

Features

- High Efficiency (Up to 91%)
- Second Generation with Improved Performance
- Active Power Factor Correction (Typical 0.95)
- Constant Output Current
- Lightning Protection
- Waterproof (IP67)
- Dimming Control
- All-Round Protection: OVP, SCP, OLP, OTP
- Comply With UL8750 & EN61347 Safety Regulations



Description

The EUC-052SxxxDT series operate from a 90 ~ 305 Vac input range. These units will provide up to a 2100 mA of output current and a maximum output voltage of 149 V for 52 W maximum output power. They are designed to be highly efficient and highly reliable. Features include over voltage protection, short circuit protection and over load protection.

Models

Output Current	Input Voltage	Output Voltage Range	Max. Output Power	Typical Efficiency (1)	Power Factor		Model Number (2, 3)
					110Vac	220Vac	
350 mA	90 ~ 305 Vac	75-149 Vdc	52 W	91%	0.98	0.95	EUC-052S035ST/ DT (4)
450 mA	90 ~ 305 Vac	58-116 Vdc	52 W	90%	0.98	0.95	EUC-052S045ST/ DT (4)
700 mA	90 ~ 305 Vac	38-75 Vdc	52 W	89%	0.98	0.95	EUC-052S070ST/ DT (4)
1050 mA	90 ~ 305 Vac	25-50 Vdc	52 W	89%	0.98	0.95	EUC-052S105ST/ DT (5)
1400 mA	90 ~ 305 Vac	19-37 Vdc	52 W	89%	0.98	0.95	EUC-052S140ST/ DT (6)
2100 mA	90 ~ 305 Vac	13-25 Vdc	52 W	88%	0.98	0.95	EUC-052S210ST/ DT (6)

- Notes:** (1) Measured at full load and 220 Vac input.
 (2) The DT suffix may be changed to ST to omit the dimming function and remove the three wires associated with that function.
 (3) A suffix –xxx may be added to denote variations or modifications to the base product, where x can be any alphanumeric character or blank.
 (4) Non-Class 2 output (USR & CNR).
 (5) Class 2 output (USR), Non-Class 2 output (CNR).
 (6) Class 2 output (USR & CNR).

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 V	-	305 V	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75 mA	At 277Vac 50Hz input
Input AC Current	-	-	0.8A	Measured at full load and 100 Vac input.
	-	-	0.4 A	Measured at full load and 220 Vac input.
Inrush Current	-	-	60 A	At 230Vac input 25°C Cold Start. Duration=100µs

Specifications are subject to changes without notice.

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%	-	5%	
No load output voltage				
$I_o = 350$ mA	-	-	160 V	
$I_o = 450$ mA	-	-	130 V	
$I_o = 700$ mA	-	-	85 V	
$I_o = 1050$ mA	-	-	60 V	
$I_o = 1400$ mA	-	-	42 V	
$I_o = 2100$ mA	-	-	32 V	
Output Current Ripple	-	-	50%	
Overshoot/Output Current	-	-	10% I_o	
Line Regulation	-	-	1%	
Load Regulation	-	-	3%	
Turn-on Delay Time	-	0.6 s	1.0 s	Measured at 110Vac input.
	-	0.3 s	0.5 s	Measured at 220Vac input.

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

Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Short Circuit Protection				No damage shall occur when any output operating in a short circuit condition. The power supply shall be self-recovery when the fault condition is removed.
Over Temperature Protection				Hiccup mode. When the case temperature is higher than $110 \pm 15^\circ\text{C}$, the power supply will turn off automatically; when the case temperature is lower than $110 \pm 15^\circ\text{C}$, the power supply will start again.

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency				
$I_o = 350$ mA	89%	91%	-	Measured at full load and 110 Vac input.
$I_o = 450$ mA	88%	89%	-	
$I_o = 700$ mA	87%	88%	-	
$I_o = 1050$ mA	87%	88%	-	
$I_o = 1400$ mA	87%	88%	-	
$I_o = 2100$ mA	85%	86%	-	
Efficiency				
$I_o = 350$ mA	90%	91%	-	Measured at full load and 220 Vac input.
$I_o = 450$ mA	89%	90%	-	
$I_o = 700$ mA	88%	89%	-	
$I_o = 1050$ mA	88%	89%	-	
$I_o = 1400$ mA	88%	89%	-	
$I_o = 2100$ mA	87%	88%	-	
No Load Power Dissipation			6 W	

Specifications are subject to changes without notice.

