

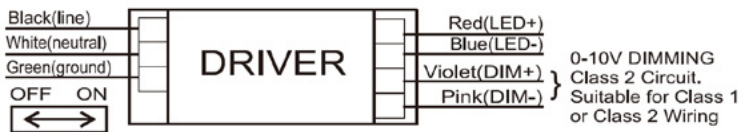


Advance CertaDrive Indoor Point LED drivers are designed to meet basic lighting needs. These drivers are offered with specific voltage-current settings and are, thus, optimized with specifications that are appropriately suited for the application, making LED conversion affordable.

### Specifications

| Input Voltage (Vac) | Output Power (W) | Output Voltage (V) | Output Current (A) | Efficiency@ Max Load and 70°C Case | Max Case Temp. (°C)        | Input Current (A) | Max. Input Power (W) | THD @ Max Load (%) | Power Factor @ Max Load | Surge Protection (Ring Wave, KV) | Envir. Protection Rating | Dimming                           | Dimming Range | Minimum Output Current (A) | Driver Type      |
|---------------------|------------------|--------------------|--------------------|------------------------------------|----------------------------|-------------------|----------------------|--------------------|-------------------------|----------------------------------|--------------------------|-----------------------------------|---------------|----------------------------|------------------|
| 120                 | 9                | 24-42              | 0.225/<br>0.2A     | 82                                 | Life:<br>75°<br>UL:<br>90° | 0.103             | 12.4                 | <20%               | >0.9                    | 2.5                              | UL damp & dry            | 0-10V Analog Class 1 and 2 Wiring | 4% - 100%     | 0.0075                     | Constant Current |
| 277                 |                  | Class 2 Output     |                    | 82                                 |                            | 0.047             |                      |                    |                         |                                  |                          |                                   |               |                            |                  |

### Wiring Diagram



Switch position default = OFF

|     |       |
|-----|-------|
| OFF | 0.2   |
| ON  | 0.225 |

#### WARNING:

Install in accordance with national and local electrical codes. Use 18 AWG Solid Copper Wire Rated  $\geq 90^\circ\text{C}$ . Strip Wire 3/8". For Class 2 Wiring, Use 20 AWG-16 AWG.

The field-wiring leads or push-in terminals shall be fully enclosed.

USE ONLY WITHIN AN ENCLOSURE.

#### GROUNDING:

Driver case must be grounded.



# CertaDrive SM Point

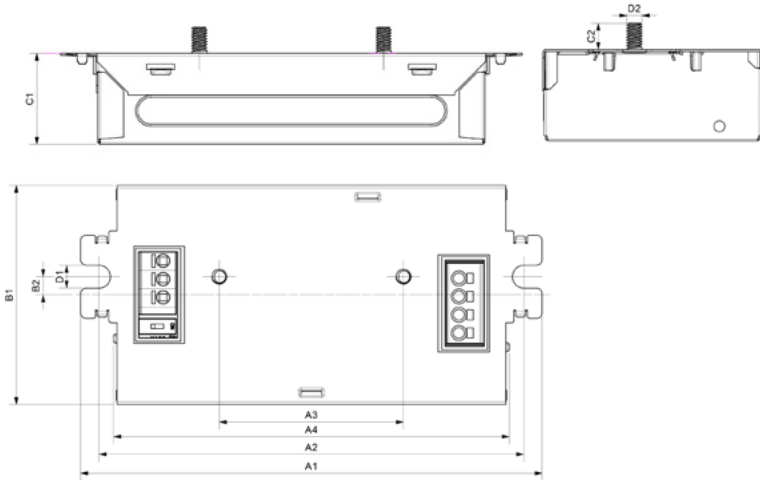
CI009C023V042CDM1(bottom entry)

CI009C023V042CDD1(side entry)

9W 0.225/0.2A 42V 0-10V 120-277V

## Mechanical Diagram

CI009C023V042CDM1 (bottom entry)



