

# LED Driver

## EUCI Panda 20W Series



# EUCI Panda 35W

### Highlights & Features

- Constant current design
- Input voltage from 220-240Vac
- Up to 89.5% efficiency
- Independent or built-in type
- Meets IEC/EN 61000-3-2, Class C
- Fixed output current
- IP20 assembly for indoor applications

### Safety Standards

Independent:

Built-in:

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

115 x 45 x 29 mm (4.53 x 1.77 x 1.14 inch)

### General Description

Delta EUCI-Panda 35W series of fixed output current LED drivers comes with affordable and reliable features. Compatible with COB and mid-power LEDs from any LED manufacturer. Independent type housing design for stand-alone installations. Various output current selection for different lumen application. Meet major Europe safety certifications and are compliant with EN55015 immunity/Emissions/Harmonic requirements. The products are designed and rigorously tested to work in various indoor LED lighting conditions.

### Model Information

#### EUCI Panda 35W LED Driver

Model Number	Input Voltage Range	Rated Output Voltage	Rated Output Current
EUCI-035050FA/B	220-240Vac Typical 198-264Vac Range	24-43Vdc	500mA
EUCI-035060FA/B		24-43Vdc	600mA
EUCI-035070FA/B		24-43Vdc	700mA
EUCI-035080FA/B		24-43Vdc	800mA
EUCI-035090FA/B		24-38Vdc	900mA
EUCI-035105FA/B		24-38Vdc	1050mA

### Model Numbering

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Safety Approval CE ENEC	Constant Current	Indoor		Output Power 035 – 35W	Output Current 050 – 500mA 060 – 600mA 070 – 700mA 080 – 800mA 090 – 900mA 105 – 1050mA	Function F – Fixed Output	Variable* A – Independent B – Built-in type

# LED Driver

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### Specifications

Model Number	EUCI-035050FA/B	EUCI-035060FA/B	EUCI-035070FA/B	EUCI-035080FA/B	EUCI-035090FA/B	EUCI-035105FA/B
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### Input Ratings / Characteristics

Normal Input Voltage	220-240Vac					
Input Voltage Range	198-264Vac					
Normal Input Frequency	50/60 Hz					
Input Frequency Range	47-63 Hz					
Normal Input Current	0.16A	0.18A	0.19A	0.21A	0.22A	0.25A
Efficiency <sup>1</sup>	230Vac	88.5%	89%	89.5%	89.5%	89.5%
No load Power Consumption	<0.6W at 230Vac					
Inrush Current (Apk / 50%-us) (Cold Start)	10A/250us @ 230Vac					
Max. no. of LED Driver for Circuit Breaker	B16	45 pcs				
Power Factor	> 0.95 @ 230Vac/50Hz at >20W load					
Total Harmonic Distortion	< 20% @ 230Vac/50Hz at >20W load					
Leakage Current	< 0.7mA @ 230Vac					

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

### Output Ratings / Characteristics

Nominal Output Current	500mA	600mA	700mA	800mA	900mA	1050mA
Output Voltage Range	24-43Vdc	24-43Vdc	24-43Vdc	24-43Vdc	24-38Vdc	24-38Vdc
Max. No Load Output Voltage	50Vdc					
Output Power Range	12-21.5W	14.4-25.8W	16.8-30.1W	19.2-34.4W	21.6-34.2W	25.2-40W
Output Current Tolerance	± 10%					
Line Regulation	± 5%					
Load Regulation	± 5%	± 5%	± 5%	± 5%	± 7%	± 7%
Output Current Ripple	Low frequency, 30% @max load, 40% @20W load (ripple = (pk-avg)/avg)					
Rise Time	< 80ms @ 230Vac					
Start-up Time	< 250ms @230Vac					