General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
MTBF	321,000 Hours			For 2100 mA output model, measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F).
Life Time	59,000 Hours			Case Temperature=65°C
Dimensions Inches (L x W x H) Millimeters (L x W x H)	6.77 x 1.36 x 1.67 172 x 34.5 x 42.5			
Net Weight	-	480 g		

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

Environmental Specifications

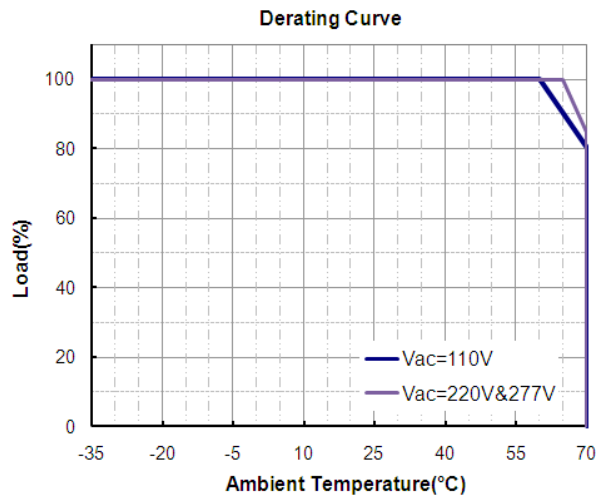
Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-35 °C	-	+70 °C	Humidity: 10% RH to 100% RH Derating: 2% per °C from 55°C to 70°C.
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH

Safety & EMC Compliance

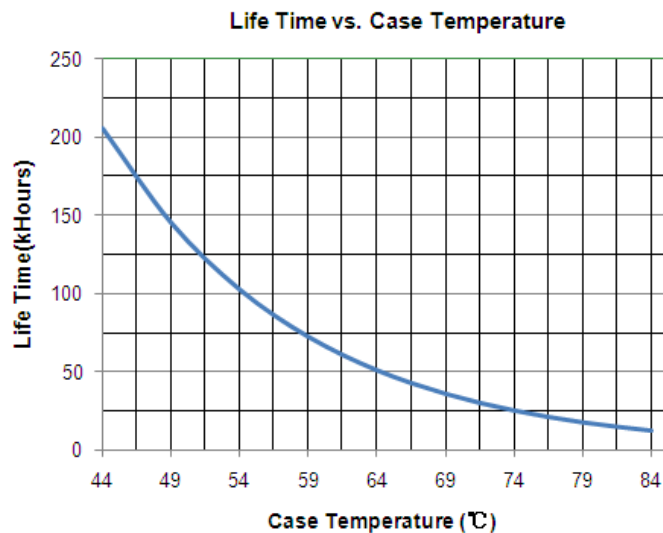
Safety Category	Standard
CUL	UL8750, UL935, UL1012, UL1310 Class 2, CSA-C22.2 No. 107.1, CSA C22.2 NO. 223-M91 Class 2
CE	EN 61347-1, EN61347-2-13
EMI Standards	Notes
EN 55015	Conducted emission Test & Radiated emission Test with 6 dB margin
EMS Standards	Notes
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient / Burst-EFT: level 3, criteria A
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 4 kV, line to earth 6 kV
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

Specifications are subject to changes without notice.

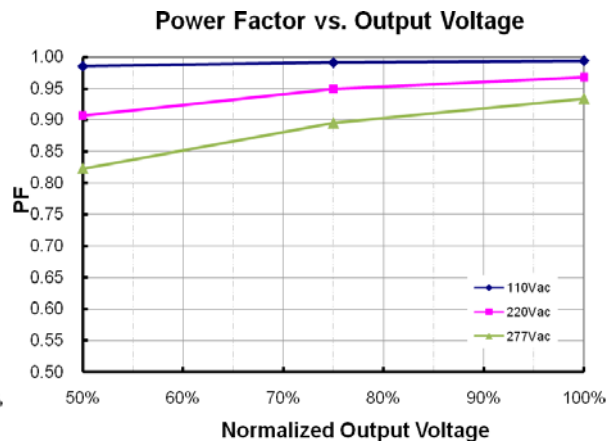
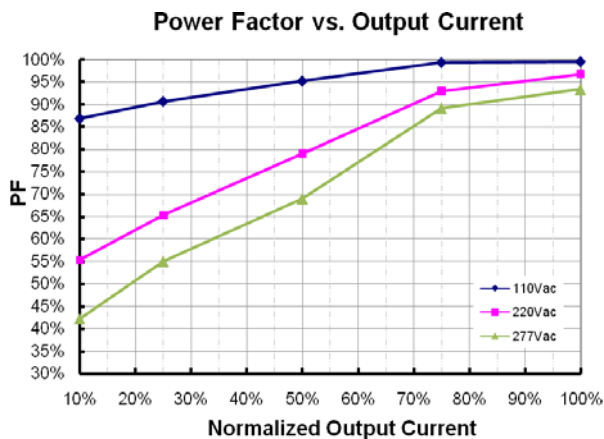
Derating Curve



