

Features

- High Efficiency (Up to 92.5%)
- Constant Current Output
- Compact Package Design
- 0-10V Dimming Control
- Lightning Protection
- All-Around Protection: OVP, SCP, OTP
- Waterproof (IP67)
- Class II, Double Insulation
- SELV Output



Description

The EUC-150SxxxDDA(SDA) series is a 150W, constant-current outdoor LED driver that operates from 90-305 Vac input with excellent power factor. It is created for high bay, tunnel and roadway lights. The high efficiency of these drivers and compact metal case enables them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against over voltage, short circuit, and over temperature.

This product meets all requirements for Class II safety certification. However, the allowed leakage current could cause a mild shock if the case is touched while energized.

Models

Output Current	Input Voltage Range(1)	Output Voltage Range	Max. Output Power	Typical Efficiency (2)	Power Factor		Model Number (3)
					120Vac	220Vac	
700 mA	90~305 Vac	107~214 Vdc	150 W	92.5%	0.99	0.95	EUC-150S070DDA(SDA)
1400 mA	90~305 Vac	53~107 Vdc	150 W	92.5%	0.99	0.95	EUC-150S140DDA(SDA)(4)

- Notes:** (1) Certificated input Voltage range 100-240Vac.
 (2) Measured at full load and 220 Vac input.
 (3) A suffix -xxxx may be added to denote variations or modifications to the standard product, where x can be any alphanumeric character or blank.
 (4) SELV Output.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 Vac	-	305 Vac	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.7 mA	IEC60598-1; 240Vac/ 60Hz
Input AC Current	-	-	1.8 A	Measured at full load and 100Vac input.
	-	-	0.9 A	Measured at full load and 220Vac input.
Inrush current	-	-	75 A	At 220Vac input, 25°C cold start, duration=1.7 ms, 10%Ipk-10%Ipk.
Inrush current(I ² t)	-	-	3.5 A ² s	

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
PF	0.90	-	-	At 100-277Vac, 75%load-100%load
THD	-	-	20%	

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%Io	-	5%Io	At full load condition.
No-load Output Voltage Io = 700 mA Io = 1400 mA	218 V 112 V	225 V 115 V	236 V 118 V	
Output Current Ripple (pk-pk)	-	10%Io	15%Io	At full load condition.
Output Current Overshoot / Undershoot	-	-	10%	At full load condition.
Line Regulation	-	-	± 1%	Measured at full load
Load Regulation	-	-	± 3%	
Turn-on Delay Time	-	1.0 s	2.0 s	Measured at 120Vac and 220Vac input.
Temperature Coefficient	-	-	0.03%/°C	Case temperature = 0°C ~Tc max

Note: All specifications are typical at 25°C unless stated otherwise.

Protection Functions

Parameter	Notes
Short Circuit Protection	No damage should occur due to any output operating under a short circuit condition. The power supply will self-recover once the fault condition is removed.
Over Temperature Protection	Decrease output current mode. When the case temperature reaches 120±10°C, the output current decreases to 50%Io until the case temperature reaches 75°C.

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency Io = 700 mA Io = 1400 mA	88.0% 88.0%	90.0% 90.0%	- -	Measured at full load, 120Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be about 2% lower, if measured immediately after startup.
Efficiency Io = 700 mA Io = 1400 mA	90.5% 90.0%	92.5% 92.0%	- -	Measured at full load, 220Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be about 2% lower, if measured immediately after startup.
Efficiency Io = 700 mA Io = 1400 mA	90.5% 90.5%	92.5% 92.5%	- -	Measured at full load, 277Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be about 2% lower, if measured immediately after startup.

General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
MTBF	-	383,000 Hours	-	Measured at 120Vac input, 80%Load and 25°C ambient temperature(MIL-HDBK-217F)
Lifetime	-	120,000 Hours	-	Measured at 220Vac input, 80%Load and 60°C case temperature; See life time vs. Tc curve for the details
Operating Case Temperature for Safety Tc_s	-	-	90°C	
Operating Case Temperature for Warranty Tc_w	-	-	75°C	
Dimensions Inches (L x W x H) Millimeters (L x W xH)	7.83 x 2.66 x 1.56 199 x 67.5 x39.5			
Net Weight	-	1000 g	-	

Note: All specifications are typical at 25°C unless stated otherwise.

Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes
Operating Ambient Temperature	-40°C	-	+70°C	Humidity: 10%RH to 100%RH See Derating Curve for more details
Storage Temperature	-40°C	-	+90°C	Humidity: 5%RH to 100%RH

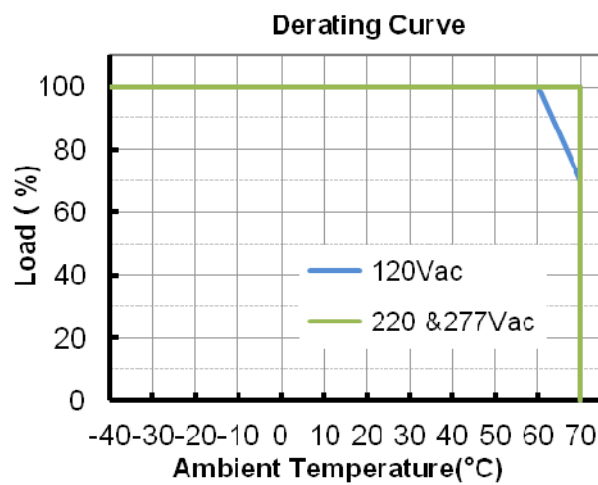
Safety & EMC Compliance

Safety Category	Standard
CE	EN61347-1, EN61347-2-13
Performance	Standard
ENEC	EN 62384
EMI Standards	Notes
EN 55015	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic Current Emissions
EN 61000-3-3	Voltage Fluctuations & Flicker
EMS Standards	Notes
EN 61000-4-2	Electrostatic Discharge(ESD): 8kV air discharge, 4kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient/Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 4 kV

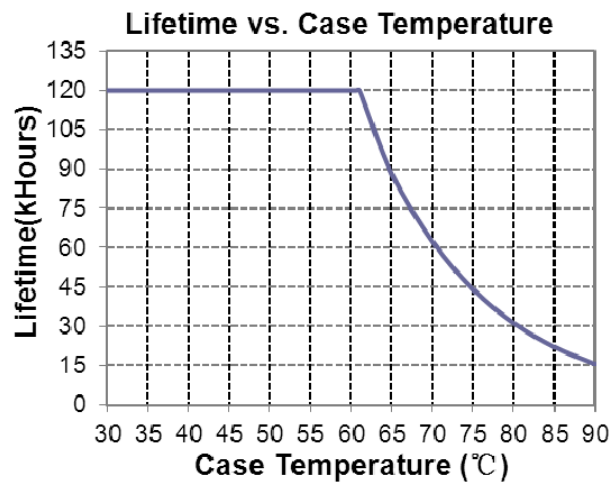
Safety & EMC Compliance (Continued)

EMS Standards	Notes
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8	Power Frequency Magnetic Field Test
EN 61000-4-11	Voltage Dips
EN 61547	Electromagnetic Immunity Requirements Applies To Lighting Equipment