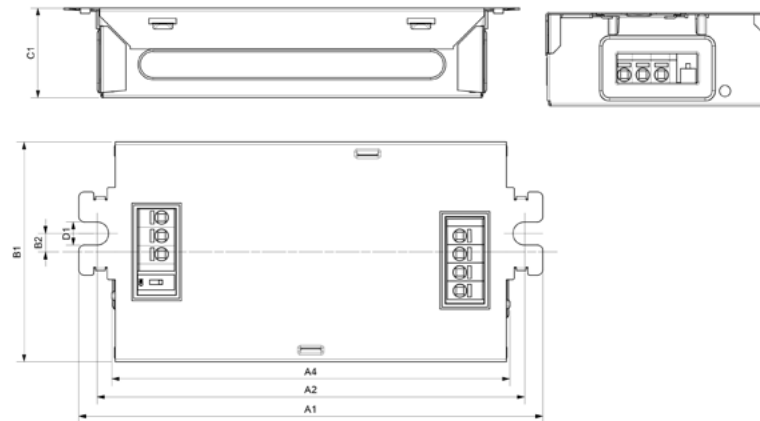
## Enclosure

CI009C023V042CDM1 (bottom entry)

| Item                        | In(mm)       | Tolerance (mm) |
|-----------------------------|--------------|----------------|
| Overall length (A1)         | 4.98 (126.6) | +/-1.0         |
| Mounting Length (A2)        | 4.59 (116.6) | +/-0.5         |
| Mounting Length (A3)        | 1.99 ( 50.6) | +/-0.5         |
| Case Length (A4)            | 4.28 (108.6) | +/-0.5         |
| Case Width (B1)             | 2.37 (60.1)  | +/-0.5         |
| Mounting Hole Distance(B2)  | 0.20 (5.0)   | +/-0.5         |
| Case Height (C1)            | 0.98 (24.9)  | +/-1.0         |
| Stud Height (C2)            | 0.28 (7.2)   | +/-0.5         |
| Mounting Hole Diameter (D1) | 0.25 (6.3)   | +/-0.3         |
| Stud Diameter (D2)          | #8-32        | N/A            |

## Mechanical Diagram

CI009C023V042CDD1 (side entry)



## Enclosure

CI009C023V042CDD1 (side entry)

| Item                        | In(mm)       | Tolerance (mm) |
|-----------------------------|--------------|----------------|
| Overall Length (A1)         | 4.98 (126.6) | +/-1.0         |
| Mounting Length (A2)        | 4.59 (116.6) | +/-0.5         |
| Case Length (A4)            | 4.28 (108.6) | +/-0.5         |
| Case Width (B1)             | 2.37 (60.1)  | +/-0.5         |
| Mounting Hole Distance(B2)  | 0.2 (5.0)    | +/-0.5         |
| Case Height (C1)            | 0.98 (24.9)  | +/-1.0         |
| Mounting Hole Diameter (D1) | 0.25 (6.3)   | +/-0.3         |

# CertaDrive SM Point

CI009C023V042CDM1(bottom entry)

CI009C023V042CDD1(side entry)

9W 0.225/0.2A 42V 0-10V 120-277V

## Features

- 50,000+ hour lifetime<sup>1</sup>
- Excellent thermal performance
- High power factor & low THD<sup>2</sup>
- Compatible with Philips Fortimo downlight modules

## Benefits

- SmartMate style housing enables easy design-in with excellent thermal performance
- Allows operability in indoor (low-bay) ambient conditions
- Suitable for commercial indoor applications

## Application

- Indoor downlight applications
- Office areas
- Retail centers
- Wall sconces and ceiling surface luminaires

## Electrical Specifications

All the specifications are typical and at 25°C Tcase unless specified otherwise.

## Product Data

| Order Information  |  |
|--|--|
| Full Product Code  | CI009C023V042CDM1(bottom entry) 12NC: 929002750213 (Mid-Pack, 16pcs/Box)<br>CI009C023V042CDD1(side entry) 12NC: 929002750313 (Mid-Pack, 16pcs/Box) |
| Line Frequency   | 50/60Hz  |
| Min. Mains Voltage Operational                             | 108 Vac  |
| Max. Mains Voltage Operational                             | 305 Vac  |
| Output Information   |  |
| Maximum Open Circuit Voltage                               | 60Vdc, Class 2 output  |
| Output Current Ripple (ripple = peak to average / average) | 30% max @ max lout   |
| Output Current Tolerance (at maximum output current)       | <8% <sup>2</sup>   |
| Protections  | Short Circuit, Open Circuit Protection for LED + and LED -   |
| Over Voltage Protection                                    | 46V+/- 4V, Hiccup Mode Protection  |
| Features   |  |
| 0-10V Dimming  | See dim curve for detail.  |
| Environment & Approbation                                  |  |
| Operating Ambient Temp. Range                              | -20°C to +40°C   |
| Max Case Temperature (Tcase) <sup>3</sup>                  | 90°C, Tcase Life: 75°C   |
| Agency Approbations  | UL8750, UL1310, cUL, Class P(UL, cUL) NOM  |
| Electromagnetic Compliance                                 | FCC Title 47 Part 15 Class B for 120Vac, FCC Title 47 Part 15 Class A for 277Vac   |
| Audible Noise  | <24dB Class A  |
| Weight   | 0.364Lbs /0.165kgs   |