### Mechanical

Casing	Plastic, Color : White					
Dimensions (L x W x H)	[mm]	115.0 x 45.0 x 29.0				
	[inch]	4.53 x 1.77 x 1.14				
Unit Weight	[kg]	0.18				
	[lb]	0.40				
Cooling System	Convection					
Input connector :	Terminal, 2-pole (Line/Neutral), Conductor 0.75~1.5mm <sup>2</sup> , Strip length 8.5...9.5mm					
Output connector :	Terminal, 2-pole (Line/Neutral), Conductor 0.75~1.5mm <sup>2</sup> , Strip length 8.5...9.5mm					
Noise (30cm distance)	Sound Pressure Level (SPL) < 24dBA					

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### Environment

Ambient Temperature	Operating	-25 ~+60°C	-25 ~+60°C	-25 ~+55°C	-25 ~+50°C	-25 ~+55°C	-25 ~+50°C
	Storage	-25°C to +85°C					
Maximum Case Temperature		+85°C	+85°C	+85°C	+85°C	+85°C	+85°C
Lifetime Case Temperature		+80°C	+80°C	+80°C	+85°C	+80°C	+85°C
Relative Humidity	Operating	10 to 90% RH (Non-Condensing)					
	Storage	5 to 95% RH (Non-Condensing)					

### Protections

Over voltage	44-50Vdc	44-50Vdc	44-50Vdc	44-50Vdc	39-50Vdc	39-50Vdc
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					
Ingress Protection classification	IP20					
Suitable for Luminaires Class	Class II. Insulation Class according to IEC60598					

### Reliability Data

Lifetime	50,000 hours at lifetime case temperature
MTTF	500,000 hrs.@ta: +50°C (as per Telcordia SR-332 , total failure rate less than 10% )

### Safety Standards / Directives

Electrical Safety	CB scheme to IEC 61347-1, IEC 61347-2-13 ENEC to EN 61347-1, EN 61347-2-13, EN 62384 SELV
CE	In conformance with EMC Directive and Low Voltage Directive
Material and Parts	RoHS Directive Compliant
Galvanic Isolation	Input to Output 3.75kVac

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### EMC

Emissions (CE & RE)	Compliance to EN 55015 Class B;	
Immunity	Compliance to EN 61547	
Electrostatic Discharge	IEC 61000-4-2	ESD, Criteria A <sup>1)</sup> or B <sup>2)</sup> Air Discharge: 8kV Contact Discharge: 4kV
Radiated Disturbance	IEC 61000-4-3	RS, Criteria A <sup>1)</sup> 80MHz-1GHz, 3V/m with 1kHz Sine Wave / 80% AM Modulation
Electrical Fast Transient / Burst	IEC 61000-4-4	EFT, Criteria A <sup>1)</sup> or B <sup>2)</sup> 1kV
Surge	IEC 61000-4-5	Criteria A <sup>1)</sup> or B <sup>2)</sup> Common Mode <sup>3)</sup> : 1kV; Differential Mode <sup>4)</sup> :0.5kV 1.2/50µs, 8/20µs Combination Wave with 2ohms (L-N), 12ohms (L-PE & N-PE) source impedance
Conducted Disturbance	IEC 61000-4-6	CS, Criteria A <sup>1)</sup> 150kHz-80MHz, 3Vrms
Power Frequency Magnetic Fields	IEC 61000-4-8	PFMF, Criteria A <sup>1)</sup> 3A/Meter
Voltage Dips	IEC 61000-4-11	Criteria A <sup>1)</sup> or B <sup>2)</sup> ; 100% dip; 0.5 cycle; Self Recoverable 30% dip; 10 cycle; Self Recoverable
Harmonic Current Emission	IEC 61000-3-2	Class C (230Vac @ 100% load)
Voltage Fluctuation & Flicker	IEC 61000-3-3	Pst ≤ 1.0 ; dmax ≤ 4% ; Plt ≤ 0.65 ; dc ≤ 3.3% ; Tmax ≤ 500ms
Emissions (CE & RE)	Compliance to EN 55015 Class B;	
Immunity	Compliance to EN 61547	
Electrostatic Discharge	IEC 61000-4-2	ESD, Criteria A <sup>1)</sup> or B <sup>2)</sup> Air Discharge: 8kV Contact Discharge: 4kV
Radiated Field	IEC 61000-4-3	RS, Criteria A <sup>1)</sup> 80MHz-1GHz, 3V/m with 1kHz Sine Wave / 80% AM Modulation
Electrical Fast Transient / Burst	IEC 61000-4-4	EFT, Criteria A <sup>1)</sup> or B <sup>2)</sup> 1kV
Surge	IEC 61000-4-5	Criteria A <sup>1)</sup> or B <sup>2)</sup> Common Mode <sup>3)</sup> :2kV; Differential Mode <sup>4)</sup> :1kV 1.2/50µs, 8/20µs Combination Wave with 2ohms (L-N), 12ohms (L-PE & N-PE) source impedance
Conducted	IEC 61000-4-6	CS, Criteria A <sup>1)</sup> 150kHz-80MHz, 3Vrms
Power Frequency Magnetic Fields	IEC 61000-4-8	PFMF, Criteria A <sup>1)</sup> 3A/Meter
Voltage Dips	IEC 61000-4-11	Criteria A <sup>1)</sup> or B <sup>2)</sup> ; 100% dip; 0.5 cycle; Self Recoverable 30% dip; 10 cycle; Self Recoverable
Harmonic Current Emission	IEC 61000-3-2	Class C (230Vac @ 100% load)
Voltage Fluctuation & Flicker	IEC 61000-3-3	