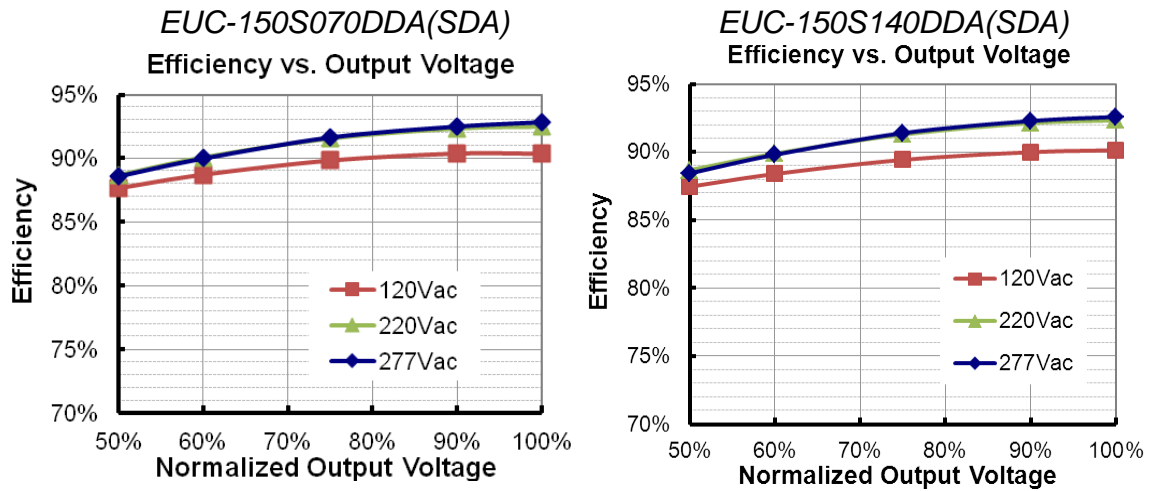
Derating Curve



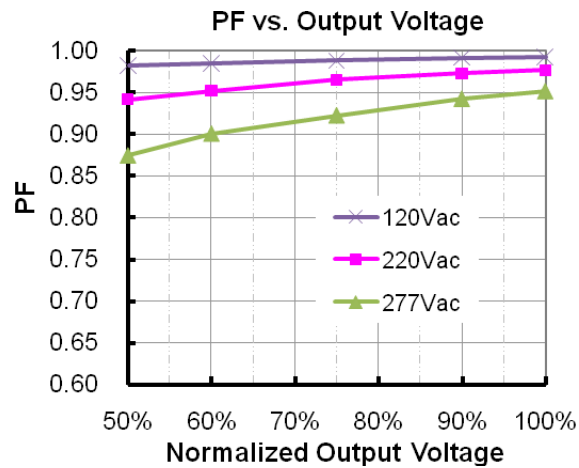
Lifetime vs. Case Temperature Curve



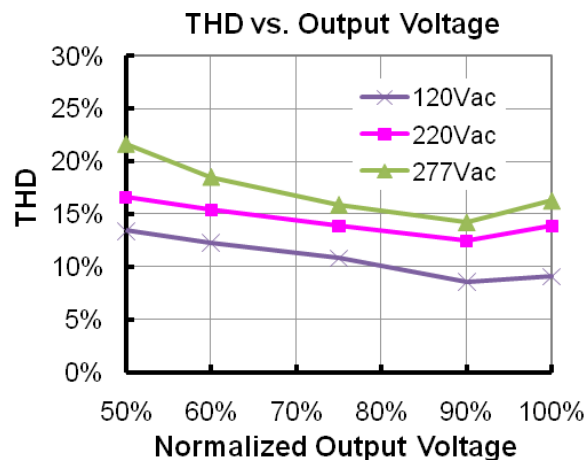
Efficiency vs. Load



Power Factor Characteristics



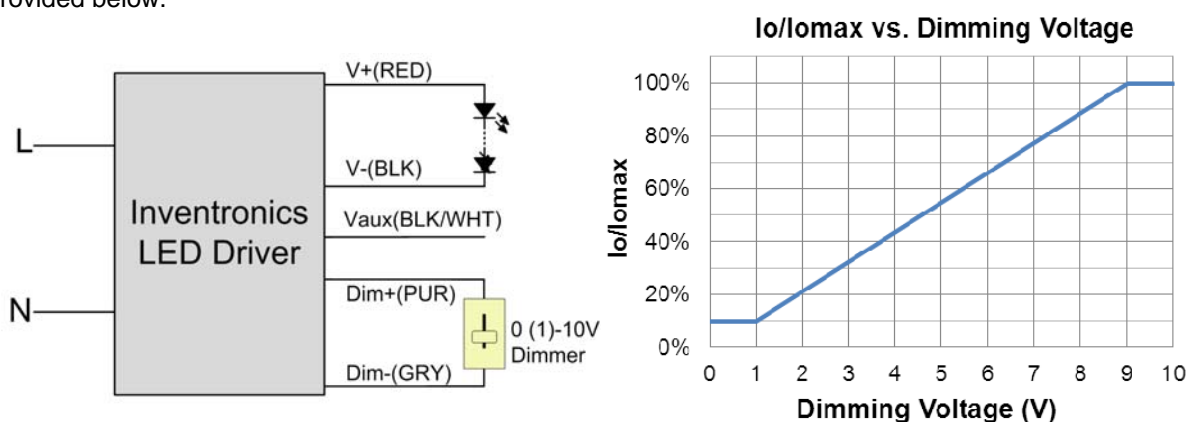
Total Harmonic Distortion



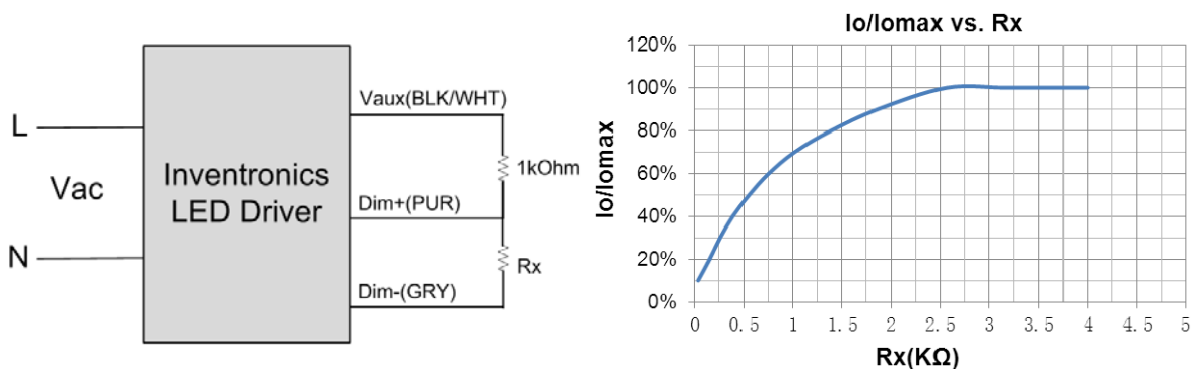
Dimming Control

