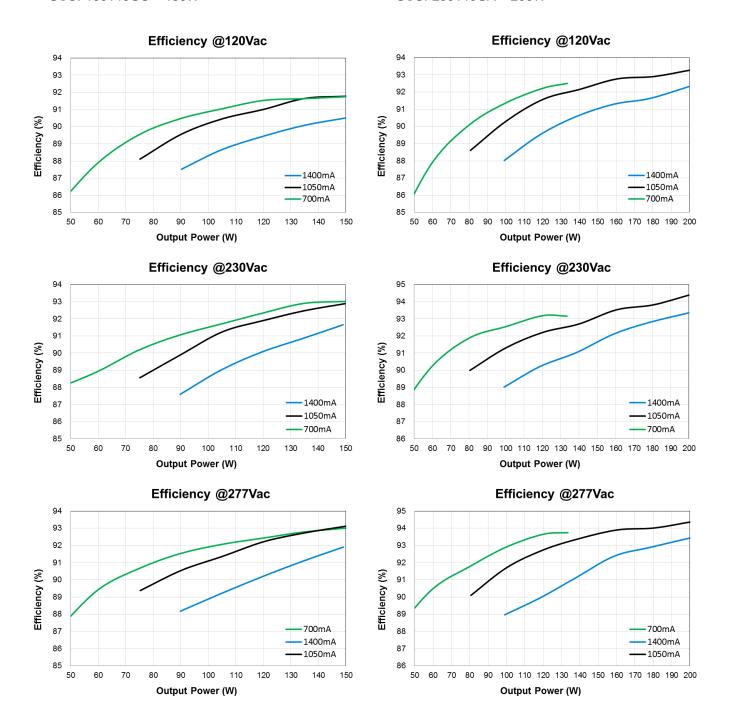




EFFICIENCY versus OUTPUT POWER

USCI-150140GC - 150W

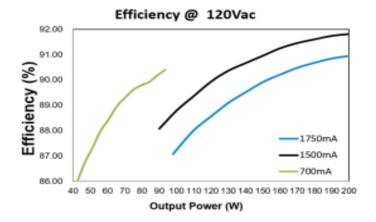
USCI-200140GA - 200W

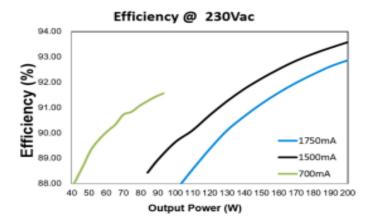


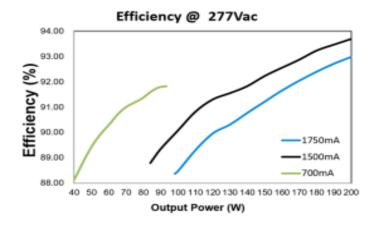


EFFICIENCY versus OUTPUT POWER

USCI-200175GA/GLA - 200W



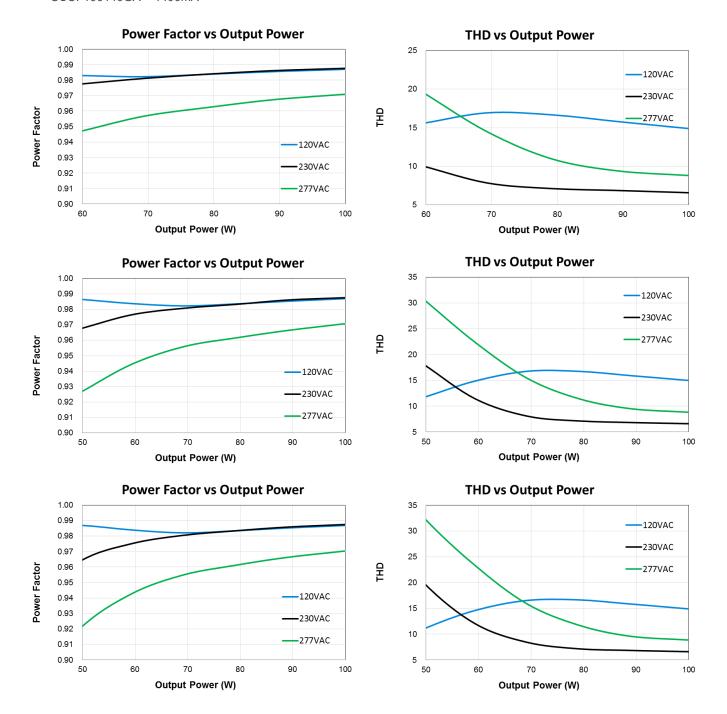






- POWER FACTOR versus OUTPUT POWER
- TOTAL HARMONIC DISTORTION versus OUTPUT POWER

