

# LED Driver

## USCI LITE



### Safety Standards



### General Description

Delta LED drivers come in different series to suit different application needs. The USCI LITE series features program output current level. USCI LITE series offers the capability to achieve different level of LED brightness via built-in 1-10V dimming function to meet various application and energy optimization needs. The products are designed and rigorously tested to work with various outdoor LED lighting conditions. Featuring high surge immunity (CM: 6kV, DM: 6kV) and complying to Dry and Damp location.

### Model Information

#### USCI LITE LED Driver

| Model Number  | Input Voltage Range | Rated Output Voltage | Program Output Current | Constant Power Current |
|---------------|---------------------|----------------------|------------------------|------------------------|
| USCI-100140GB | 120-277Vac Typical  | 50-143Vdc            | 600-1400mA             | 700-1400mA             |
| USCI-200140GB | 108-305Vac Range    | 75-190Vdc            | 600-1400mA             | 1050-1400mA            |

### Model Numbering

| US                       | C                   | I       | - | □□□                                   | □□□                                   | GB   |
|--------------------------|---------------------|---------|---|---------------------------------------|---------------------------------------|--|
| Safety Approval<br>– UL, | Constant<br>current | Outdoor |   | Output Power<br>100:100W/<br>200:200W | Max Output<br>Current<br>140 – 1400mA | Programmable output current<br>1-10V dimming |

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### Highlights & Features

- Constant current design
- Adjustable constant current level through program tool
- 6kV Combi-wave surge rating meet ANSI C82.77-5
- UL LISTED, Class P & Type HL , UL Dry & Damp
- 1-10V dimming available
- 50,000hours lifetime

**Model Number:** USCI-□□□□□GB

### Dimensions (L x W x H):

|               |  |
|---------------|--|
| USCI-100140GB | 6.59" x 2.36" x 1.5"<br>(168.0 x 60.0 x 38.0mm)  |
| USCI-200140GB | 9.45" x 2.36" x 1.5"<br>(240.0 x 60.0 x 38.0mm') |

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### Specifications

| Model Number | USCI-100140GB | USCI-200140GB |
|--------------|---------------|---------------|
|--------------|---------------|---------------|

### 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               | 1.04A      | 2.1A        |
|                             | 277Vac               | 0.43A      | 0.9A        |
| Efficiency <sup>1)</sup>    | 120Vac               | 90.5%@0.7A | 91.5%@1.05A |
|                             | 277Vac               | 92.5%@0.7A | 93.5%@1.05A |
| Inrush Current @ Cold Start | 120Vac               | 100A/150uS | 100A/150uS  |
|                             | 277Vac               | 200A/150uS | 200A/150uS  |
| Power Factor                | > 0.95 @Full Load    |            |             |
| Total Harmonic Distortion   | THD < 10% @Full Load |            |             |
| Leakage Current             | < 0.75mA peak        |            |             |

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

### Output Ratings / Characteristics

|                                 |  |            |
|---------------------------------|--|------------|
| Output Voltage Range            | 50-143Vdc  | 75-190Vdc  |
| Max. No Load Output Voltage     | 150Vrms  | 230Vrms    |
| Output Power Range              | 100W   | 200W       |
| Adjustable Output Current (AOC) | 600-1400mA   | 600-1400mA |
|                                 | With steps of 1mA, configurable via software   |            |
| Minimum Output Current          | +/-10% dim level or 100mA  |            |
| Current Accuracy                | ± 5% (@ Typical output current range)  |            |
| Line Regulation                 | ± 1% (@ 120-277Vac input)  |            |
| Load Regulation                 | ± 3% (@ Min-Max output voltage)  |            |
| Output Current LF Ripple        | 15% (ripple = peak-average/average) and Low frequency (≤120 Hz) content <5% @Full Load |            |
| Start-up Time                   | 1000ms max. @ 120-277Vac @Full Load  |            |

