

LED Driver

EUCO Fixed Series / EUCO-□□□□□□FA

EUCO Fixed



Highlights & Features

- Constant current design
- EMEA AC input voltage from 220-240Vac
- High efficiency up to 91%
- Wide operating temperature range -40°C to +55°C
- With IP66/IP67 protection from most outdoor applications
- Build-in Active PFC and conform to harmonic current IEC/EN 61000-3-2, Class C

Safety Standards



Dimensions (L x W x H):

EUCO-065□□□FA	187 x 60 x 34 mm (7.36 x 2.36 x 1.34 inch)
EUCO-100□□□FA	250 x 60 x 34 mm (9.84 x 2.36 x 1.34 inch)
EUCO-150□□□FA	250 x 60 x 34 mm (9.84 x 2.36 x 1.34 inch)

General Description

Delta LED drivers come in different series to suit different application needs. All the models come in full corrosion resistance aluminum casing and major international safety certifications. The products are designed and rigorously tested to work with various outdoor LED lighting conditions. 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 outdoor LED lighting conditions.

Model Information

EUCO Fixed LED Driver

Model Number	Input Voltage Range	Rated Output Voltage Range	Rated Output Current
EUCO-065035FA	220-240Vac Typical 198-264Vac Range	93-186Vdc	350mA
EUCO-065050FA		65-130Vdc	500mA
EUCO-065070FA		46-93Vdc	700mA
EUCO-065105FA		31-62Vdc	1050mA
EUCO-100035FA		143-286Vdc	350mA
EUCO-100050FA		100-200Vdc	500mA
EUCO-100070FA		71-143Vdc	700mA
EUCO-100105FA		48-95Vdc	1050mA
EUCO-150050FA		150-300Vdc	500mA
EUCO-150070FA		107-214Vdc	700mA
EUCO-150105FA	71-143Vdc	1050mA	

Model Numbering

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Safety Approval – CQC CE	Constant current	Outdoor		Output Power 65W/100W/150W	Max Output Current 035 – 350mA 050 – 500mA 070 – 700mA 105 – 1050mA	Fixed output current	Variable A – Delta Standard

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Specifications

Model Number	EUCO-065035FA	EUCO-065050FA	EUCO-065070FA	EUCO-065105FA
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Input Ratings / Characteristics

Normal Input Voltage	220-240Vac				
Input Voltage Range	198-264Vac				
Normal Input Frequency	50-60Hz				
Input Frequency Range	47-63Hz				
Max. Input Current	220Vac	0.4A	0.4A	0.4A	0.4A
Efficiency ¹⁾	230Vac	88%	88%	88%	88%
Inrush Current (Apk / 50% - μ S @ Cold Start)	50A / 250 μ S@230V		50A / 250 μ S@230V		50A / 250 μ S@230V
Max. no. of LED Drivers circuit breaker at 230Vac	B16	11 pcs	11 pcs	11 pcs	11 pcs
Power Factor	> 0.95 @ 230Vac, > 70% Load: > 0.90 @ 230Vac				
Total Harmonic Distortion	THD < 20% with load \geq 50% at 230Vac				
Leakage Current	< 0.7mA peak @ 240Vac				

Output Ratings / Characteristics

Output Voltage Range	93-186Vdc	65-130Vdc	46-93Vdc	30-62Vdc
Max. No Load Output Voltage	223V	156V	111V	75V
Output Power	65W	65W	65W	65W
Output Current	350mA	500mA	700mA	1050mA
Current Accuracy	\pm 5% (@ Typical output current range)			
Line Regulation	\pm 5% (@ 198-264Vac input)			
Load Regulation	\pm 5% (@ Min-Max output voltage)			
Output Current LF Ripple	25% (ripple = peak-average/average) at full load			
Start-up Time	1000ms max. @ 198-264Vac (full load)			

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Model Number	EUCO-100035FA	EUCO-100050FA	EUCO-100070FA	EUCO-100105FA	EUCO-150050FA	EUCO-150070FA	EUCO-150105FA
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Input Ratings / Characteristics

Normal Input Voltage	220-240Vac							
Input Voltage Range	198-264Vac							
Normal Input Frequency	50-60Hz							
Input Frequency Range	47-63Hz							
Max. Input Current	220Vac	0.6A	0.6A	0.6A	0.6A	0.79A	0.79A	0.79A
Efficiency ¹⁾	230Vac	90%	90%	90%	90%	91%	91%	91%
Inrush Current (Apk / 50% - μS @ Cold Start)		70A / 200μS	70A / 200μS	70A / 200μS	70A / 200μS	70A / 250uS	70A / 250uS	70A / 250uS
Max. no. of LED Drivers circuit breaker at 230Vac	B16	9 pcs	9 pcs	9 pcs	9 pcs	8 pcs	8 pcs	8 pcs
Power Factor	> 0.95 @ 230Vac, > 70% Load: > 0.90 @ 230Vac							
Total Harmonic Distortion	THD < 20% with load ≥ 50% at 230Vac input							
Leakage Current	< 0.7mA peak @ 240Vac							

