

Features

- High Efficiency (Up to 91%)
- Active Power Factor Correction (0.99 Typical)
- Constant Current Output
- Dimming Function
- Lightning Protection
- All-Round Protection: OVP, SCP, OTP
- Waterproof (IP67)



Description

The EUC-085SxxxDV(SV) 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 and over temperature protection.

Models

Output Current	Input Voltage Range	Output Voltage Range	Max. Output Power	Typical Efficiency (1)	Power Factor		Model Number (2)
					110Vac	220Vac	
350 mA	90 ~ 305 Vac	122~243Vdc	85 W	91%	0.99	0.95	EUC-085S035DV(SV)
450 mA	90 ~ 305 Vac	95~189 Vdc	85 W	91%	0.99	0.95	EUC-085S045DV(SV)
700 mA	90 ~ 305 Vac	61~121 Vdc	85 W	90%	0.99	0.95	EUC-085S070DV(SV)
1050 mA	90 ~ 305 Vac	41~81 Vdc	85 W	90%	0.99	0.95	EUC-085S105DV(SV)
1400 mA	90 ~ 305 Vac	31~61 Vdc	85 W	90%	0.99	0.95	EUC-085S140DV(SV)
1750 mA	90 ~ 305 Vac	25~49 Vdc	85 W	90%	0.99	0.95	EUC-085S175DV(SV)
2000 mA	90 ~ 305 Vac	22~43 Vdc	85 W	90%	0.99	0.95	EUC-085S200DV(SV)
2450 mA	90 ~ 305 Vac	18~35 Vdc	85 W	89%	0.99	0.95	EUC-085S245DV(SV)
2800 mA	90 ~ 305 Vac	16~30 Vdc	85 W	89%	0.99	0.95	EUC-085S280DV(SV)

Notes: (1) Measured at full load and 220 Vac input.

(2) A suffix –xxxx may be added to denote variations or modifications to the base product, where x can be any alphanumeric character or blank.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 V	-	305 V	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	1 mA	At 277Vac 60Hz input
Input AC Current	-	-	1.1 A	Measured at full load and 100 Vac input.
	-	-	0.5 A	Measured at full load and 220 Vac input.
Inrush Current	-	-	60 A	At 220Vac input, 25°C cold start, duration=1 ms, 10%Ipk-10%Ipk.
Inrush Current(I ² t)	-	-	1 A ² s	

Specifications are subject to changes without notice.

Input Specifications (Continued)

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

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Range	-5%	-	5%	
No-load Output Voltage $I_o = 350 \text{ mA}$ $I_o = 450 \text{ mA}$ $I_o = 700 \text{ mA}$ $I_o = 1050 \text{ mA}$ $I_o = 1400 \text{ mA}$ $I_o = 1750 \text{ mA}$ $I_o = 2000 \text{ mA}$ $I_o = 2450 \text{ mA}$ $I_o = 2800 \text{ mA}$	-	-	255V 198V 129V 87V 67V 54V 48V 39V 33V	
Ripple and Noise (pk-pk)	-	-	3% V_o	Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 μF ceramic capacitor and a 10 μF electrolytic capacitor.
Output Overshoot / Undershoot	-	-	10%	When power on or off.
Line Regulation	-	-	$\pm 2\%$	
Load Regulation	-	-	$\pm 3\%$	
Turn-on Delay Time	-	2.0 s	3.0 s	Measured at 110Vac input.
	-	0.6 s	1.0 s	Measured at 220Vac input.
Temperature coefficient	-	-	0.06%/ $^{\circ}\text{C}$	Case temperature = $0^{\circ}\text{C} \sim T_c \text{ max}$

Note: All specifications are typical at 25 $^{\circ}\text{C}$ unless otherwise stated.

Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Temperature Protection- T_c	-	110 $^{\circ}\text{C}$	-	Latch mode. The power supply shall return to normal operation only after the power is turn-on again.
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.			