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### Mechanical

|                                  |   |  |
|----------------------------------|---|--|
| Casing                           | Steel case, color : Black   |  |
| Dimensions (L x W x H)<br>[inch] | 6.59" x 2.36" x 1.5"<br>(168.0 x 60.0 x 38.0mm)   | 9.45" x 2.36" x 1.5"<br>(240.0 x 60.0 x 38.0mm') |
| [mm]                             |   |  |
| Unit Weight [lb] / [kg]          | 1.83 / 0.83   | 2.53 / 1.15                                      |
| Cooling System                   | Convection  |  |
| Input Cable                      | L: Black, N: White; UL1316 18AWG solid copper wires Length 300mm                              |  |
| Output Cable                     | Positive: Red, Negative: Blue; NTC/PRG: Orange ; UL1316 18AWG solid copper wires Length 300mm |  |
| Dimming Cable                    | Dim(+): Purple, Dim(-): Pink ; UL1316 18AWG solid copper wires Length 300mm                   |  |
| Noise                            | Sound Pressure Level (SPL) < 24dBA (30cm distance)  |  |

### Environment

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

### Protections

|                        |  |         |
|------------------------|--|---------|
| Over Voltage           | 150Vrms  | 230Vrms |
|                        | Auto-Recovery when the fault is removed                        |         |
| Overload / Overcurrent | Reduce output current. Auto-Recovery when the fault is removed |         |
| Short Circuit          | Auto-Recovery when the fault is removed                        |         |
| Over Temperature       | Reduce output current. Auto-Recovery when the fault is removed |         |
| Case connection        | Case must be grounding   |         |

### Reliability Data

|               |   |       |
|---------------|---|-------|
| Lifetime      | 50,000 hours at case temp. tc & full load.<br>Refer to "Lifetime VS Case Temperature" |       |
| Lifetime @ tc | +75°C   | +80°C |

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### Safety Standards / Directives

|                    |                                     |            |            |            |
|--------------------|-------------------------------------|------------|------------|------------|
| Electrical Safety  | UL 8750 Class P & type "HL"         |            |            |            |
| Material and Parts | RoHS Directive 2011/65/EU Compliant |            |            |            |
|                    | Main                                | Output     | 1-10V dim  | Case       |
| Main               | N/A                                 | 2U + 1000V | 2U + 1000V | 2U + 1000V |
| Output             | 2U + 1000V                          | N/A        | 2U + 1000V | 2U + 1000V |
| 1-10V dim          | 2U + 1000V                          | 2U + 1000V | N/A        | 2U + 1000V |
| Case               | 2U + 1000V                          | 2U + 1000V | 2U + 1000V | N/A        |

### EMC Compliance

|                     |  |
|---------------------|--|
| Emissions (CE & RE) | Compliance to 47 CFR FCC Part 15, Subpart B, Class A<br>Compliance to CAN ICES-005(A) / NMB-005(A) |
| Surge               | Compliance to ANSI C82.77-5 CAT C low 6KV<br>Meet Criteria A or B                                  |

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)

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|--------------|---------------|---------------|
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### 1-10V Dimming Specification

|                          |   |
|--------------------------|---|
| Absolute Maximum Voltage | $\pm 20V$   |
| Source Current           | 100 $\mu A$ (typ)   |
| Dimming Input Range      | 1) 1-10V for 10-100% dimming and 1V for 10% of $I_{o\_set}$ or 100mA minimum and $\geq 8.5V$ is 100% of $I_{o\_set}$ .<br>2) Short is 10% of $I_{o\_set}$ or 100mA minimum<br>3) Open is 100%<br>4) See 1-10V Dimming Curve |