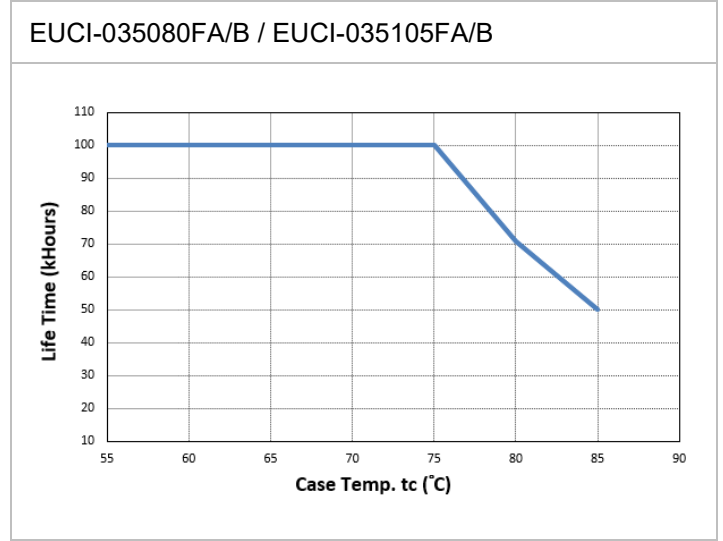
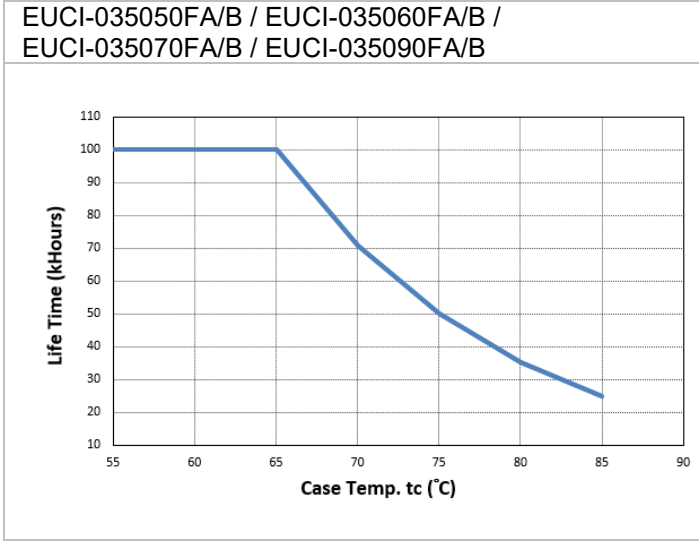
1) Criteria A: Normal performance within the specification limits  
2) Criteria B: Temporary degradation or loss of function which is self-recoverable

