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)
- Comply With UL8750 & EN61347 Safety Regulations

Description

The EUC-085SxxxST/DT Series operate from a 90 ~ 305 Vac input range. These units will provide up to a 2.8 A of output current and a maximum output voltage of 243 V for 85 W maximum output power. 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	Max. Output Voltage	Max. Output Power	Typical Efficiency (1)	Power Factor		Model Number With Dimming Control (2, 3)	Model Number Without Dimming Control (2, 3)
					110Vac	220Vac		
350 mA	90 ~ 305 Vac	243 Vdc	85 W	91%	0.99	0.95	EUC-085S035DT (4)	EUC-085S035ST (4)
450 mA	90 ~ 305 Vac	189 Vdc	85 W	91%	0.99	0.95	EUC-085S045DT (4)	EUC-085S045ST (4)
700 mA	90 ~ 305 Vac	121 Vdc	85 W	90%	0.99	0.95	EUC-085S070DT (4)	EUC-085S070ST (4)
1050 mA	90 ~ 305 Vac	81 Vdc	85 W	90%	0.99	0.95	EUC-085S105DT (4)	EUC-085S105ST (4)
1400 mA	90 ~ 305 Vac	61 Vdc	85 W	90%	0.99	0.95	EUC-085S140DT (4)	EUC-085S140ST (4)
1750 mA	90 ~ 305 Vac	49 Vdc	85 W	90%	0.99	0.95	EUC-085S175DT (5)	EUC-085S175ST (5)
2000 mA	90 ~ 305 Vac	43 Vdc	85 W	90%	0.99	0.95	EUC-085S200DT (5)	EUC-085S200ST (5)
2450 mA	90 ~ 305 Vac	35 Vdc	85 W	89%	0.99	0.95	EUC-085S245DT (6)	EUC-085S245ST (6)
2800 mA	90 ~ 305 Vac	30 Vdc	85 W	89%	0.99	0.95	EUC-085S280DT (6)	EUC-085S280ST (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 two wires associated with that function.
(3) A suffix –xxxx may be added to denote variations or modifications to the base product, where x can be any alphanumeric character or blank.
(4) Non-Class2 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	-	-	1 mA	At 277Vac 50Hz 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	-	-	50 A	At 230Vac input 25°C Cold Start