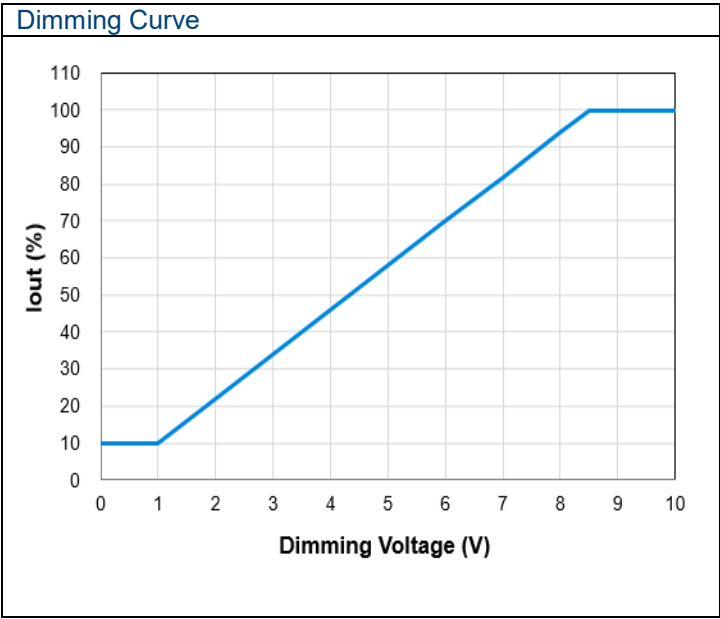
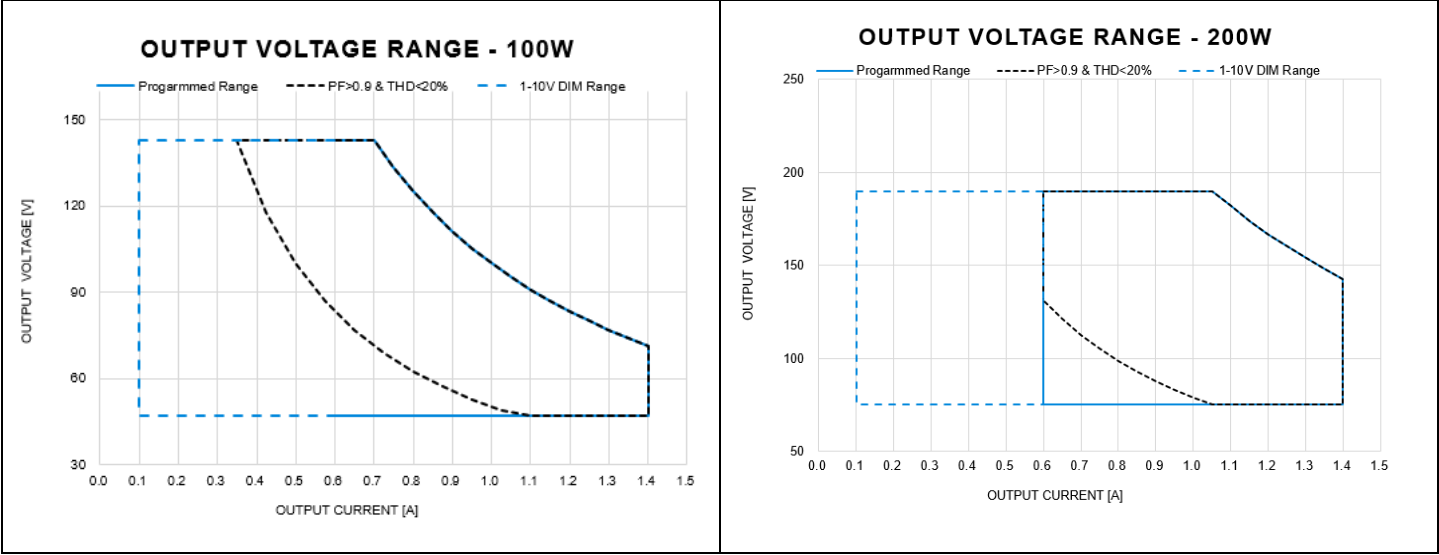
### Default Settings of the Driver (can be changed with programmable tools)

|                                     |   |        |
|-------------------------------------|---|--------|
| Adjustable Output Current (AOC)     | 700mA   | 1050mA |
| Smart Timer DIM                     | Disabled 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  |        |