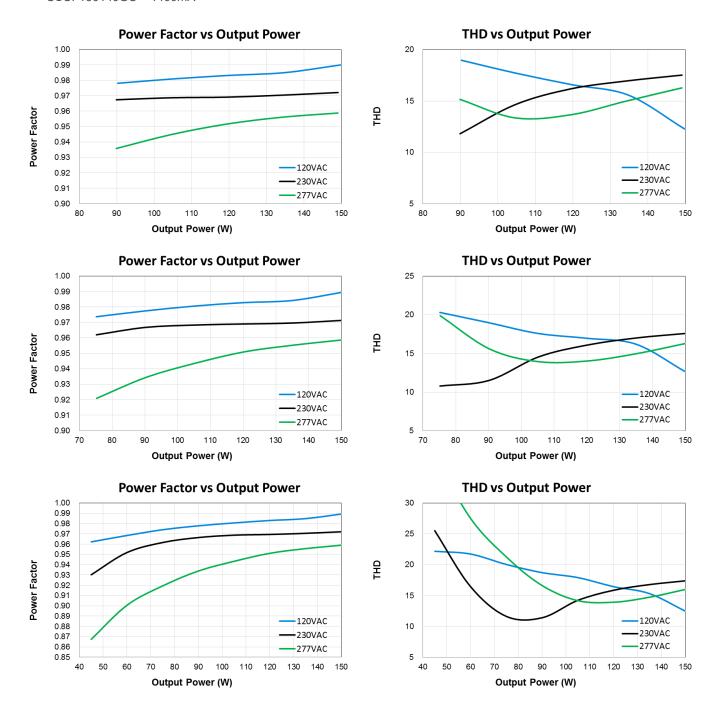
USCI-100140GA – 1400mA





- POWER FACTOR versus OUTPUT POWER
- TOTAL HARMONIC DISTORTION versus OUTPUT POWER

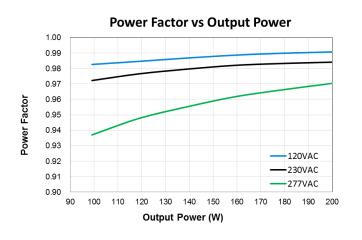
• USCI-150140GC - 1400mA

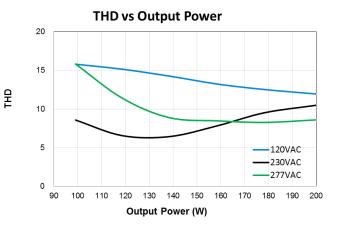




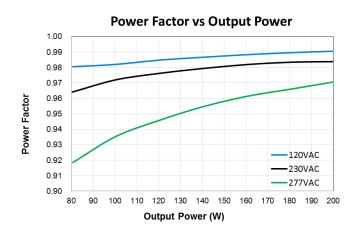
- POWER FACTOR versus OUTPUT POWER
- USCI-200140GA 1400mA

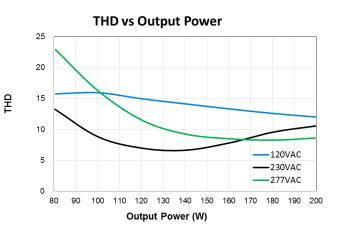
 TOTAL HARMONIC DISTORTION versus OUTPUT POWER



