

Features

- High Efficiency (Up to 90%)
- 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(ST) series operate from a 90 ~ 305 Vac input range. They are designed to be highly efficient and highly reliable. Features include over voltage protection, short circuit protection, over load protection, and over temperature protection.

Models

Output Current	Input Voltage Range	Output Voltage Range	Max. Output Power	Typical Efficiency (1)	Power Factor		Model Number (2, 3)
					110Vac	220Vac	
350 mA	90 ~ 305 Vac	75~149Vdc	52 W	90%	0.96	0.95	EUC-052S035DT(ST)(4)
450 mA	90 ~ 305 Vac	58~116Vdc	52 W	89%	0.96	0.95	EUC-052S045DT(ST)(4)
700 mA	90 ~ 305 Vac	38~75 Vdc	52 W	89%	0.96	0.95	EUC-052S070DT(ST)(4)
1050 mA	90 ~ 305 Vac	25~50 Vdc	52 W	88%	0.96	0.95	EUC-052S105DT(ST)(5)
1400 mA	90 ~ 305 Vac	19~37 Vdc	52 W	87%	0.96	0.95	EUC-052S140DT(ST)(6)
2100 mA	90 ~ 305 Vac	13~25 Vdc	52 W	86%	0.96	0.95	EUC-052S210DT(ST)(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 60Hz 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	-	-	162 V	
$I_o = 450$ mA	-	-	125 V	
$I_o = 700$ mA	-	-	82 V	
$I_o = 1050$ mA	-	-	56 V	
$I_o = 1400$ mA	-	-	41 V	
$I_o = 2100$ mA	-	-	30 V	
Output Current Ripple	-	-	50% I_o	
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.
Output Overshoot / Undershoot	-	-	10%	When power on or off.

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°C, the power supply will turn off automatically; when the case temperature is lower than 75°C, the power supply will be auto recovery.			

General Specifications

Parameter	Min.	Typ.	Max.	Notes	
Efficiency	$I_o = 350$ mA	87%	89%	-	Measured at full load and 110 Vac input.
	$I_o = 450$ mA	86%	88%	-	
	$I_o = 700$ mA	86%	88%	-	
	$I_o = 1050$ mA	85%	87%	-	
	$I_o = 1400$ mA	85%	86%	-	
	$I_o = 2100$ mA	84%	85%	-	
Efficiency	$I_o = 350$ mA	88%	90%	-	Measured at full load and 220 Vac input.
	$I_o = 450$ mA	87%	89%	-	
	$I_o = 700$ mA	87%	89%	-	
	$I_o = 1050$ mA	86%	88%	-	
	$I_o = 1400$ mA	86%	87%	-	
	$I_o = 2100$ mA	85%	86%	-	
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			Measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	50,000 Hours			Measured at 110Vac input, 80%Load and 60°C case temperature ; See the life vs. Tc curve for the details
Dimensions Inches (L x W x H) Millimeters (L x W x H)	6.77 x 1.67 x 1.36 172 x 42.5 x 34.5			
Net Weight	-	480 g		

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

Environmental Specifications

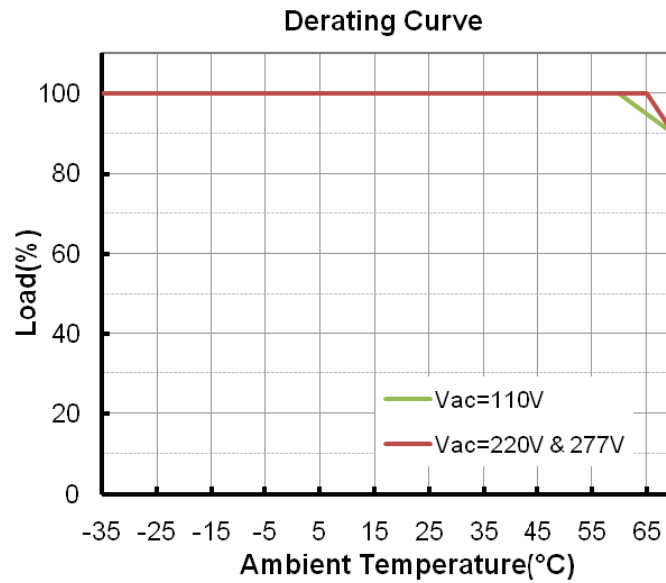
Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-35 °C	-	+70 °C	Humidity: 10% RH to 100% RH See Derating Curve for more details
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH

Safety & EMC Compliance

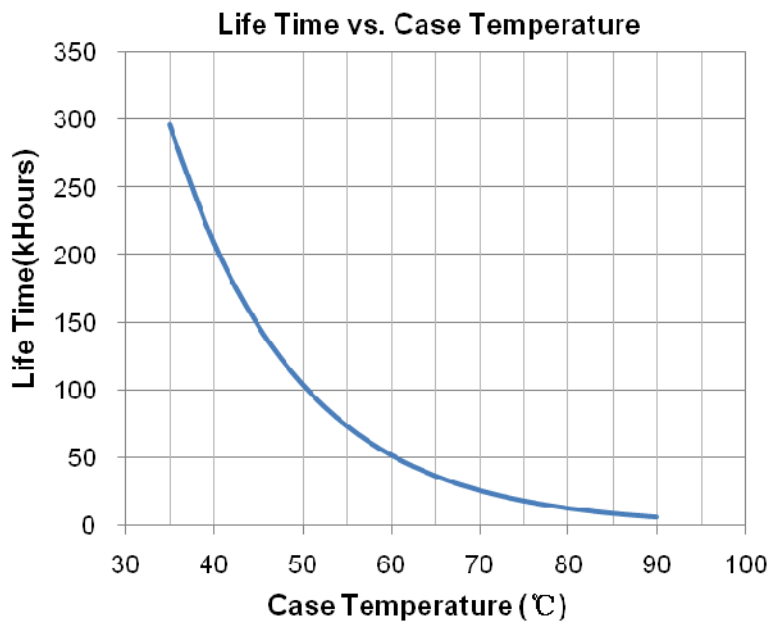
Safety Category	Standard
CUL	UL8750, UL935, UL1012, UL1310 Class 2, CSA-C22.2 No. 107.1, CSA C22.2 NO. 223-M91 Class 2
CE	EN 61347-1, EN61347-2-13
EMI Standards	Notes
EN 55015	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EMS Standards	Notes
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

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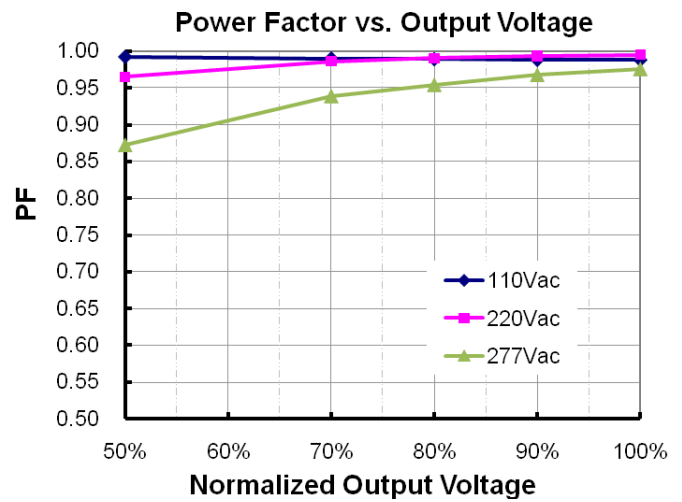
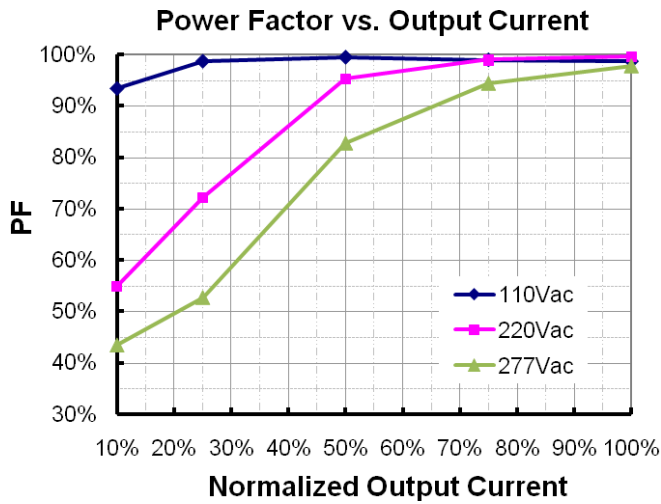
Derating Curve