3) Asymmetrical: Common mode (Line to earth)  
4) Symmetrical: Differential mode (Line to line)

# LED Driver

## EUCI Panda 35W Series

### Lifetime VS Case Temperature

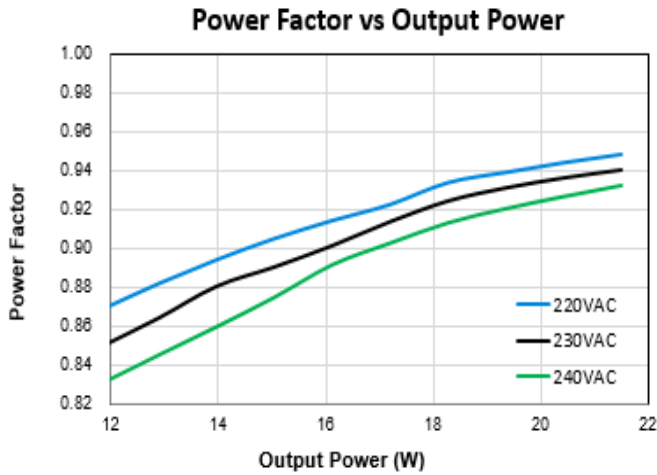


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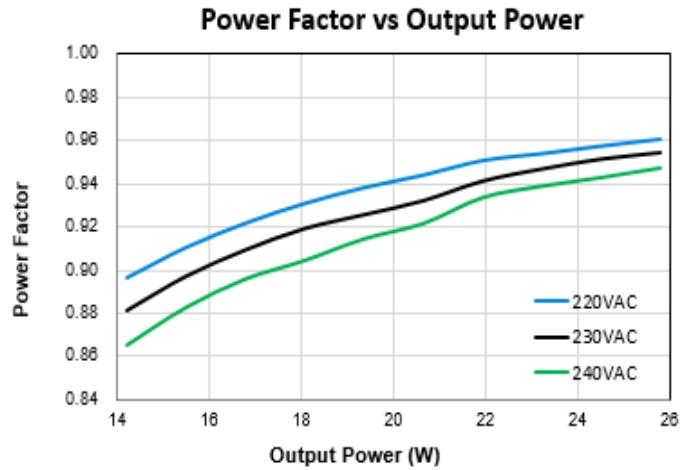
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### Power Factor VS Output Power