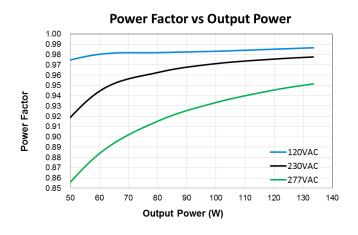


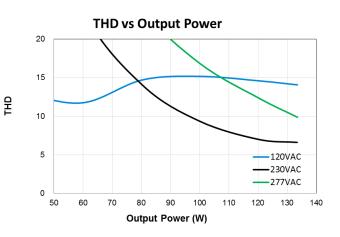
USCI-200140GA – 1050mA





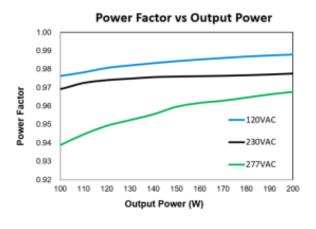
USCI-200140GA – 700mA



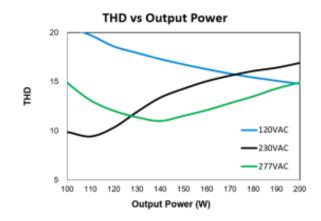




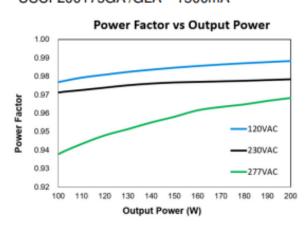
- POWER FACTOR versus OUTPUT POWER
- USCI-200175GA/GLA 1750mA



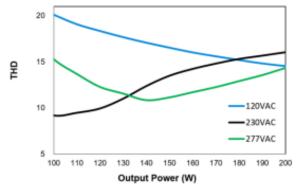
 TOTAL HARMONIC DISTORTION versus OUTPUT POWER



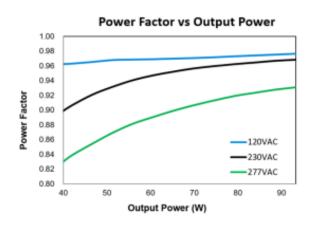
USCI-200175GA/GLA – 1500mA

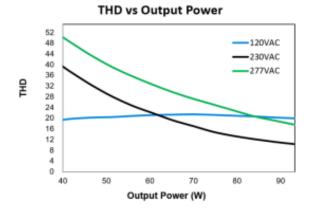


THD vs Output Power



USCI-200175GA/GLA – 700mA

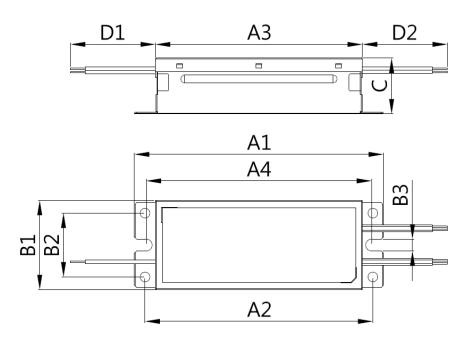






Dimensions

• 75W / 100W / 150W / 200W



Length (A1):

9.5", 240.5mm (200W/150W) 6.6", 167.5mm (100W/75W)

Width (B1): 2.36", 60mm

Height (C):

1.5", 38.0mm (200W/150W) 1.5", 37.5mm (100W/75W)

Fixing hole distance (A2): 8.9", 226.0mm (200W/150W) 6.0", 153.2mm (100W/75W)

Fixing hole distance (B2): 1.7", 43.0mm (200W/150W) 1.7", 42.9mm (100W/75W)

Fixing hole distance (B3): 0.3", 8mm

Fixing hole distance (A4): 8.9", 226mm (200W/150W) 6.0", 151.6mm (100W/75W)