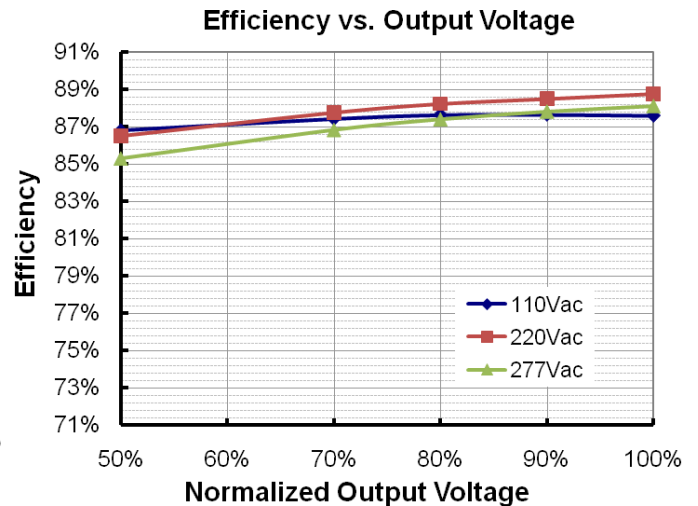
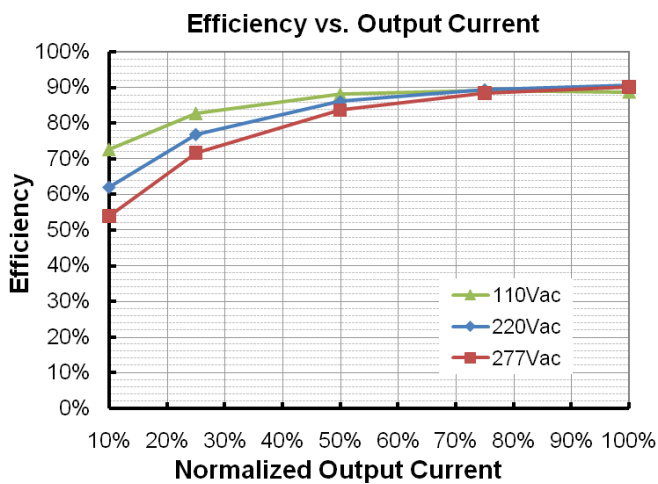
Life Time vs. Case Temperature Curve



