# LED Driver
## USCI Micro Series

# USCI Micro

### Highlights & Features

- Constant current design
- Universal AC input voltage from 120-277Vac
- Wide operating temperature range -20°C to +55°C
- Class 2 output
- Dry / Damp location

### Safety Standards

c UL us E336604 Class 2

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

| | |
|---|---|
| USCI-020070FA<br>USCI-030070FA<br>USCI-020105FA | 95x 40 x 25.4 mm<br>(3.74 x 1.58x 1 inch) |

### General Description

Delta LED drivers come in different series to suit different application. The products are designed and rigorously tested to work with various indoor LED lighting conditions.

### Model Information

USCI Micro LED Driver

| Model Number | Input Voltage Range | Rated Output Voltage | Output Current | Output Power |
|---|---|---|---|---|
| USCI-020070FA | 120-277Vac Typical<br>108-305Vac Range | 14-33Vdc | 700mA | 20W |
| USCI-030070FA | | 29-48Vdc | 700mA | 30W |
| USCI-020105FA | | 8-23Vdc | 1050mA | 20W |

### Model Numbering

| US | C | I | – | □□□ | □□□ | F | A |
|---|---|---|---|---|---|---|---|
| Safety Approval – UL, | Constant current | Indoor | | Output Power<br>020: 20W<br>030: 30W | Output Current<br>070: 700mA<br>105 – 1050mA | Fix output current | Variable<br>A – Delta Standard |



All parameters are specified at 25°C ambient for all products unless otherwise indicated.
**www.DeltaPSU.com (July 2019, Rev. 00)**

## Specifications

| Model Number | USCI-020070FA | USCI-030070FA | USCI-020105FA |
|---|---|---|---|

### 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 | 0.23A | 0.34A | 0.23A |
| Efficiency [1)] | 120-277Vac | 80% | 83.0% | 80% |
| Inrush Current | 277Vac | Meet NEMA410 | | |
| Power Factor | | Full Load: > 0.9 @ 120-277Vac, | | |
| Total Harmonic Distortion | | Full Load: THD < 20% @ 120-277Vac | | |
| Leakage Current | | < 0.5mArms @ 277Vac | | |

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

### Output Ratings / Characteristics

| | | | |
|---|---|---|---|
| Output Voltage Range | 14-33Vdc | 29-48Vdc | 8-23Vdc |
| Max. No Load Output Voltage | 35Vrms | 50Vrms | 25Vrms |
| Output Power Range | 20W | 30W | 20W |
| Rated Output Current | 700mA | 700mA | 1050mA |
| Current Accuracy | ± 10% (@ Typical output current range) | | |
| Line Regulation | ± 1% (@ 120-277Vac input) | | |
| Load Regulation | ± 3% (@ Min-Max output voltage) | | |
| Output Current Ripple | 30% (ripple = peak-average/average) at full load & @120V/277V 60Hz | | |
| Start-up Time | 1000ms max. @ 120-277Vac (full load) | | |

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|---|---|---|---|

### Mechanical

| | | |
|---|---|---|
| Casing | | Plastic, Color : White |
| Dimensions (L x W x H) | [mm] | 95.0*40.0*25.4 |
| | [inch] | 3.74*1.58*1.00 |
| Unit Weight | [kg] | 0.15 |
| | [lb] | 0.33 |
| Cooling System | | Convection |
| Input Wire | | Line: Black, Neutral: White, Wire Length 300mm |
| Output Wire | | Positive: Red, Negative: Blue, Wire Length 300mm |
| Noise (90cm distance) | | Sound Pressure Level (SPL) < 24dBA |

### Environment

| | | | | |
|---|---|---|---|---|
| Ambient Temperature | Operating | -20°C to +55°C | | |
| | Storage | -40°C to +85°C | | |
| Maximum Case Temperature | | +85°C | +95°C | +85°C |
| Relative Humidity | Operating | 10 to 85% RH (Non-Condensing) | | |
| | Storage | 5 to 95% RH (Non-Condensing) | | |
| Environmental Locations | | Dry / Damp | | |

### Protections

| | | | |
|---|---|---|---|
| Over Voltage | 35Vrms | 50Vrms | 25Vrms |
| | Auto-Recovery when the fault is removed | | |
| Overload / Overcurrent | 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 | | |