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency $I_o = 350 \text{ mA}$ $I_o = 450 \text{ mA}$ $I_o = 700 \text{ mA}$ $I_o = 1050 \text{ mA}$ $I_o = 1400 \text{ mA}$ $I_o = 1750 \text{ mA}$ $I_o = 2000 \text{ mA}$ $I_o = 2450 \text{ mA}$ $I_o = 2800 \text{ mA}$	88% 88% 87% 87% 87% 87% 87% 86% 86%	89% 89% 88% 88% 88% 88% 88% 87% 87%	- - - - - - - - -	Measured at full load and 110 Vac input
Efficiency $I_o = 350 \text{ mA}$ $I_o = 450 \text{ mA}$ $I_o = 700 \text{ mA}$ $I_o = 1050 \text{ mA}$ $I_o = 1400 \text{ mA}$ $I_o = 1750 \text{ mA}$ $I_o = 2000 \text{ mA}$ $I_o = 2450 \text{ mA}$ $I_o = 2800 \text{ mA}$	90% 90% 89% 89% 89% 89% 89% 88% 88%	91% 91% 90% 90% 90% 90% 90% 89% 89%	- - - - - - - - -	Measured at full load and 220 Vac input
MTBF	-	320,000 hours	-	Measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	-	100,000 hours	-	Measured at 110Vac input, 80%Load ; Case temperature=60°C @ Tc point. See life time vs. Tc curve for the details
Case Temperature	-	-	90°C	
Dimensions Inches (L × W × H) Millimeters (L × W × H)	.91 × 2.66 × 1.44 150 × 67.5 × 36.5			
Net Weight	-	770 g	-	

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

Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-40 °C	-	+65 °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

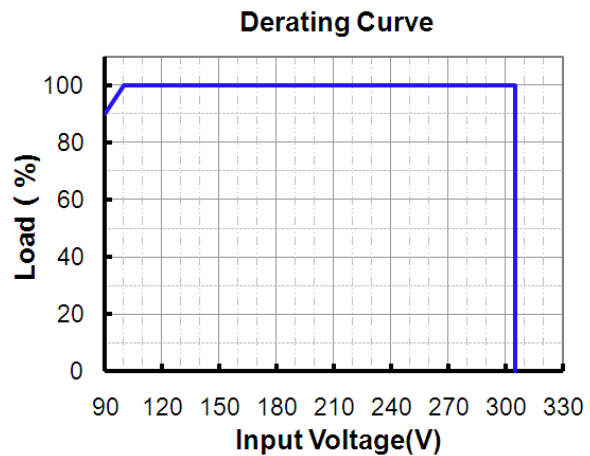
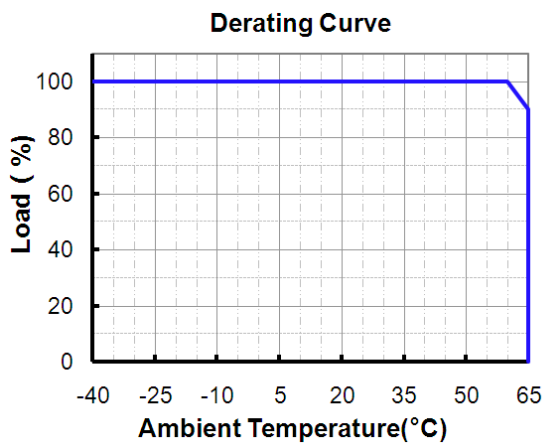
Safety Category	Standard
CE	EN61347-1, EN61347-2-13
EMI Standards	Notes
EN 55015	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker

Specifications are subject to changes without notice.