# LED Driver

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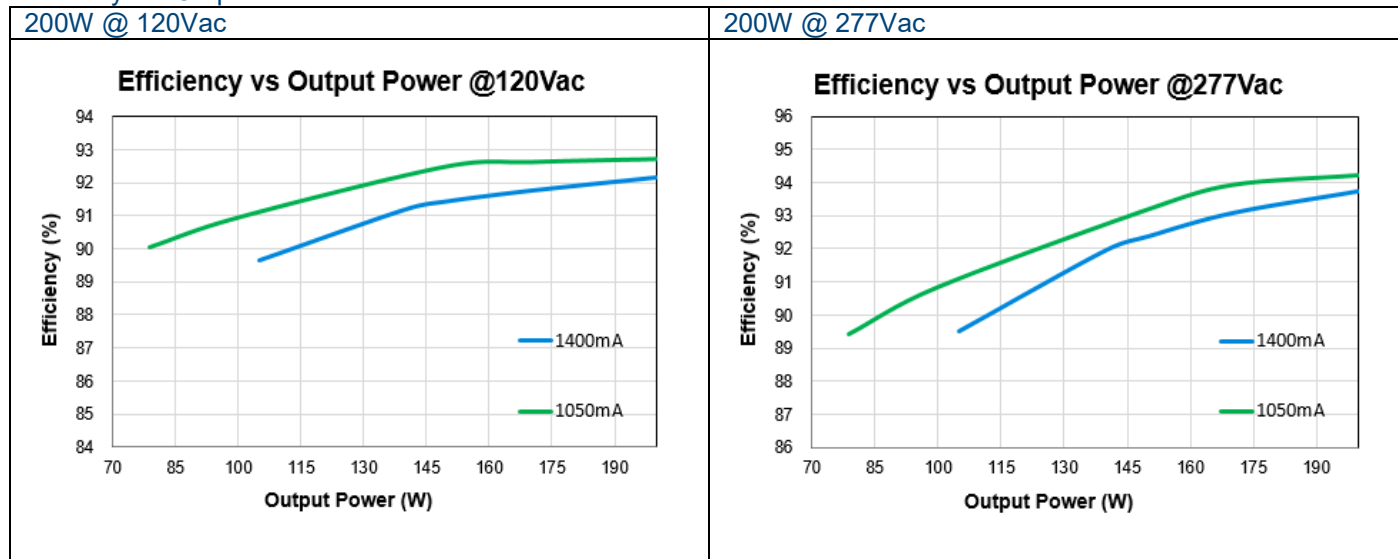
### Operation Window for programming



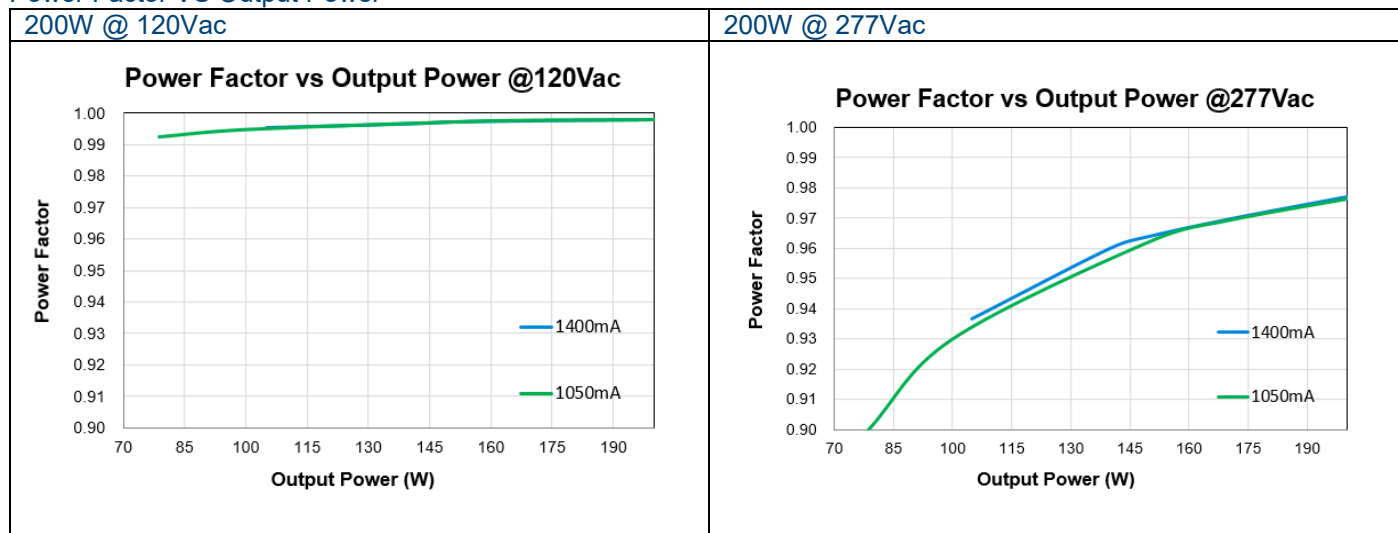
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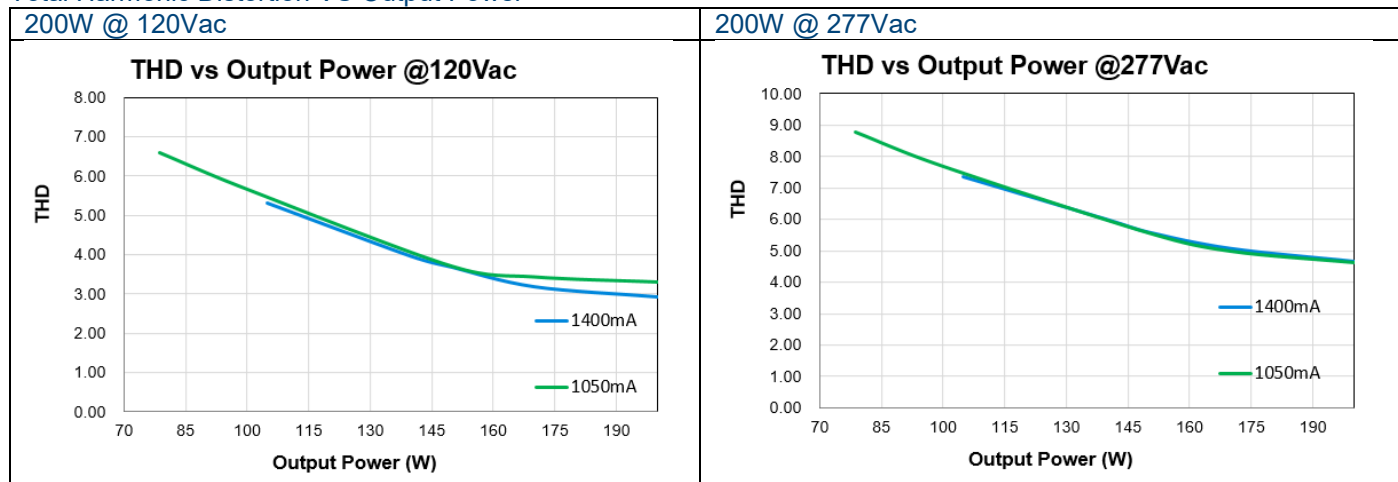
### Efficiency VS Output Power