1. Advance CertaDrive LED drivers are manufactured to engineering standards correlating to a designed and average life expectancy of 50,000 hours of operation at maximum rated case temperature. Minimum 90% survivals based on MTBF modeling.

2. Note: power factor (PF) and total harmonic distortion (THD) may deviate under adverse mains voltage conditions outside nominal operation. Output current (Iout) variation includes effects of line and load regulation, temperature variation and component tolerances.

3. For Tc point location, please refer to the Advance CertaDrive design-in guide.

# CertaDrive SM Point

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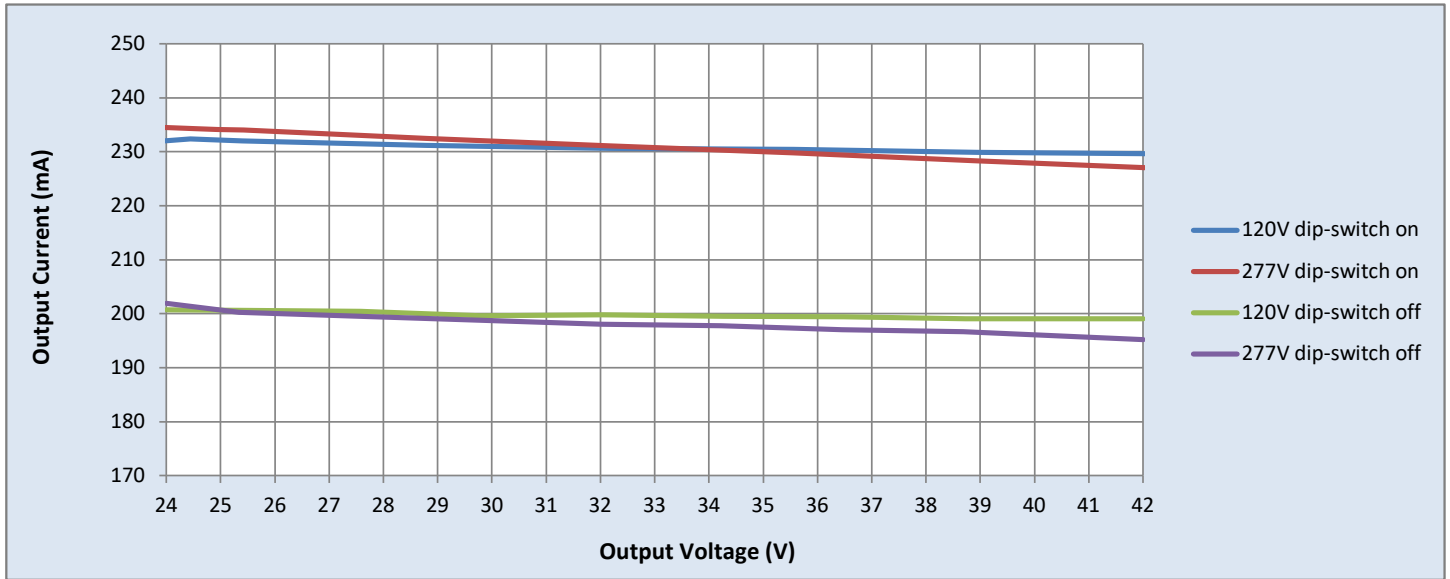
CI009C023V042CDD1(side entry)

9W 0.225/0.2A 42V 0-10V 120-277V

## Electrical Specifications

All the specifications are typical and at 25°C Tcase unless specified otherwise.

### Iout Vs. Vout



1. Factory default output current is 0.2A

# CertaDrive SM Point

CI009C023V042CDM1(bottom entry)

CI009C023V042CDD1(side entry)

9W 0.225/0.2A 42V 0-10V 120-277V

## Electrical Specifications

All the specifications are typical and at 25°C Tcase unless specified otherwise.