Parameter	Min.	Typ.	Max.	Notes
12V output voltage (Vaux)	10V	12 V	13 V	
Vaux source current	-	-	20 mA	
Absolute maximum voltage Range on the 0~10V input pin	-20 V	-	20 V	
Source current on 0~10V input pin	100 μ A	140 μ A	180 μ A	

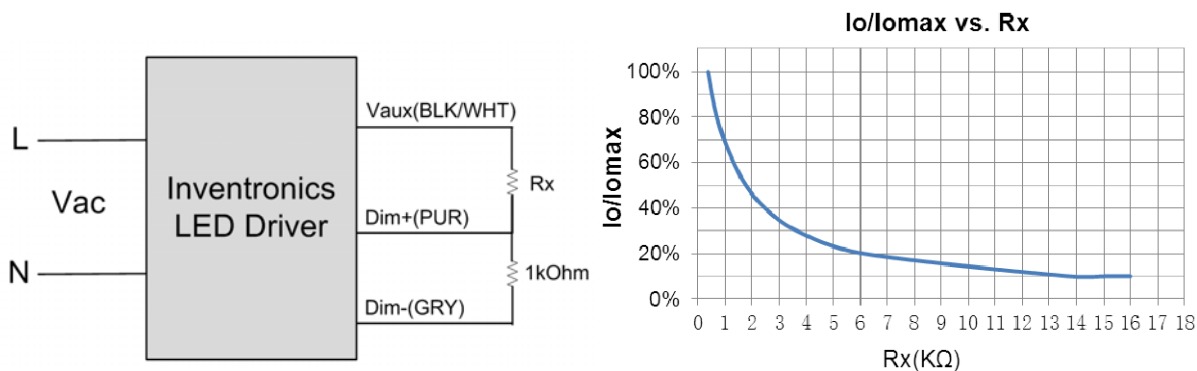
The dimmer control is operated from an input signal of 0-10 Vdc. Recommended implementations are provided below.