### Power Factor VS Output Power



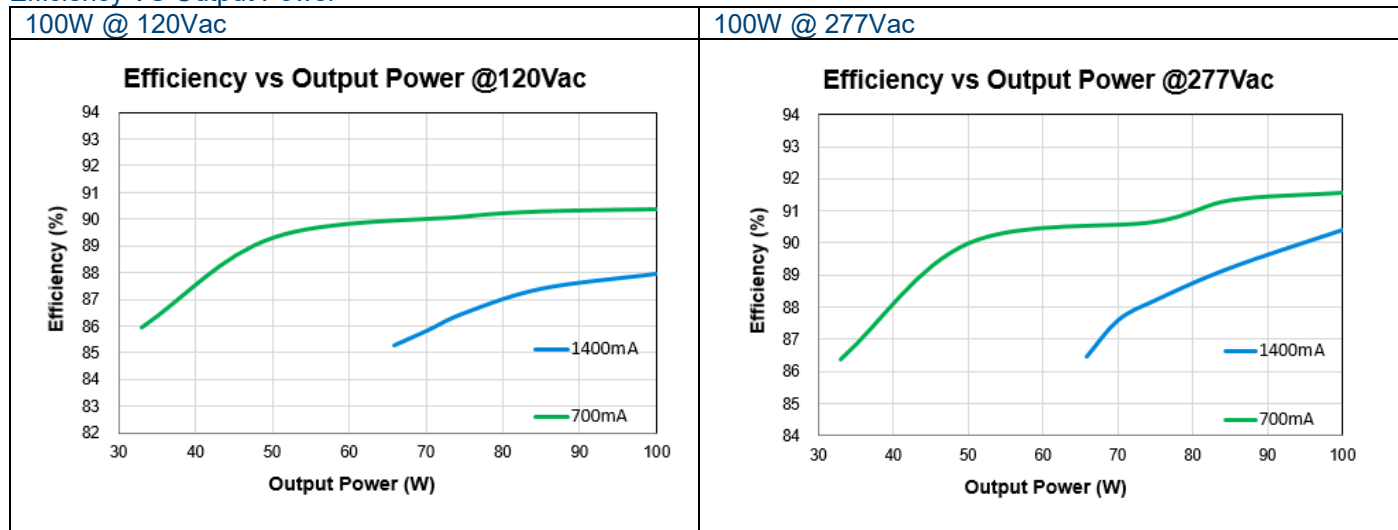
### Total Harmonic Distortion VS Output Power