Life Time

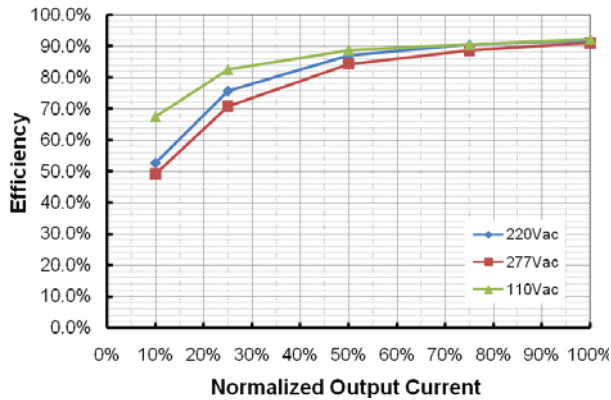


Power Factor Characteristics

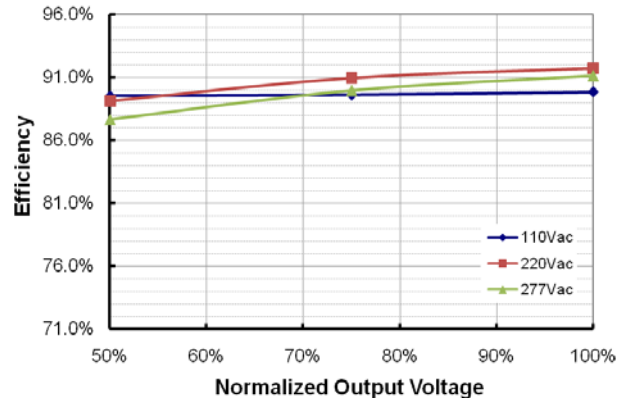


Specifications are subject to changes without notice.

Efficiency vs. Load (350mA Model) Efficiency vs. Output Current



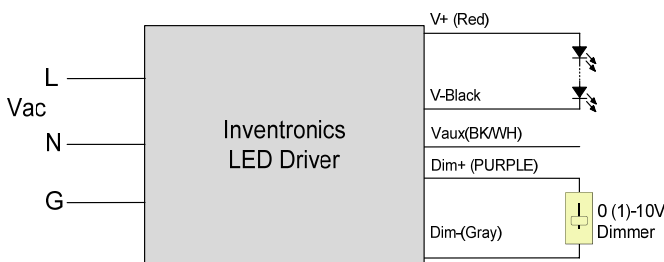
Efficiency vs. Output Voltage



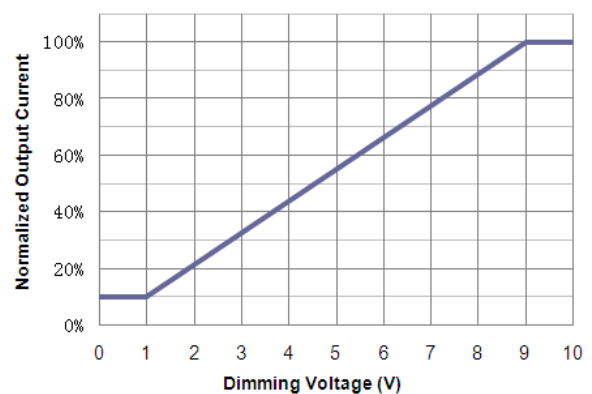
Dimming Control (On secondary side)

Parameter	Min.	Typ.	Max.	Notes
12V Output Voltage	10.8 V	12 V	13.2 V	
12V Output Source Current	10 mA	15 mA	20 mA	
Absolute Maximum Voltage on the 0~10V Input Pin	-2 V	-	15 V	
Source Current on 0~10V Input Pin	0 uA	-	200 uA	

The dimmer control may be operated from either a dimmer or from an input signal of 0 – 10 Vdc. The recommended implementation is provided below.