## 0-10V Dimming Curve

Dimming source current from the driver: 100-250µA (@ 1<Vdim<8V)

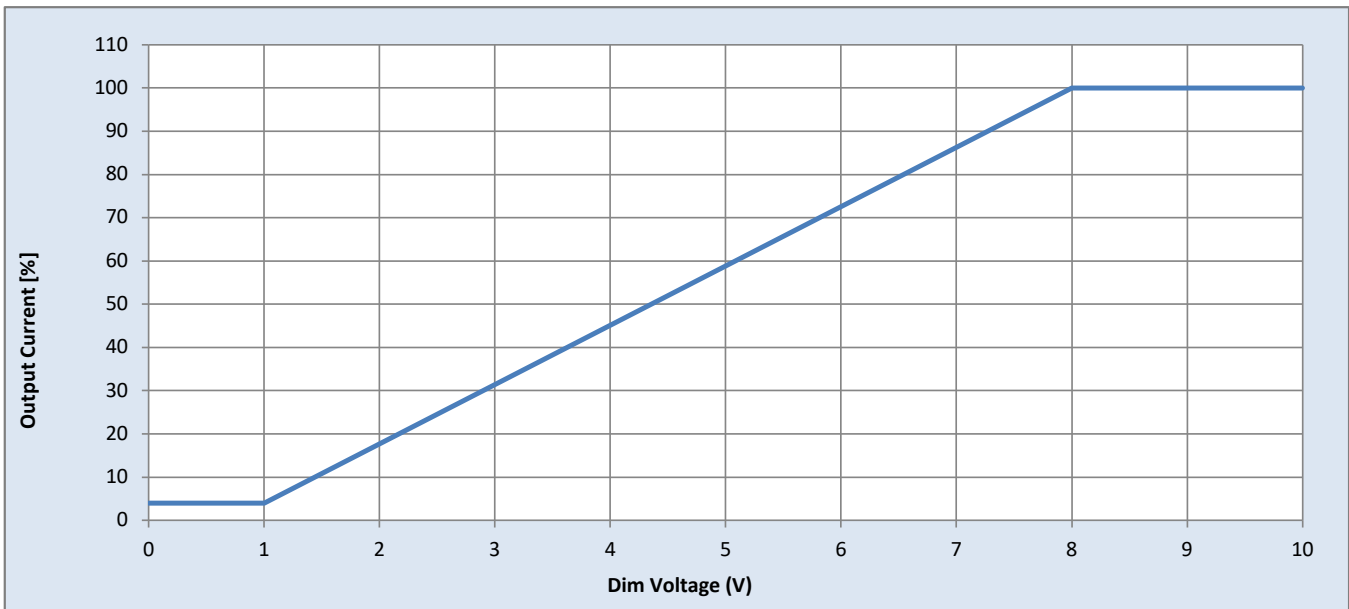
Minimum dim level: 4% of Iout

Maximum output voltage on the dimming wires: 12V

Leaking current of dimming leads: 0.01mA, recommended max number of control circuits in parallel, refer to Design in Guide.

## Approved Dimmer List

| Manufacturer | Manufacturer Part Number                                 |
|--------------|--|
| Lutron       | Visit <a href="http://www.lutron.com">www.lutron.com</a> |
| Leviton      | IllumaTech IP7 series                                    |
| Advance      | Sunrise - SR1200ZTUNV                                    |