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

Output Ratings / Characteristics

Output Voltage Range	143-286Vdc	100-200Vdc	71-143Vdc	47-96Vdc	150-300Vdc	107-214Vdc	71-143Vdc
Max. No Load Output Voltage	343V	240V	171V	116V	360V	250V	172V
Output Power Range	100W	100W	100W	100W	150W	150W	150W
Output Current	350mA	500mA	700mA	1050mA	500mA	700mA	1050mA
Current Accuracy	± 5% (@ Typical output current range)						
Line Regulation	± 5% (@ 198-264Vac input)						
Load Regulation	± 5% (@ Min-Max output voltage)						
Output Current LF Ripple	25% (ripple = peak-average/average) at full load						
Start-up Time	1000ms max. @ 198-264Vac (full load)						

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Mechanical

Casing	Aluminum, Color : Natural		
Dimensions (L x W x H) [mm]	187.0 x 60.0 x 34.0	250.0 x 60.0 x 34.0	250.0 x 60.0 x 34.0
	[inch] 7.36 x 2.36 x 1.34	9.84 x 2.36 x 1.34	9.84 x 2.36 x 1.34
Unit Weight [kg]	0.65	0.91	0.95
	[lb] 1.43	2.00	2.09
Cooling System	Convection		
Input Cable :	Line: Brown, Neutral: Blue, PE: Yellow/Green, Cable Length 370mm		
Output Cable :	Positive: Brown, Negative: Blue, Cable Length 370mm		
Noise (30cm distance)	Sound Pressure Level (SPL) < 24dBA		

Environment

Ambient Temperature	Operating	-40°C to +55°C	-40°C to +55°C	-40°C to +55°C
	Storage	-40°C to +85°C		
Maximum Case Temperature		+80°C	+85°C @350,500,700mA +80°C @1050mA	+85°C
Relative Humidity	Operating	10 to 90% RH (Non-Condensing)		
	Storage	5 to 95% RH (Non-Condensing)		

Protections

Over Voltage	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	Reduce output current. Auto-Recovery when the fault is removed
Ingress Protection Classification	IP66 / IP67
Suitable for Luminaires Class	Class I. Insulation Class according to IEC 60598

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Reliability Data

Lifetime	50,000 hrs. @ lifetime case temperature
MTTF	500,000 hrs. @ta: +55°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 CCC, GB19510.1, GB19510.14 SELV			
CE	In conformance with EMC Directive and Low Voltage Directive			
Material and Parts	RoHS Directive Compliant			
Galvanic Isolation		Mains (Input)	Output	Earth (Case)
	Mains (Input)	N/A	3750V	1875V
	Earth (Case)	1875V	500V	N/A

EMC Compliance

Emissions (CE & RE)	Compliance to EN 55015 Class B		
Immunity	Compliance to EN 61547		
Electrostatic Discharge	IEC 61000-4-2	Air Discharge: 8kV ; Contact Discharge: 4kV Criteria A ¹⁾ or B ²⁾	
Radiated Disturbances	IEC 61000-4-3	80MHz-1GHz, 3V/m with 1kHz Sine Wave / 80% AM Modulation Criteria A ¹⁾	
Electrical Fast Transient / Burst	IEC 61000-4-4	1kV; Criteria A ¹⁾ or B ²⁾	
Surge	IEC 61000-4-5	1.2/50µs, 8/20µs Combination Wave with 2ohms (L-N), 12ohms (L-PE & N-PE) source impedance Criteria A ¹⁾ or B ²⁾ Common Mode ³⁾ : 6kV; Differential Mode ⁴⁾ : 4kV	
Conducted Disturbances	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; Self Recoverable 30% dip; 10 cycle; Self Recoverable Criteria A ¹⁾ or B ²⁾	
Harmonic Current Emission	IEC 61000-3-2	Class C (230Vac @ 100% load)	
Voltage Fluctuation and Flicker	IEC 61000-3-3	P _{st} ≤ 1.0 ; d _{max} ≤ 4% ; P _{lt} ≤ 0.65 ; d _c ≤ 3.3% ; T _{max} ≤ 500ms	

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)

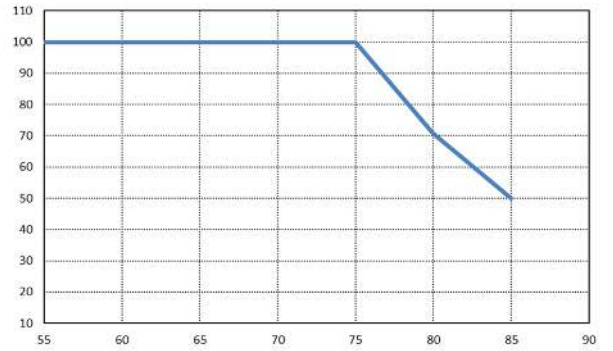
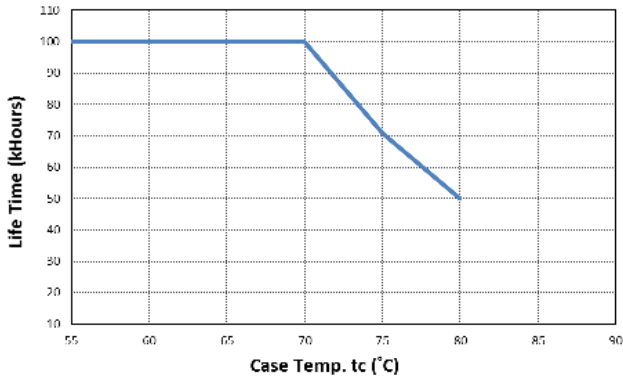
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Lifetime VS Case Temperature