Output Current vs. Dimming Voltage

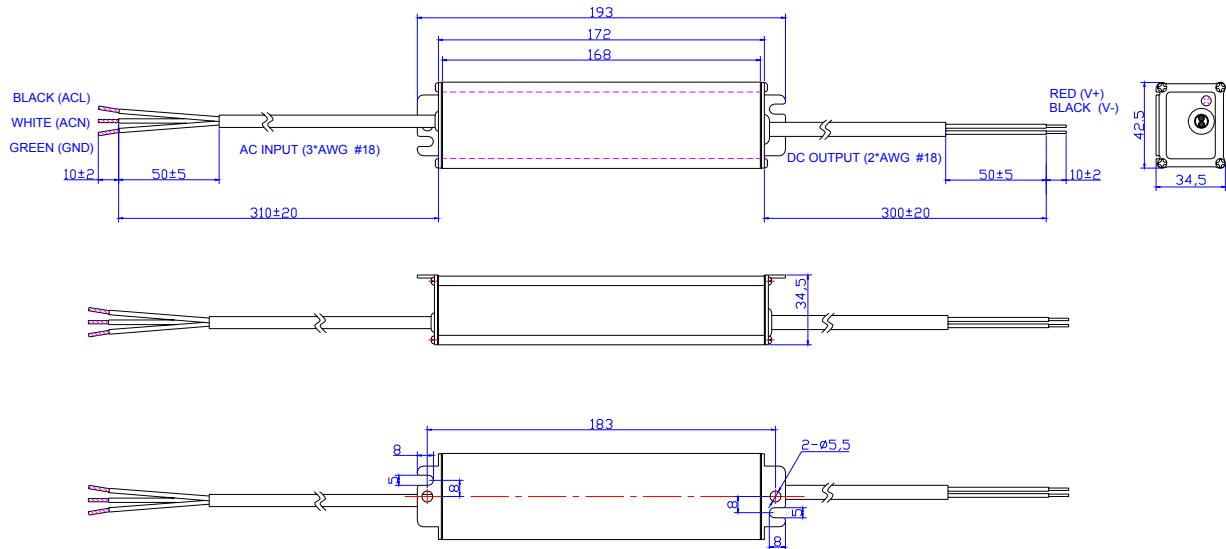


Notes:

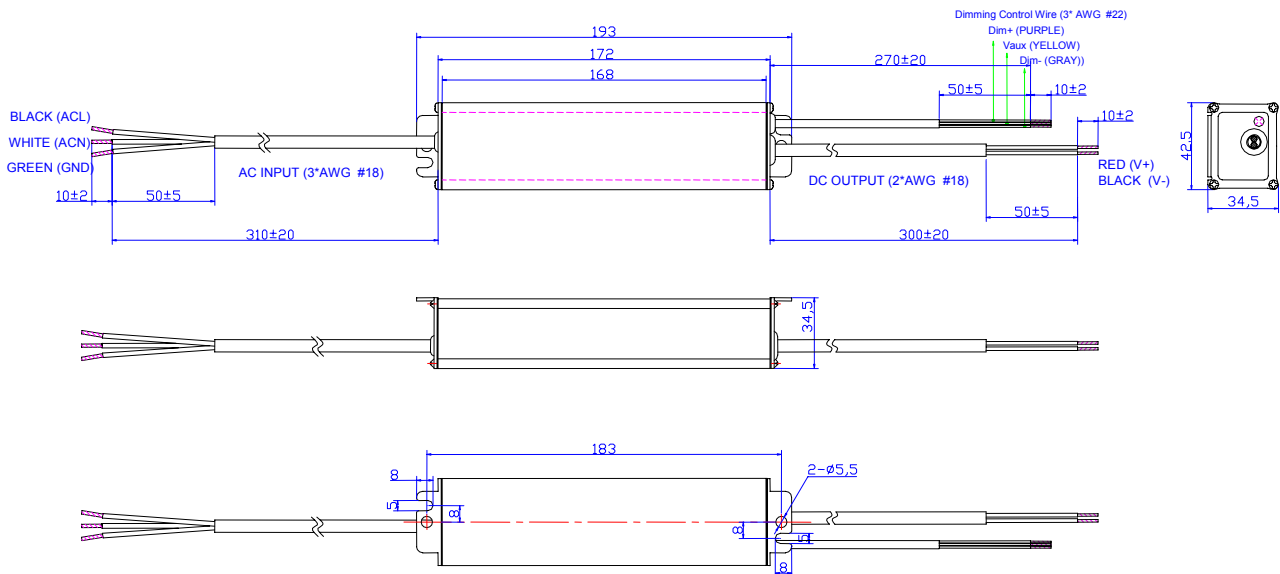
Do not connect the GND of dimming to the output, otherwise, the LED driver can not work normally.

Mechanical Outline

EUC-052SxxxST



EUC-052SxxxDT



RoHS Compliance

Our products comply with the European Directive 2002/95/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
2010-04-07	V1.0	First Release	/	/
2010-10-20	V2.0	Update the part of dimming control	/	/
2011-7-20	V4.0	Input Specifications-Input AC Current	0.7,0.35	0.8,0.4
		Output Specifications-Turn-on Delay Time	0.3,0.2,0.5,0.3	0.6,0.3,1.0,0.5
		MTBF	/	321,000
		Life Time	/	59,000
		Operating Temperature	+55	+70
		Life Time Curve; PF Curve; Efficiency Curve;	/	Added
		Derating Curve	/	Add 277V,220V Curve
2011-7-28	V4.1	Power Factor:110 Vac	0.99	0.98
2011-12-2	V4.3	OTP	/	Added