# CertaDrive SM Point

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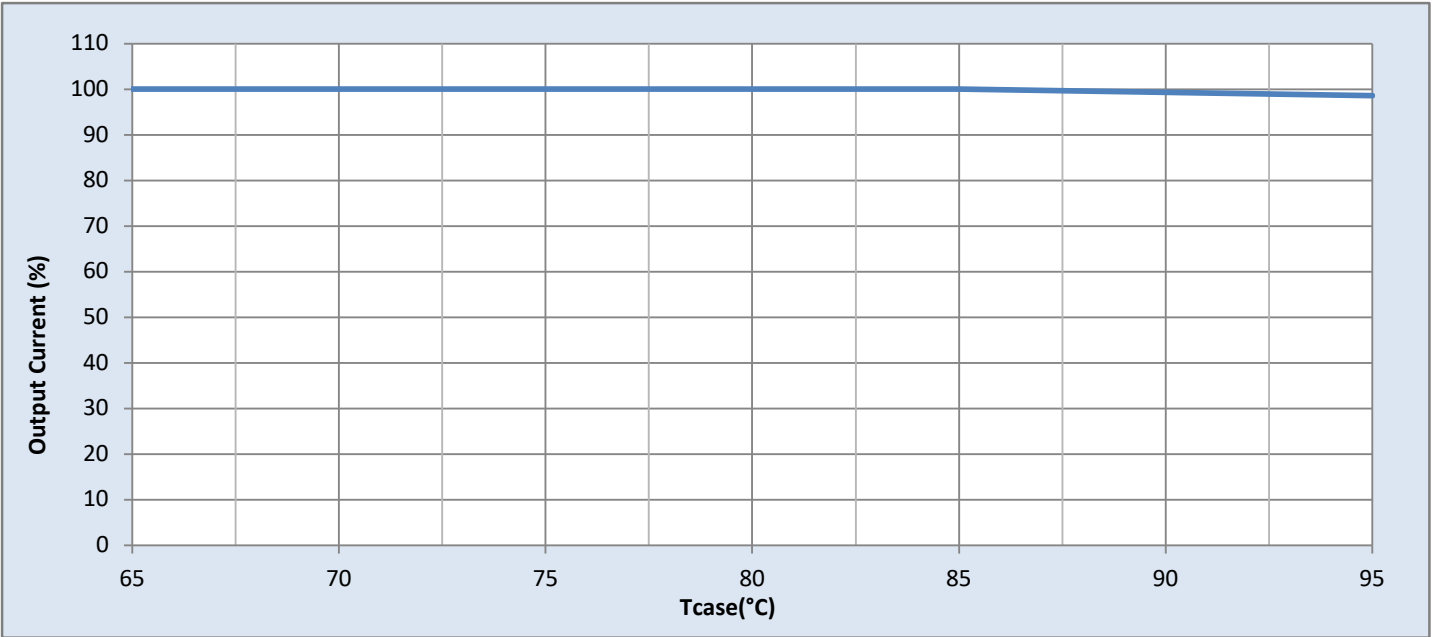
CI009C023V042CDD1(side entry)

9W 0.225/0.2A 42V 0-10V 120-277V

## Electrical Specifications

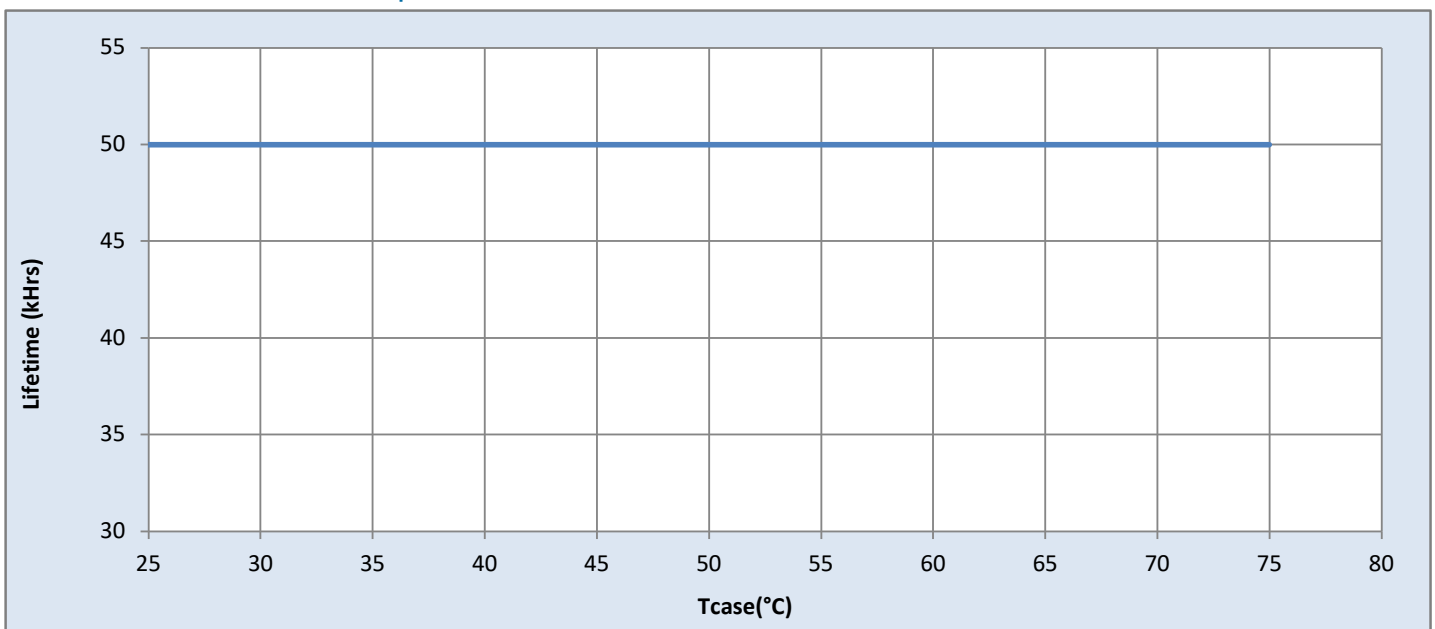
All the specifications are typical and at 25°C Tcase unless specified otherwise.