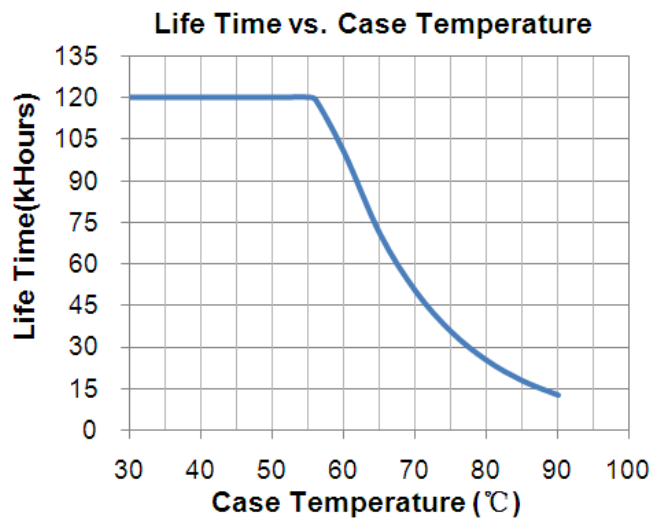
Safety & EMC Compliance (Continued)

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
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

Derating Curve



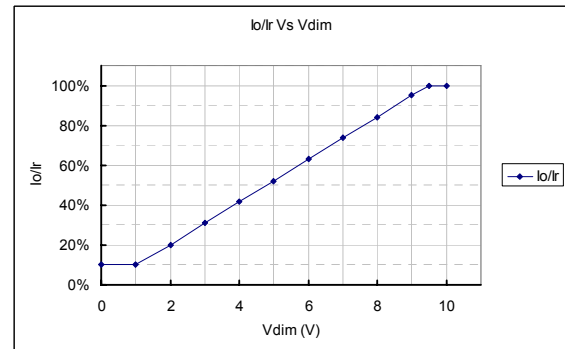
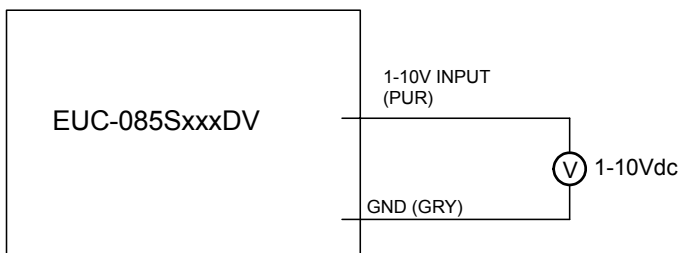
Life Time vs. Case Temperature Curve



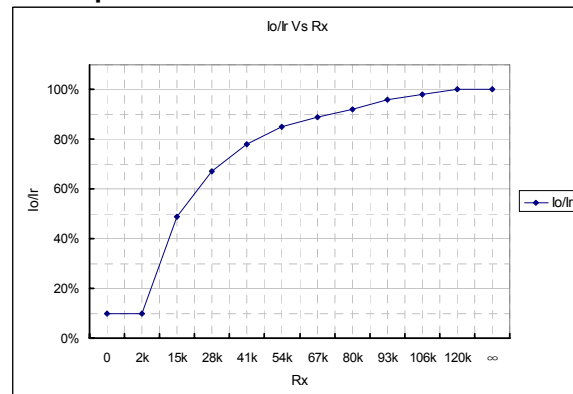
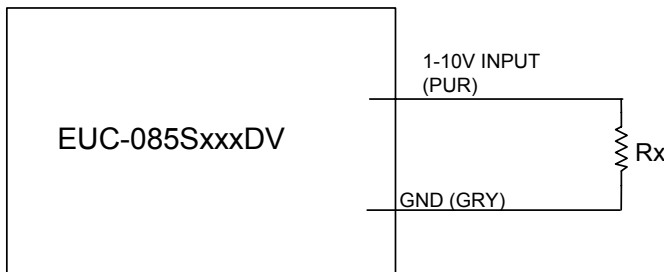
Dimming Control (On secondary side)

Parameter	Min.	Typ.	Max.	Notes
Absolute maximum voltage on 1-10V input pin	-2 V	-	12 V	
Source current on 1~10V input pin	0 mA	-	0.5 mA	

The dimmer control may be operated from either a potentiometer or from an input signal of 1 – 10 Vdc. Two recommended implementations are provided below.