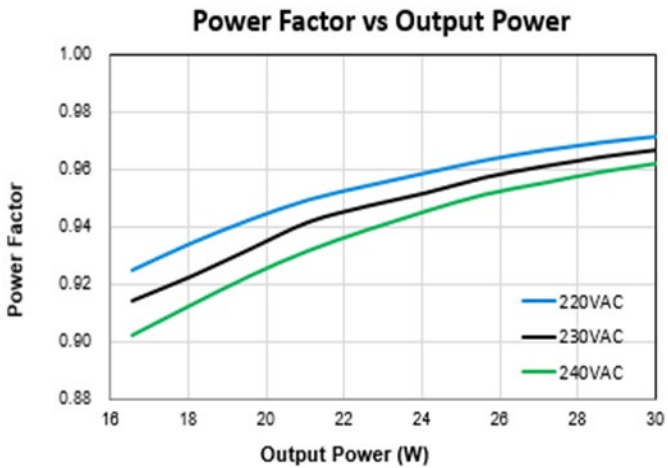
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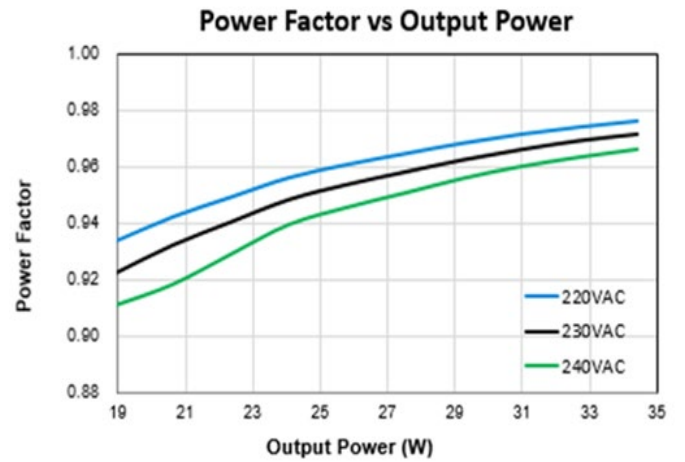
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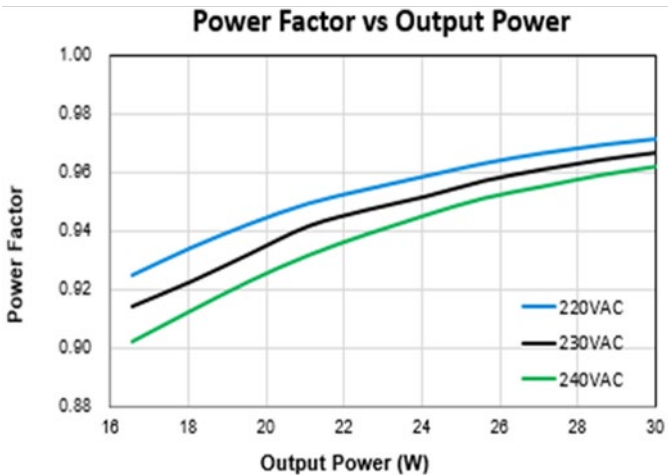
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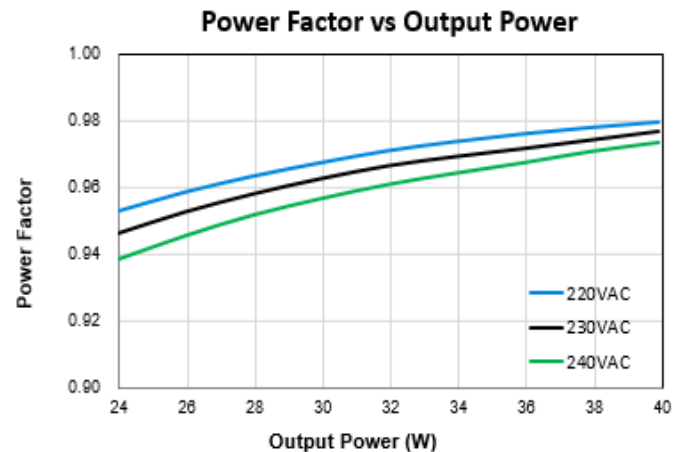
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EUCI-035090FA/B