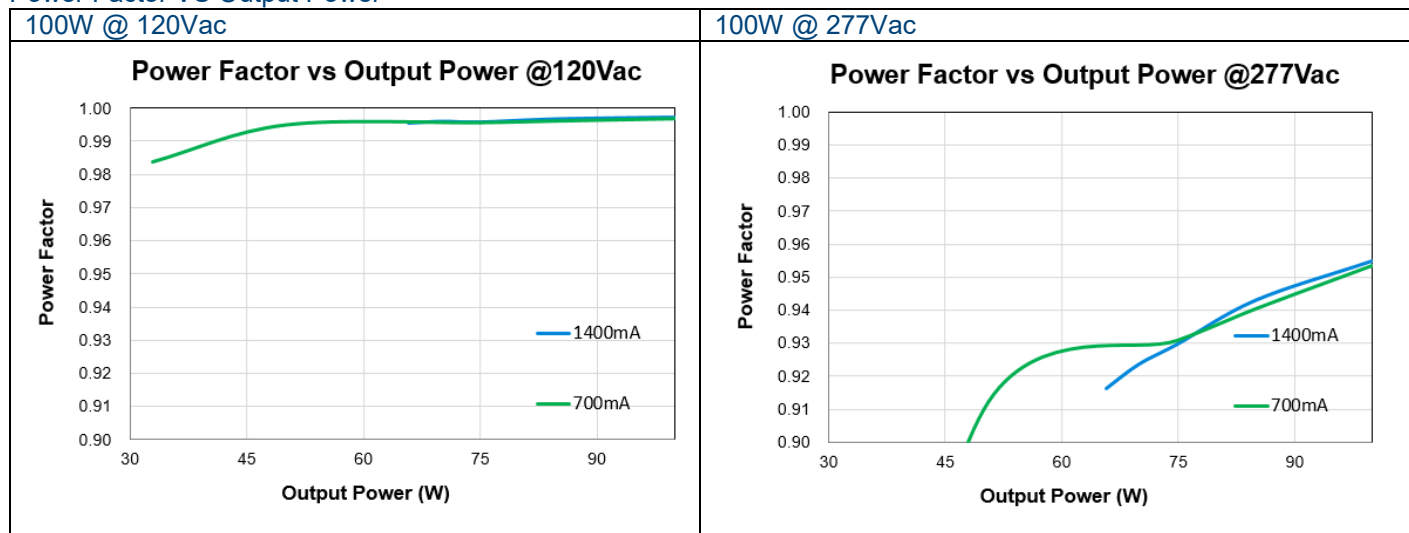
# LED Driver

## USCI LITE

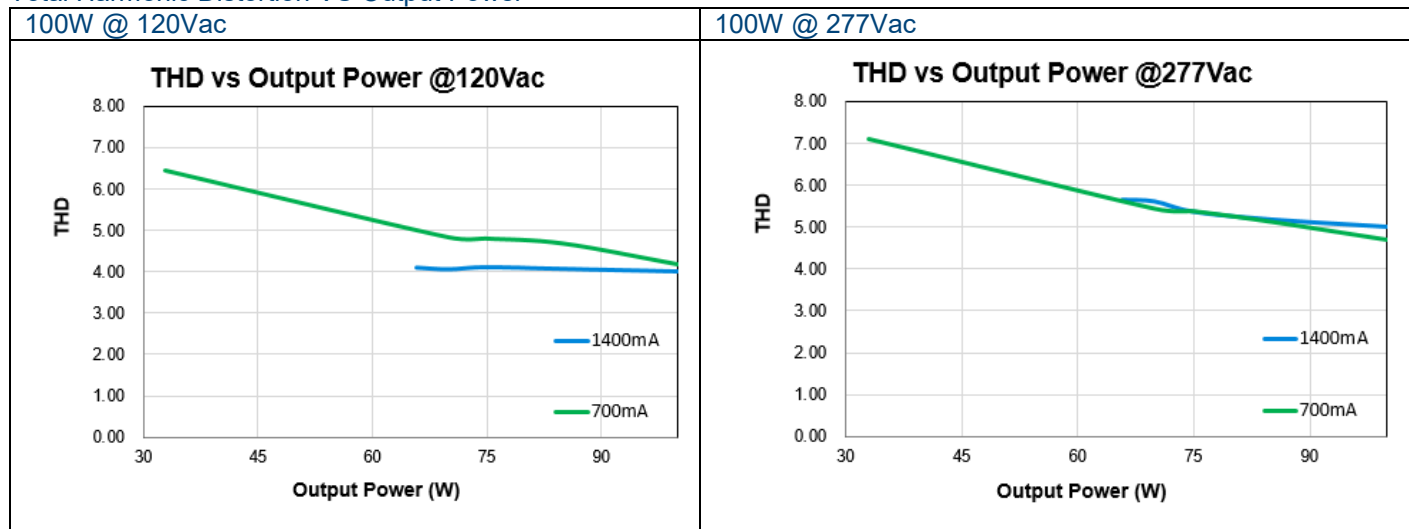
### Efficiency VS Output Power



### Power Factor VS Output Power



### Total