Implementation 1: DC input



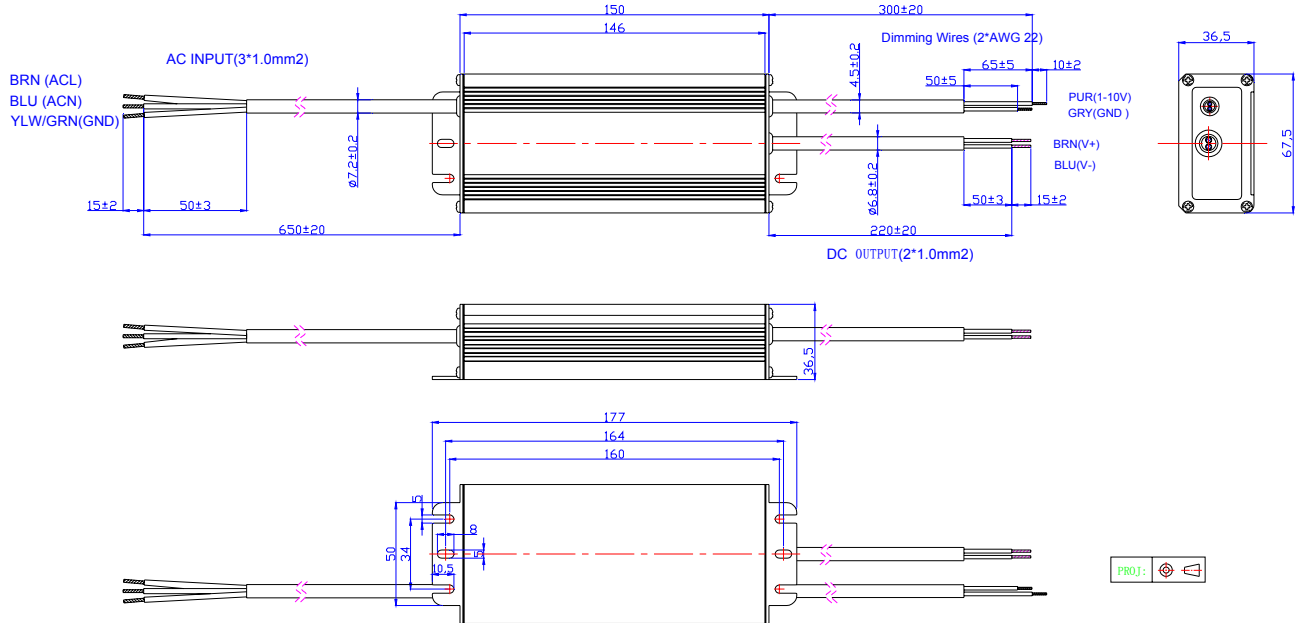
Implementation 2: External resistor

Notes:

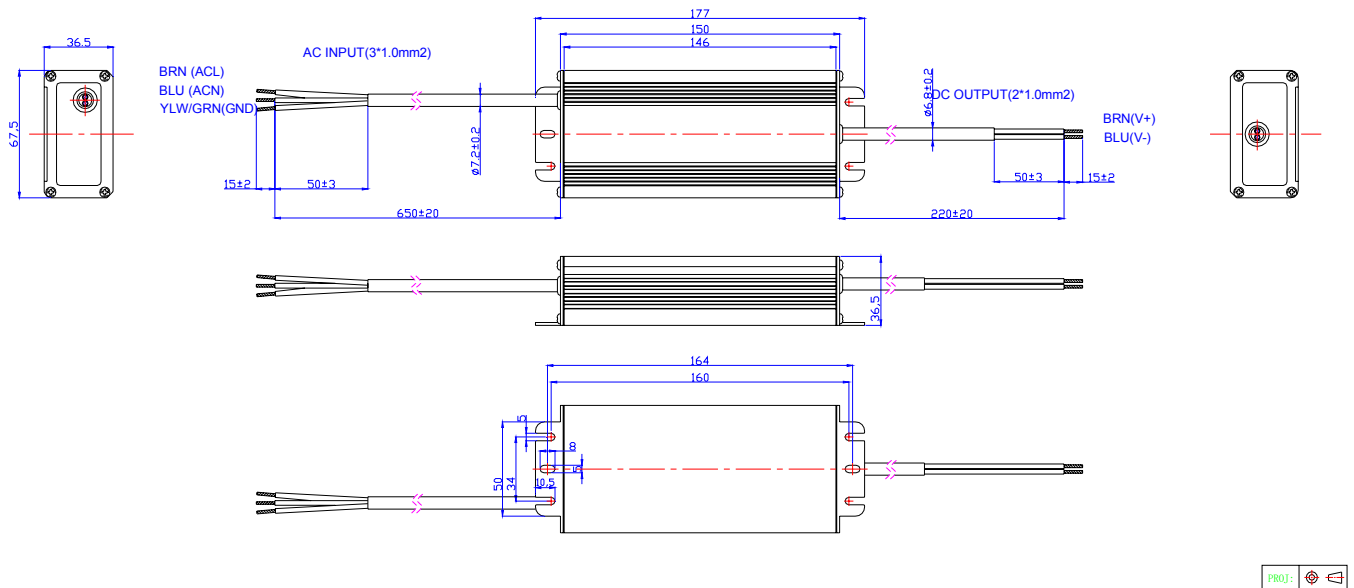
1. I_o is actual output current and I_r is rated current without dimming control.
2. For the driver to operate properly, the load voltage must be maintained above the minimum voltage threshold (approx. 50% of the max. output voltage for any given model).
3. If the output voltage is maintained above 50% of the maximum output voltage, the dimming control may be operated over the entire 1-10V range with output current varying from 100% down to practically 10%.
4. The dimming signal is allowed to be less than 1V, however, when it for 0-1V, the output current is 10% I_o .
5. Do not connect the GND of dimming to the output; otherwise, the LED driver can not work normally.

Mechanical Outline

EUC-085SxxxDV



EUC-085SxxxSV



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
2010-09-01	A	Add EUC-085SxxxST Series	EUC-085SxxxDT	EUC-085SxxxST/DT
		Add notes of UL1310 Class 2 for all models.	/	(4) (5) (6)
		Add No-load Output Voltage	/	The typ. value of every model.
		Change Ripple and Noise (pk-pk)	5% V _O	1% V _O
		Change Line Regulation	1%	2%
		Change efficiency for all models	/	/
		Change MTBF	498,000 hours	300,000 hours
		Change Life Time	90,000 hours	63,000 hours
		Change Net Weight	750 g	770 g
		Delete the Dimming Implementation-- External zener diodes	Implementation 2: External zener diodes	/
Change Mechanical Outline The dimming control Wire The output Wire	Purple / Green Red / Black	Purple / Gray Red / Blue		
2010-9-29	B	Change Output Voltage Range I _o = 350 mA I _o = 450 mA I _o = 700 mA I _o = 1050 mA I _o = 1400 mA I _o = 1750 mA I _o = 2000 mA I _o = 2450 mA I _o = 2800 mA	Min. 121 V 94 V 61 V 40 V 30 V 24 V 21 V 17 V 15 V	Min. 122 V 95 V 61 V 41 V 31 V 25 V 22 V 18 V 16 V
		Change Ripple and Noise (pk-pk)	Max. 1% V _O	Max. 3% V _O
2010-11-17	C	Add Derating Curve	/	/
2012-02-23	D	Mechanical Outline	the position of the wire outing hole	Changed
		OTP	120°C	110°C
2012-06-19	E	Life time curve	/	Added
		EN61000-4-5	line to line 2 kV, line to earth 4 kV	line to line 4 kV, line to earth 6 kV
		Max of No-load Output Voltage	/	Added
2012-7-5	F	Inrush Current	50 A	60 A
2012-7-17	G	Max Case Temperature	/	Updated
2012-9-27	H	Min PF, Max THD	/	Added
		Temperature coefficient	/	Added
		MTBF, Life time Typical Value	/	Added
		Life Time Curve	/	Updated
		Operating Temperature	-35°C	-40°C
		Derating Curve	/	Updated