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|---|---|---|---|

## Reliability Data

| | | | |
|---|---|---|---|
| Lifetime | 50,000 hours at case temp. tc & full load<br>Refer to “Lifetime VS Case Temperature” | | |
| Lifetime @ tc | +70°C | +80°C | +70°C |

## Safety Standards / Directives

| | |
|---|---|
| Electrical Safety | UL 8750,<br>UL 60950-1<br>Class 2 Output |
| Galvanic Isolation | Mains (Input) to Output : 3.75KVac |

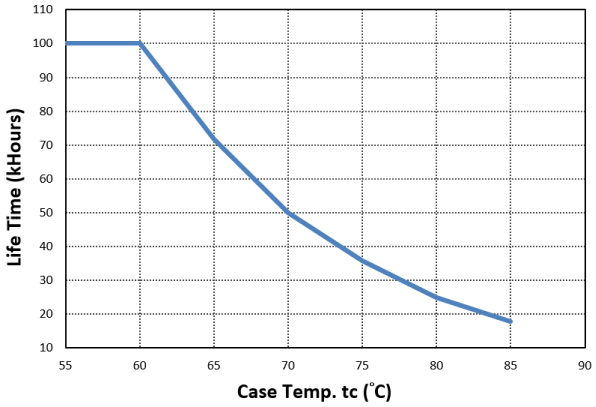
## EMC Compliance

| | | |
|---|---|---|
| Emissions (CE & RE) | 47 CFR FCC Part 15, Subpart B, Class B | |
| Electrostatic Discharge | IEC 61000-4-2 | Air Discharge: 8kV Contact Discharge: 4kV<br>Criteria A[1] or Criteria B[2] |
| Radiated Field | IEC 61000-4-3 | 80MHz-1GHz, 3V/m with 1kHz Sine Wave / 80% Modulation<br>Criteria A[1] |
| Electrical Fast Transient / Burst | IEC 61000-4-4 | 1KV, Criteria A[1] or Criteria B[2] |
| Surge | | 7 Strikes 2.5KV Ring wave |
| Conducted | IEC 61000-4-6 | 150kHz-80MHz, 3Vrms :Criteria A[1] |
| Power Frequency Magnetic Fields | IEC 61000-4-8 | 3A/Meter : Criteria A[1] |
| Voltage Dips | IEC 61000-4-11 | 100% dip; 0.5 cycle , Criteria A[1] or Criteria B[2]<br>30% dip; 10 cycle, Criteria A[1] or Criteria B[2] |
| Harmonic Current Emission | IEC 61000-3-2 | Class C (230Vac @ 100% load) |
| Voltage Fluctuation & Flicker | IEC 61000-3-3 | |

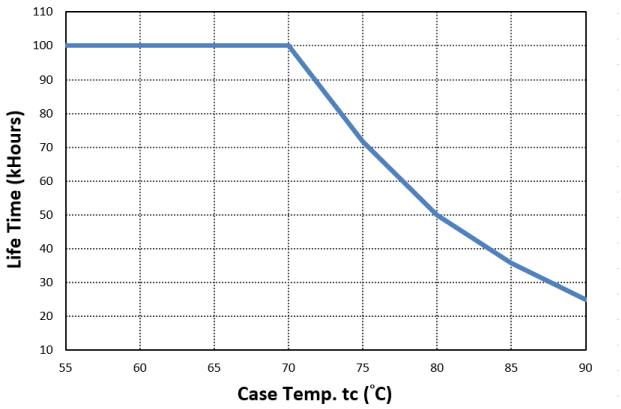
1) Criteria A: Normal performance within the specification limits
2) Criteria B: Temporary degradation or loss of function, which is self-recoverable
3) Asymmetrical: Common mode (Line to earth)
4) Symmetrical: Differential mode (Line to line)