EUCI-035105FA/B

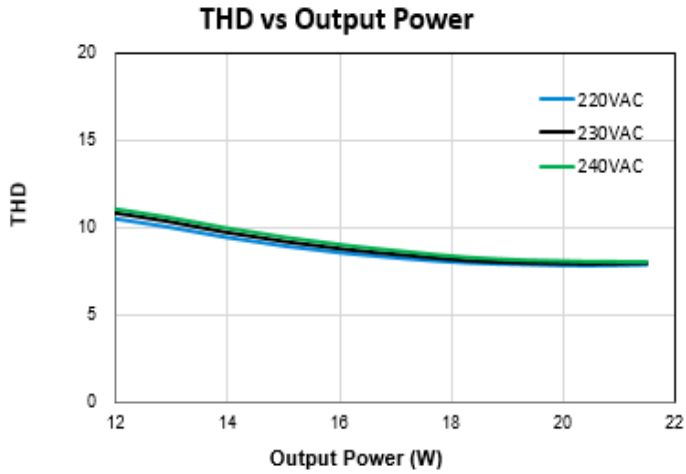


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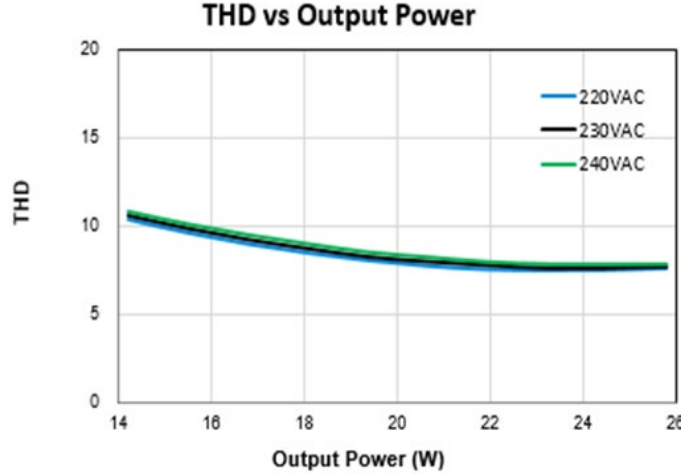
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### Total Harmonic Distortion VS Output Power

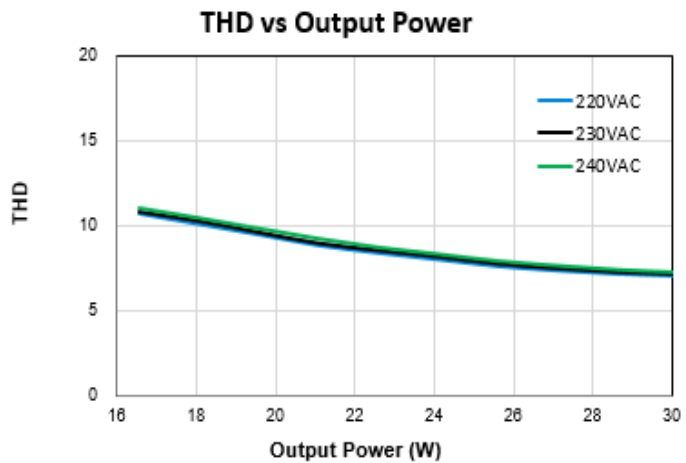
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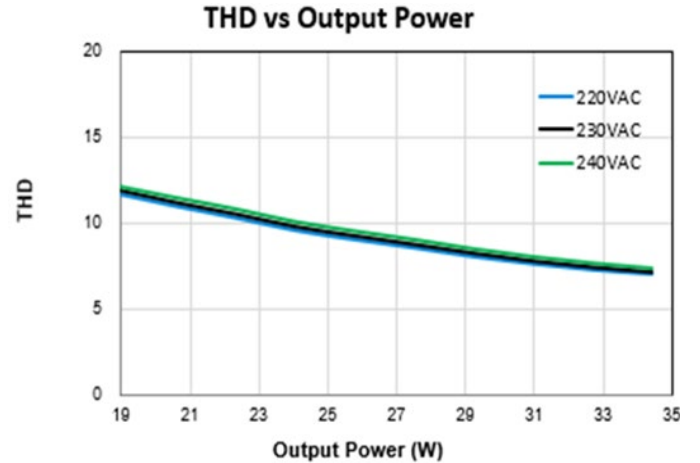
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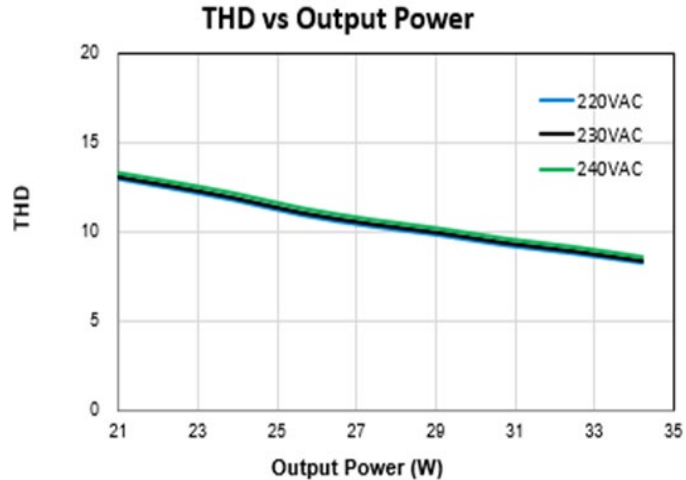
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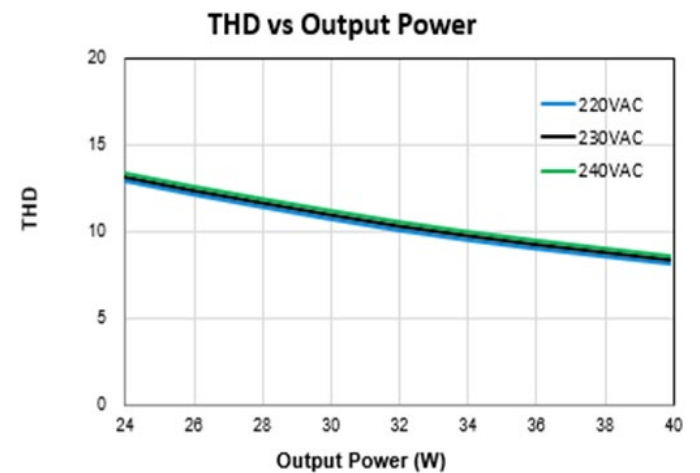
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EUCI-035090FA/B