## Output Current Vs. Driver Case Temperature



Note: There is  $\pm 5^\circ\text{C}$  tolerance on the driver case temperature.

## Driver Lifetime Vs. Driver Case Temperature



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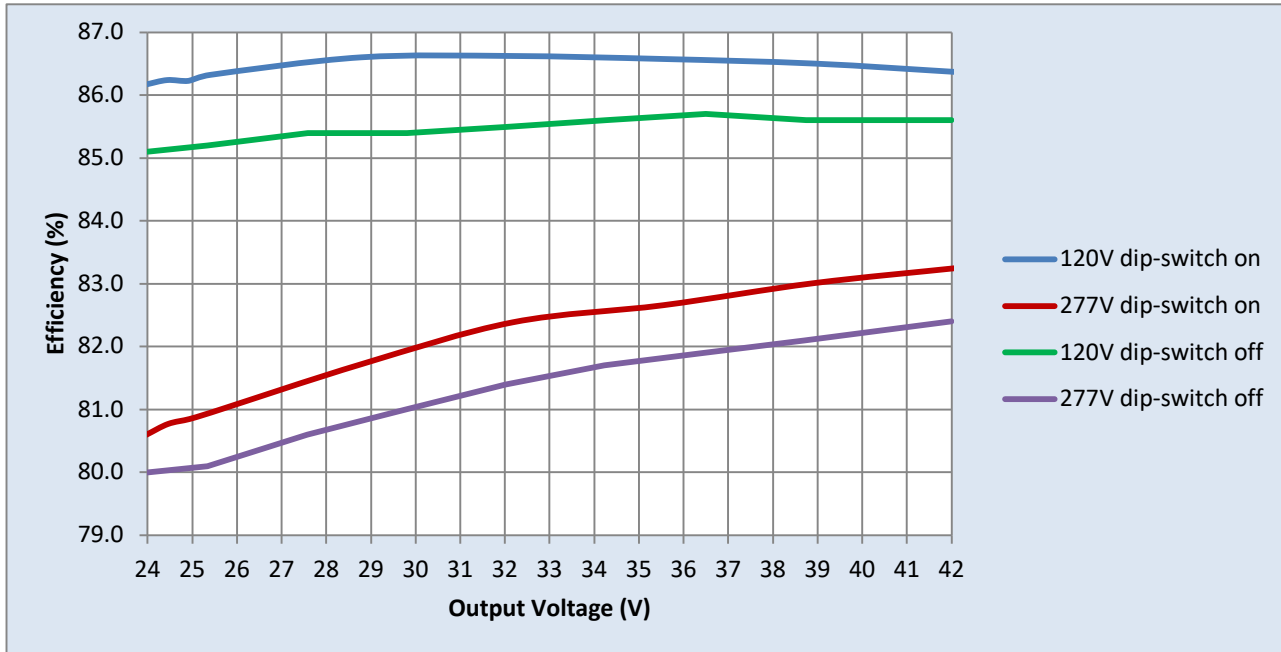
CI009C023V042CDD1(side entry)

9W 0.225/0.2A 42V 0-10V 120-277V

## Performance Characteristics

Based on measurements on a typical sample at 75°C case. The accuracy of the measurements is within the tolerance of the measurement instruments.