## Lifetime VS Case Temperature

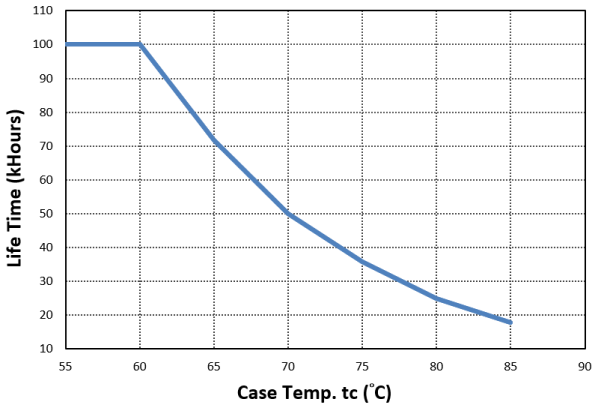
### USCI-020070FA




### USCI-030070FA

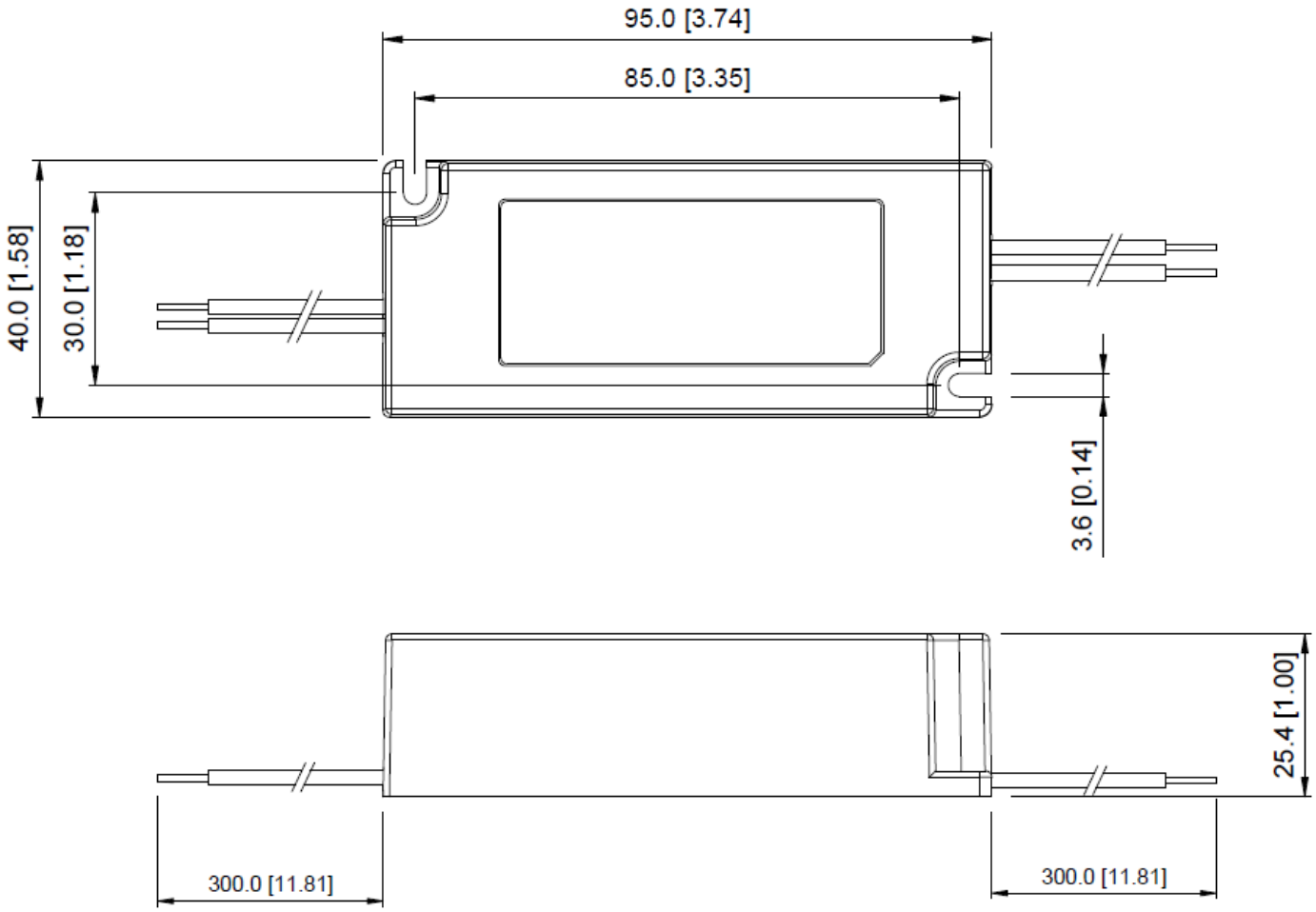



### USCI-020105FA



## Dimensions

USCI-020070FA , USCI-030070FA & USCI-020105FA



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