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EUCO-150□□□FA

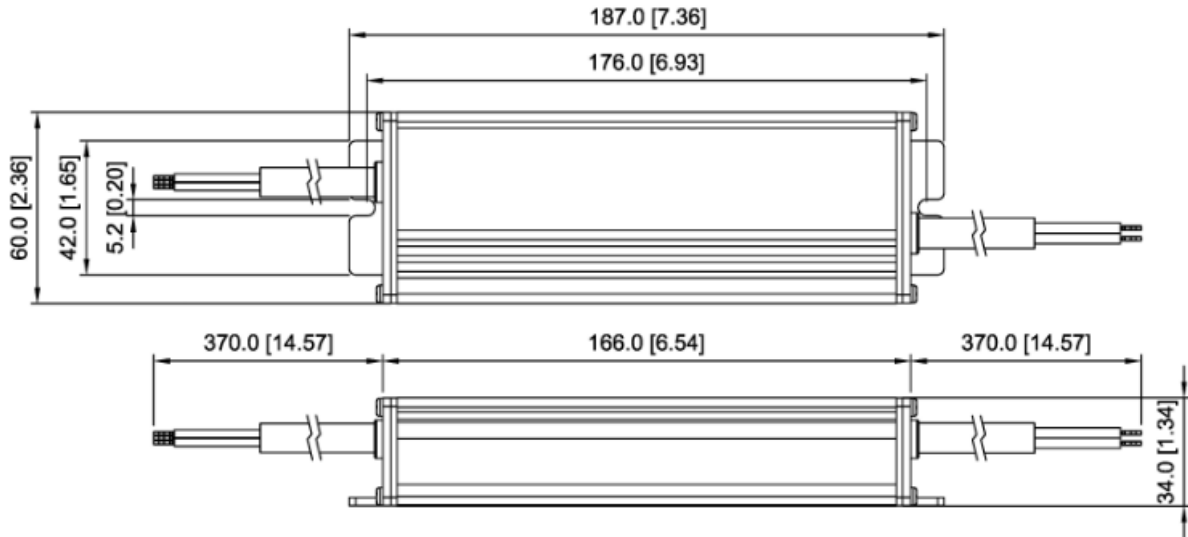


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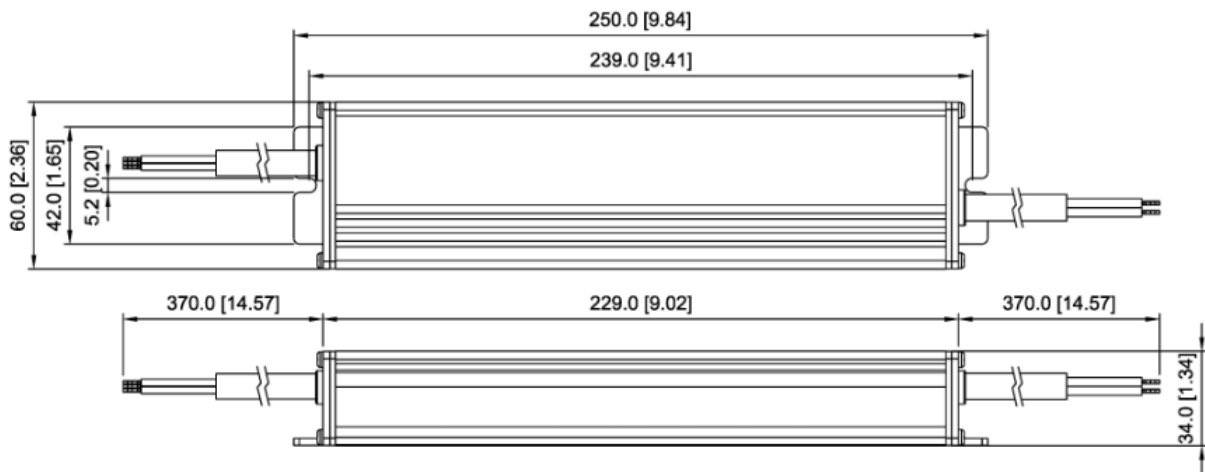
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Dimensions

EUCO-065070FA



EUCO-100070FA/ EUCO-150070FA



Unit: mm [inch]