## Efficiency Vs. Output Voltage



# CertaDrive SM Point

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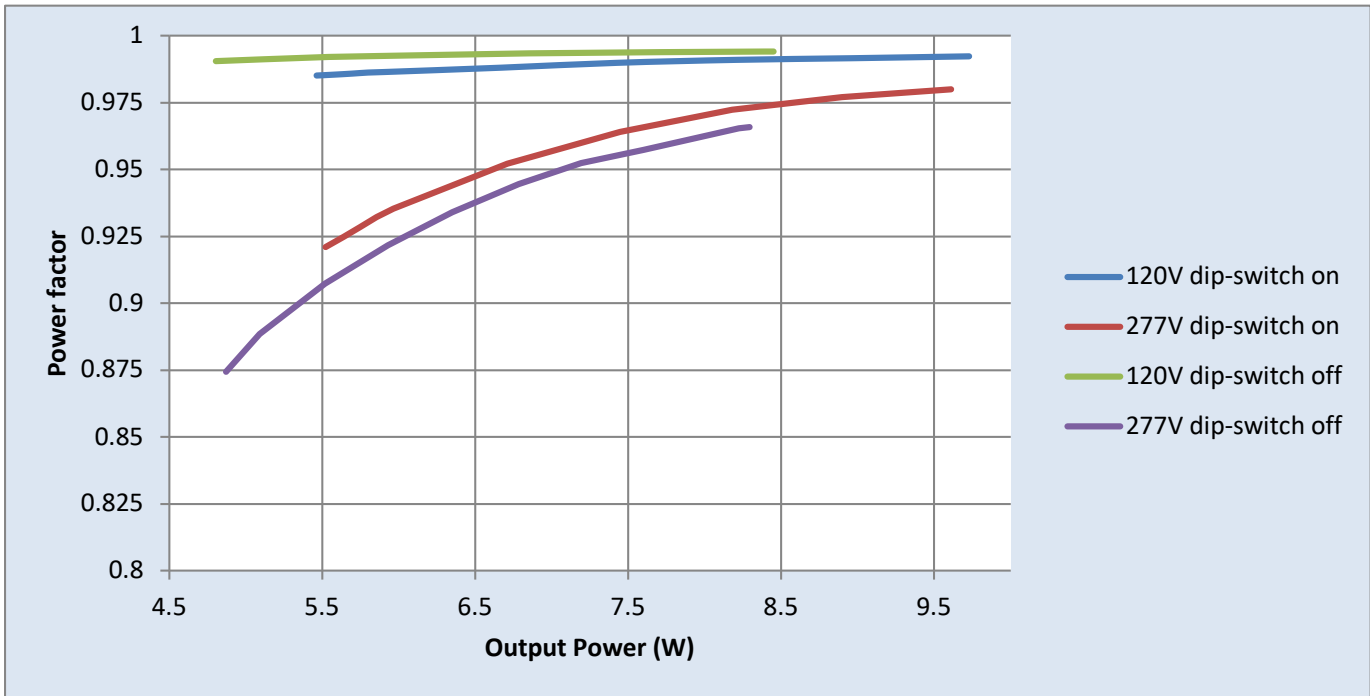
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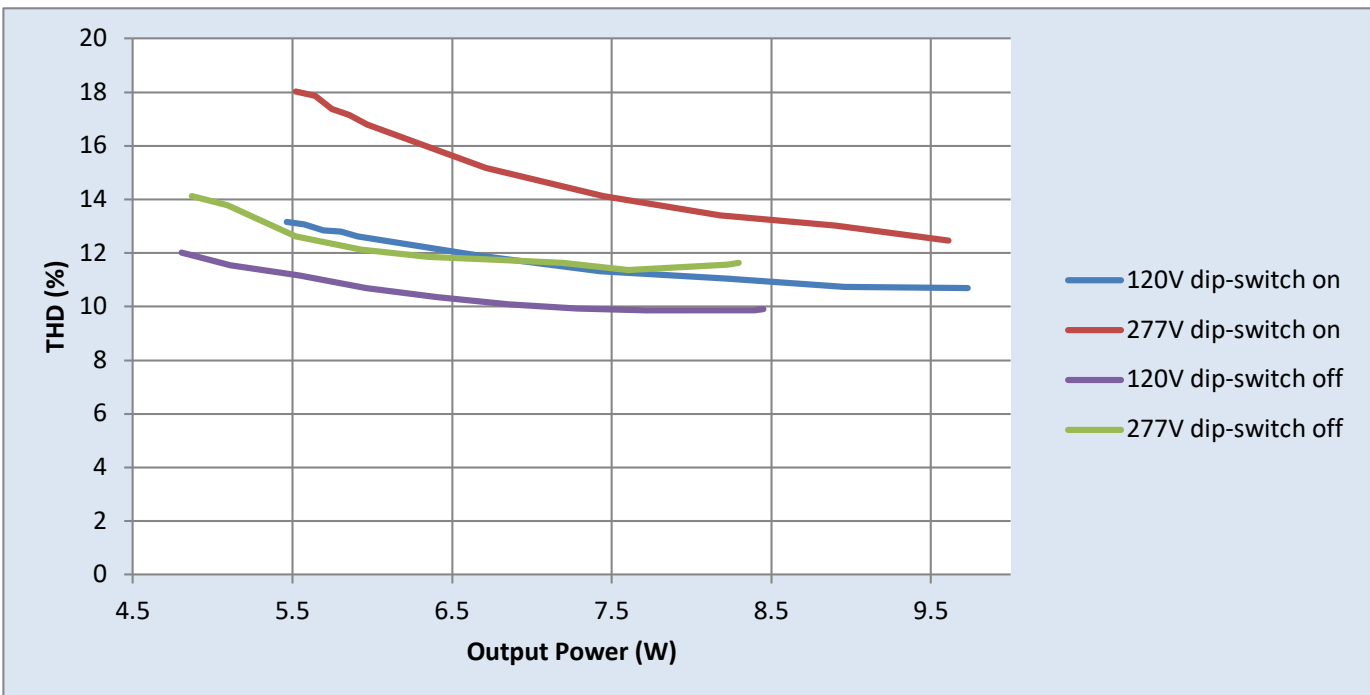
## Performance Characteristics