Implementation 1: DC Input



Implementation 2: External Resistor



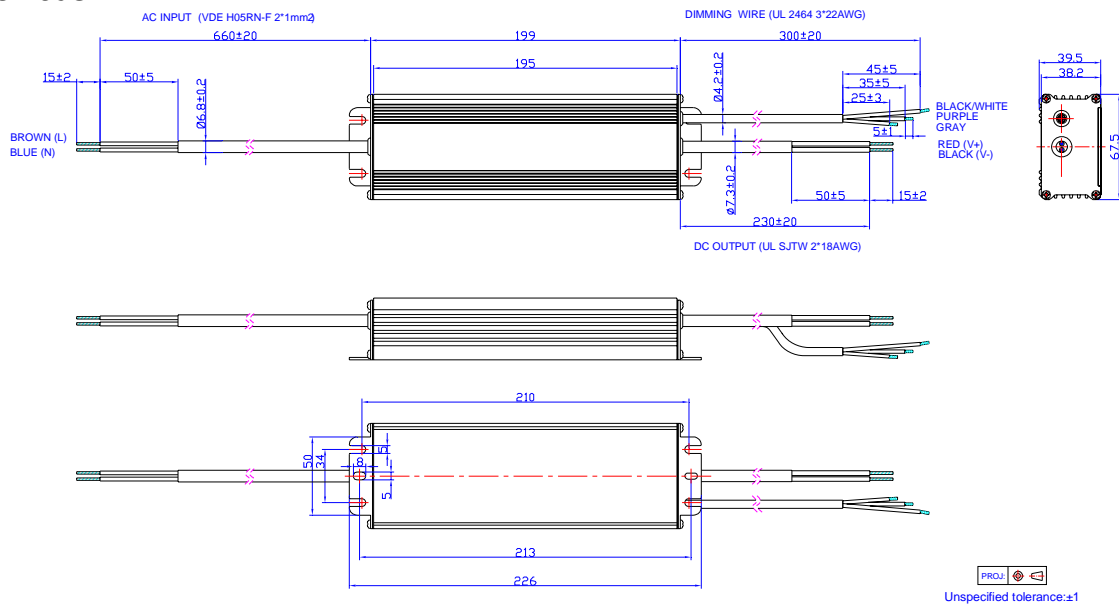
Implementation 3: External Resistor

Notes:

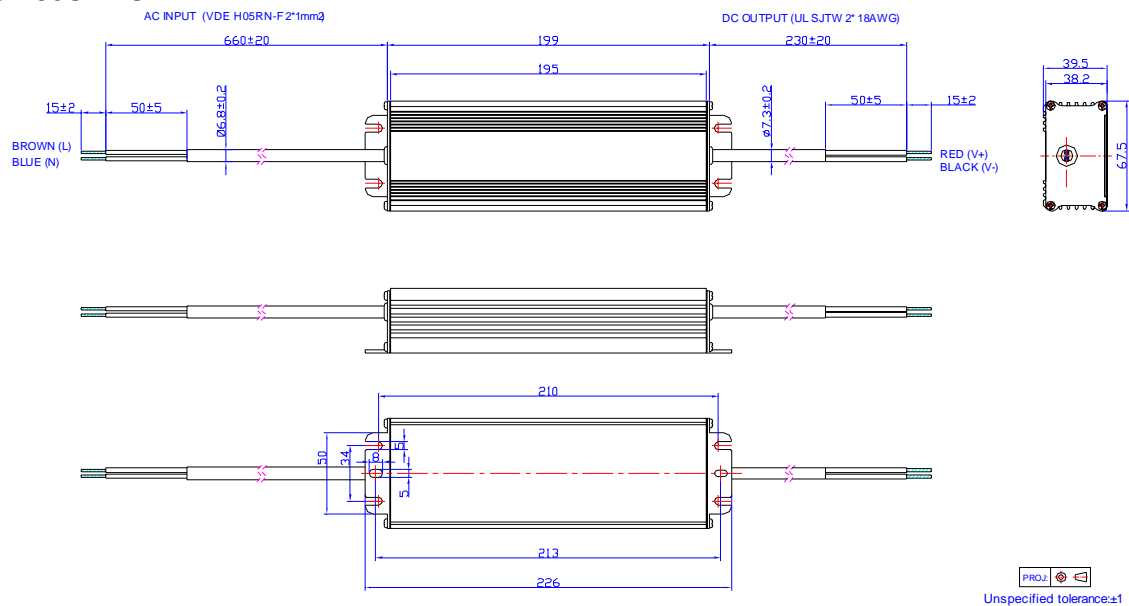
1. The dimmer can also be replaced by an active 0-10V voltage source signal or passive components like resistors and zener.
2. The dimming signal is allowed to be less than 1V, when it is between 0 and 1V, the output level is 10%.
3. Do NOT connect the Gray Wire (dim-) and Black Wire (V-) together.
4. The dimming section is not isolated from output.
5. If 0-10V dimming is not used, Dim + can be either open or connected to Vaux.

Mechanical Outline

EUC-150SxxxDDA



EUC-150SxxxSDA



Note: Must be installed inside the light fixture.

RoHS Compliance

Our products comply with the European Directive 2011/65/EC, calling for the elimination of lead and other hazardous substances from electronic products.

Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2013-04-24	A	Datasheets Release	/	/
2014-06-30	B	1400 mA Model	/	Added
		Description	/	Updated
2015-01-06	C	Format	/	Updated
		Leakage Current	At 240Vac 60Hz input	IEC60598-1; 240Vac/ 60Hz
		No Load Power Dissipation	/	Delete
		Case Temperature	Case Temperature	Operating Case Temperature for Safety Tc_s
		Operating Case Temperature for Warranty Tc_w	/	Added
		Mechanical Outline	/	Updated