Harmonic Distortion VS Output Power

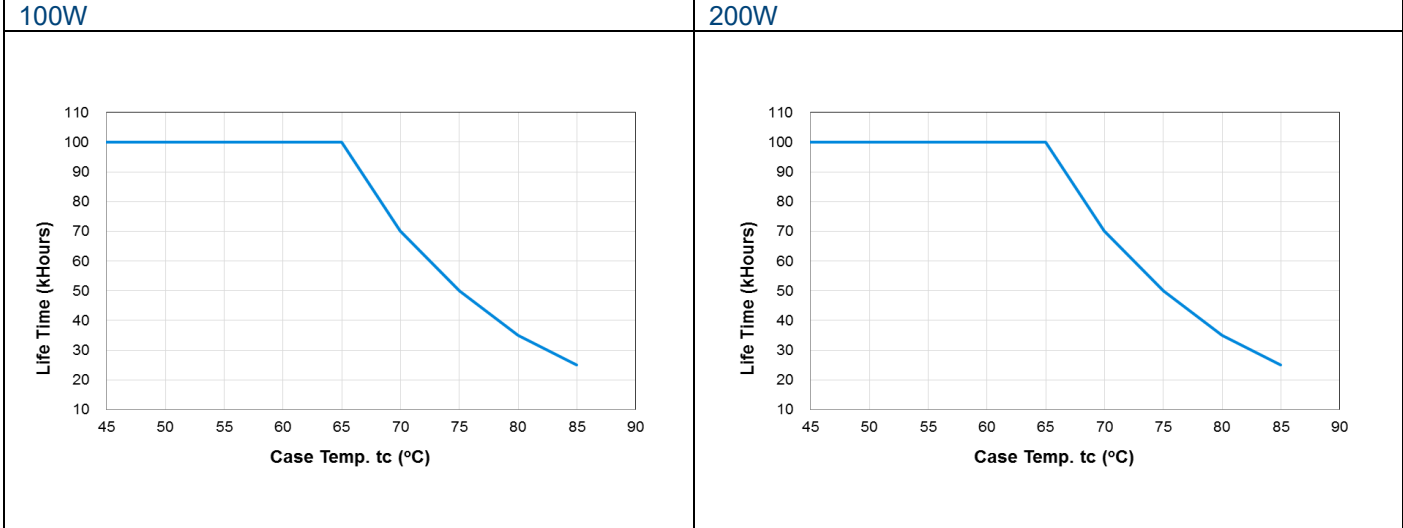




# LED Driver

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Lifetime VS Case Temperature