Based on measurements on a typical sample at 75°C case. The accuracy of the measurements is within the tolerance of the measurement instruments.

### Power Factor Vs. Output Power



### Total Harmonic Distortion (THD) Vs. Output Power





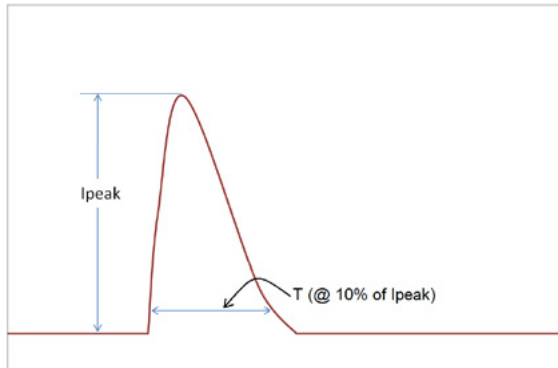
# CertaDrive SM Point

CI009C023V042CDM1(bottom entry)

CI009C023V042CDD1(side entry)

9W 0.225/0.2A 42V 0-10V 120-277V

## Inrush Current Info



| Vin      | Ipeak | T (@ 10% of Ipeak) |
|----------|-------|--------------------|
| 120 Vrms | 4.24A | 7.38μS             |
| 277 Vrms | 9.42A | 7.54μS             |

Inrush current is measured at peak of the corresponding line voltage. Source impedance per NEMA 410.

## Lightning Surge Info

| ANSI Surge Type             | Differential Mode (L-N) | Common Mode (L-G, N-G, L&N-G) |
|-----------------------------|-------------------------|-------------------------------|
| 100 kHz Ring Wave (w/t 30Ω) | 2.5kV                   | 2.5kV                         |

## Isolation

| Isolation | Input   | Output  | 0-10V   | Enclosure |
|-----------|---------|---------|---------|-----------|
| Input     | -       | 2xU+1kV | 2xU+1kV | 2xU+1kV   |
| Output    | 2xU+1kV | -       | 2xU+1kV | 500V      |
| 0-10V     | 2xU+1kV | 2xU+1kV | -       | 2xU+1kV   |
| Enclosure | 2xU+1kV | 500V    | 2xU+1kV | -         |

U = Max Input voltage



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