EUCI-035105FA/B

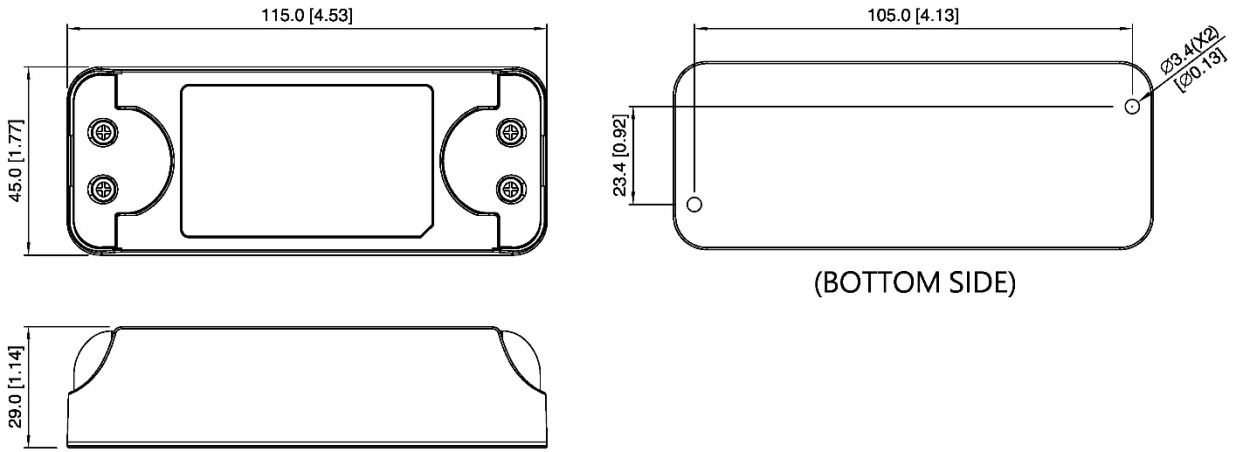


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## EUCI Panda 35W Series

### Dimensions

**EUCI-035050FA & EUCI-035060FA & EUCI-035070FA & EUCI-05080FA & EUCI-035090FA & EUCI-035105FA**



**EUCI-035050FB & EUCI-035060FB & EUCI-035070FB & EUCI-05080FB & EUCI-035090FB & EUCI-035105FB**