Power Factor Characteristics



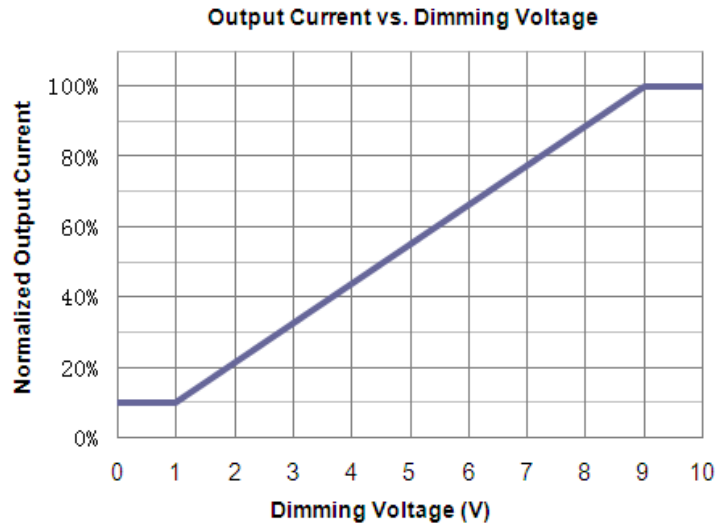
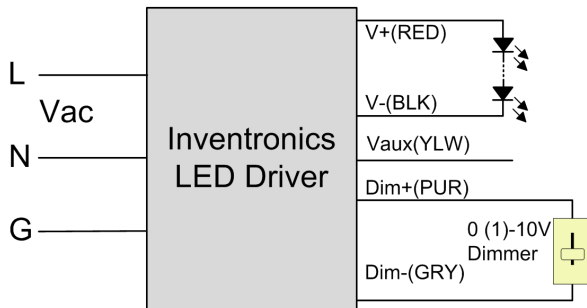
Efficiency vs. Load (350mA Model)



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	0 mA		20 mA	
Absolute Maximum Voltage on the 0~10V Input Pin	0V	-	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.



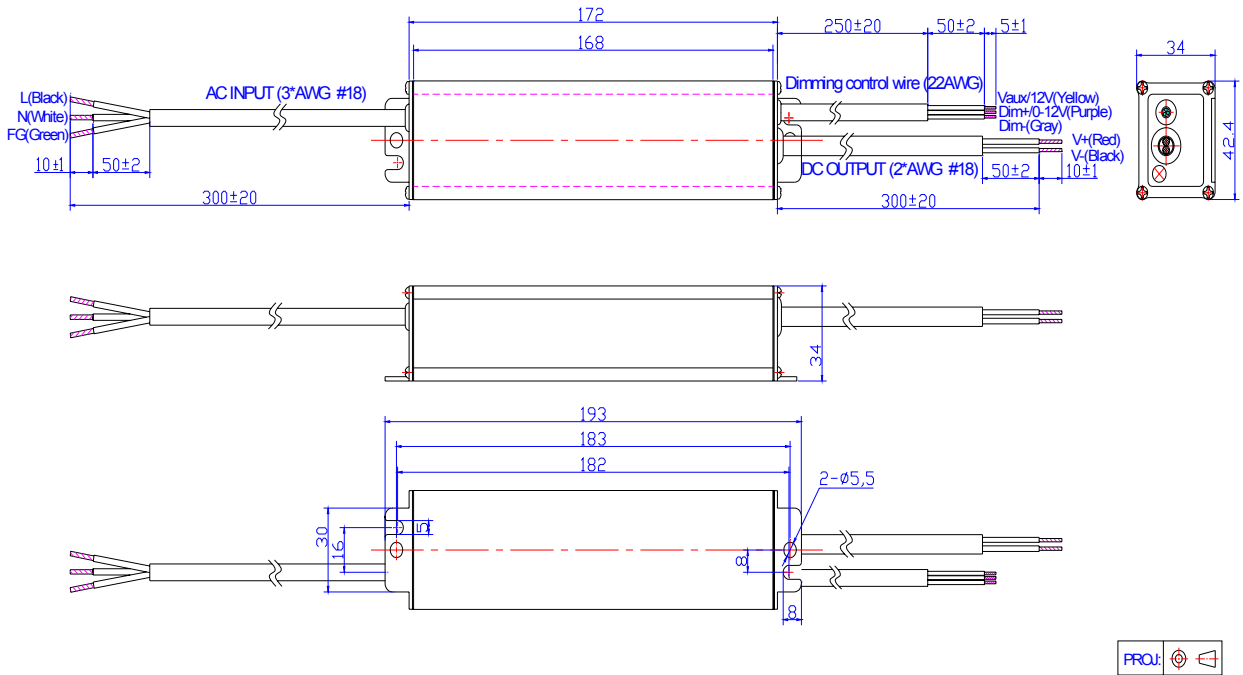
Implementation

Notes:

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

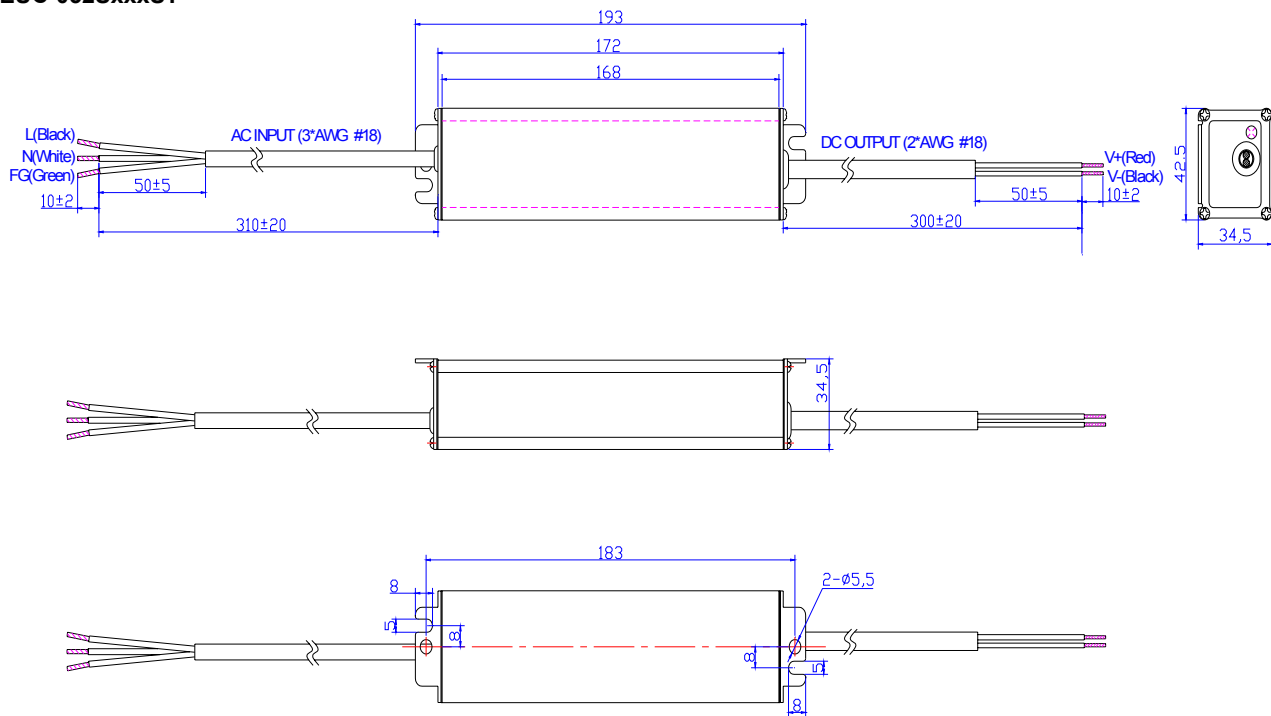
Mechanical Outline

EUC-052SxxxDT



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EUC-052SxxxST



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.

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Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2012-02-20	A	Datasheets Released	/	/
2012-05-25	B	EN 61000-4-5--- line to line 4 kV, line to earth 6 kV	/	Corrected
		Life time	/	50,000 Hours
2012-06-06	C	Notes of life time	/	Updated
		Life time vs. Tc Curve	/	Added
2012-07-02	D	Description of OTP	/	Updated