# LED Driver

## USCI LITE

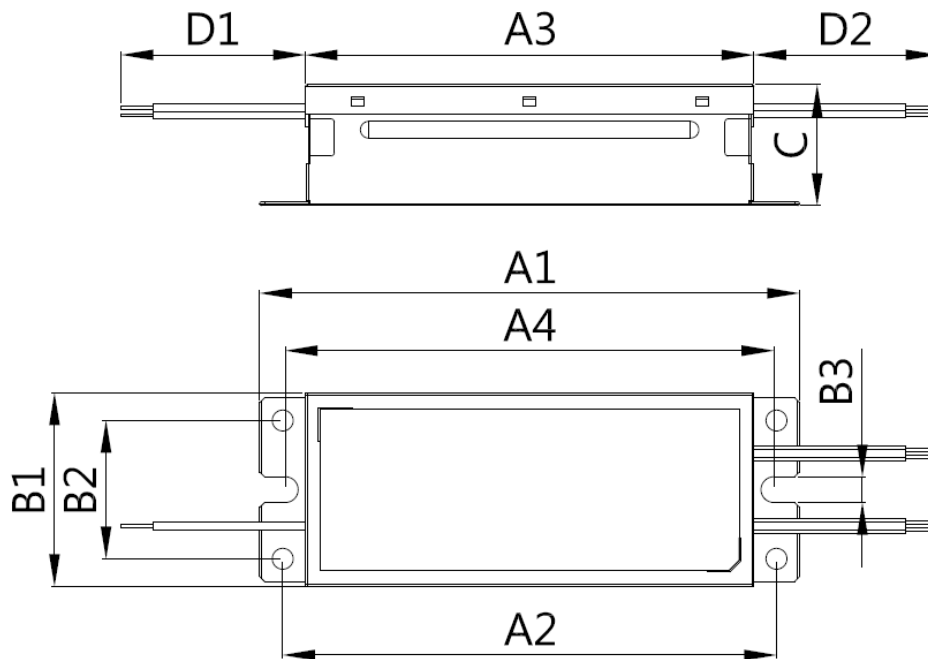
### Dimensions

#### USCI-100140GB

L x W x H: 168 x 60 x 38 mm (6.59 x 2.36 x 1.5 inch)

#### USCI-200140GB

L x W x H: 240 x 60 x 38 mm (9.45 x 2.36 x 1.5 inch)

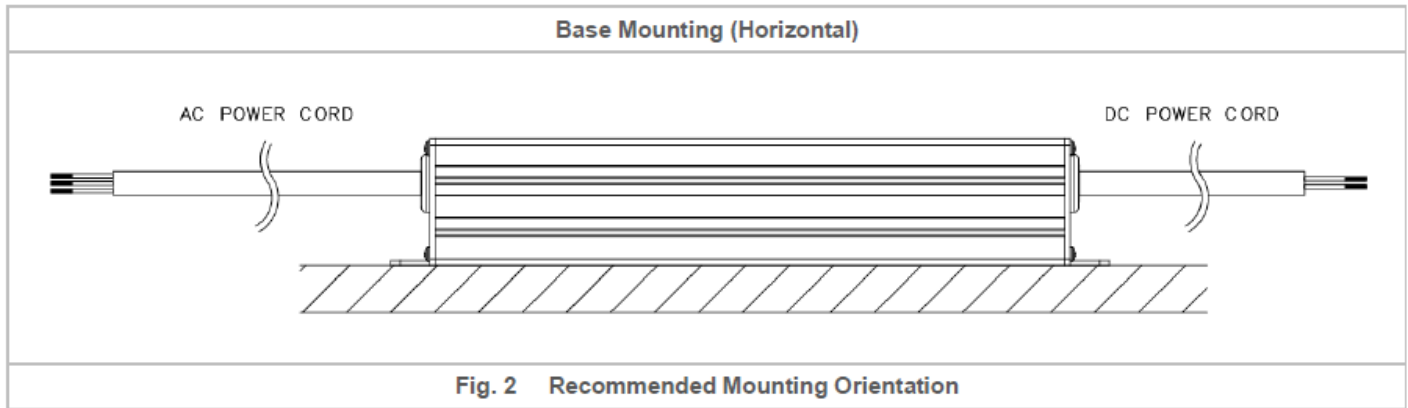


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### Assembly & Installation

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.
- The case of LED driver must be connected with grounding (PE).
- 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..

### Others

#### Warranty Policy

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