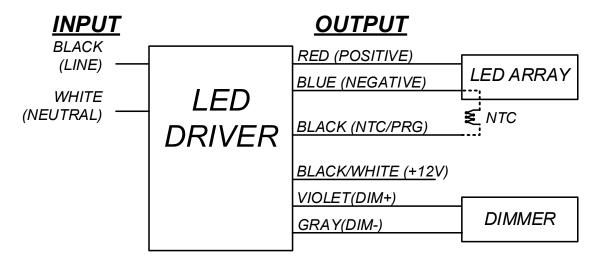
Body length (A3): 8.4", 212mm (200W/150W) 5.5", 139.2mm (100W/75W)

Input wire (D1): 11.8", 300mm Output wire (D2): 11.8", 300mm Dimming wire (D2): 11.8", 300mm

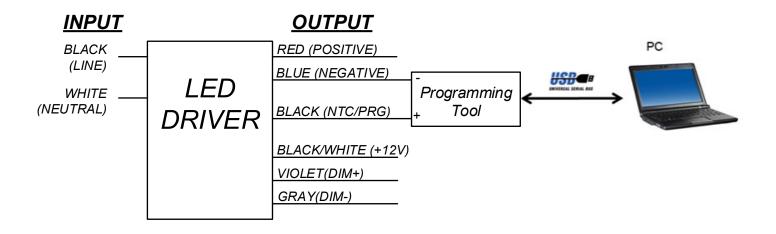


Wiring Connection

Module Temperature Protection (MTP)
The LEDs are thermally protected by the driver's NTC (Negative Temperature Coefficient resistor) interface, which ensures the output current will be reduced when a critical temperature is reached. Connect an NTC on the LED module to the LED driver associated wires as shown in the wiring diagram below.



Programming Setup
 Programming doesn't require powering up input voltage or connecting the LED Module to the driver



Software and latest version check can be obtained at :

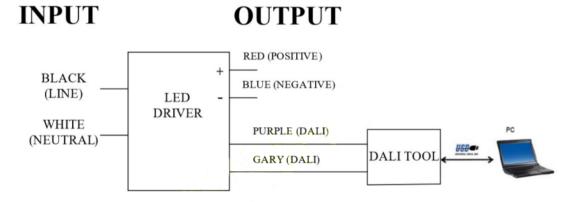
http://www.deltaww.com/Products/CategoryListT1.aspx?CID=0103&hl=zh-TW



Wiring Connection

Programming Setup and control by DALI interface
 Programming require powering up input voltage or connecting the LED Module to the driver

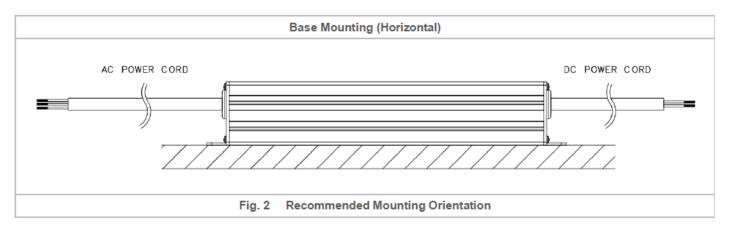
Programming Setup





Assembly & Installation

The device is not recommended to be placed on low thermal conductive surfaces. For example, plastics.



Safety Instructions

- ALWAYS switch mains of input power OFF before connecting and disconnecting the input voltage to the device. If mains are not turned OFF, there is risk of explosion / severe damage.
- To guarantee sufficient convection cooling, keep a distance of 50mm above and lateral distance to other units.
- · DO NOT insert any objects into the device.
- When the PE terminal is not connected, the device must be installed on a metal plate with PE connection.
- The current rating for the output cable must be rated higher than or equal to the output current of the power supply. Please refer to the product specifications.
- For device with dimming function, always ensure the dimming control is working properly. "Dimming 0-10V" shall be insulated from AC mains by reinforced insulation.