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Range				
I_O = 350 mA	332 mA	350 mA	368 mA	
I_O = 450 mA	428 mA	450 mA	472 mA	
I_O = 700 mA	665 mA	700 mA	735 mA	
I_O = 1050 mA	998 mA	1050 mA	1103 mA	
I_O = 1400 mA	1330 mA	1400 mA	1470 mA	
I_O = 1750 mA	1663 mA	1750 mA	1838 mA	
I_O = 2000 mA	1900 mA	2000 mA	2100 mA	
I_O = 2450 mA	2328 mA	2450 mA	2573 mA	
I_O = 2800 mA	2660 mA	2800 mA	2940 mA	
No-load Output Voltage				
I_O = 350 mA	-	252 V	-	
I_O = 450 mA	-	195 V	-	
I_O = 700 mA	-	126 V	-	
I_O = 1050 mA	-	85 V	-	
I_O = 1400 mA	-	65 V	-	
I_O = 1750 mA	-	52 V	-	
I_O = 2000 mA	-	46 V	-	
I_O = 2450 mA	-	37 V	-	
I_O = 2800 mA	-	31 V	-	
Output Voltage Range				
I_O = 350 mA	122 V	-	243 V	
I_O = 450 mA	95 V	-	189 V	
I_O = 700 mA	61 V	-	121 V	
I_O = 1050 mA	41 V	-	81 V	
I_O = 1400 mA	31 V	-	61 V	
I_O = 1750 mA	25 V	-	49 V	
I_O = 2000 mA	22 V	-	43 V	
I_O = 2450 mA	18 V	-	35 V	
I_O = 2800 mA	16 V	-	30 V	
Ripple and Noise (pk-pk)	-	-	3% V_O	Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 uF ceramic capacitor and a 10 uF electrolytic capacitor.
Line Regulation	-	-	2%	
Load Regulation	-	-	3%	
Turn-on Delay Time	-	2 S	3 S	Measured at 110Vac input.
	-	0.6S	1 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
Over Voltage Protection				
I_O = 350 mA	-	310 V	340 V	Latch mode. The power supply shall return to normal operation only after the power is turn-on again.
I_O = 450 mA	-	246 V	264 V	
I_O = 700 mA	-	158 V	170 V	
I_O = 1050 mA	-	105 V	113 V	
I_O = 1400 mA	-	79 V	85 V	
I_O = 1750 mA	-	63 V	68 V	
I_O = 2000 mA	-	56 V	60 V	
I_O = 2450 mA	-	45 V	49 V	
I_O = 2800 mA	-	40 V	43 V	
Over Temperature Protection	-	120 °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 mA	88%	89%	-	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 = 1750 mA	87%	88%	-	
I_O = 2000 mA	87%	88%	-	
I_O = 2450 mA	86%	87%	-	
I_O = 2800 mA	86%	87%	-	
Efficiency				
I_O = 350 mA	90%	91%	-	Measured at full load and 220 Vac input
I_O = 450 mA	90%	91%	-	
I_O = 700 mA	89%	90%	-	
I_O = 1050 mA	89%	90%	-	
I_O = 1400 mA	89%	90%	-	
I_O = 1750 mA	89%	90%	-	
I_O = 2000 mA	89%	90%	-	
I_O = 2450 mA	88%	89%	-	
I_O = 2800 mA	88%	89%	-	
MTBF	300,000 hours			For 2800 mA output model, measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F).
Life Time	63,000 hours			For 2800 mA output model, measured at 110Vac input, 80%Load and 45°C ambient temperature
Dimensions				
Inches (L × W × H)	5.91 × 2.66 × 1.46			
Millimeters (L × W × H)	150 × 67.5 × 37			
Net Weight	-	770 g	-	

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

Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-35 °C	-	+60 °C	Humidity: 10% RH to 100% RH
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH

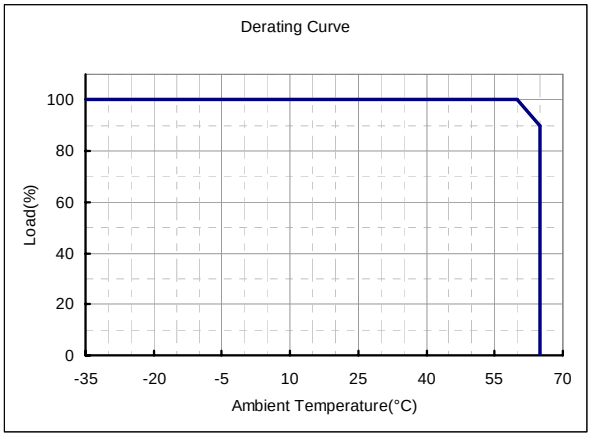
Safety & EMC Compliance

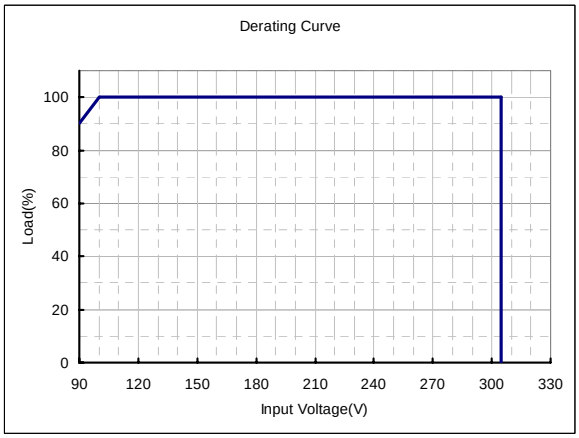
Safety Category	Country	Standard
CUL	USA & Canada	UL8750, UL935, UL1012, UL1310 Class 2, CSA-C22.2 No. 107.1, CSA C22.2 NO. 223-M91 Class 2
CE	Europe	EN61347-1, EN61347-2-13

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
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 2 kV, line to earth 4 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

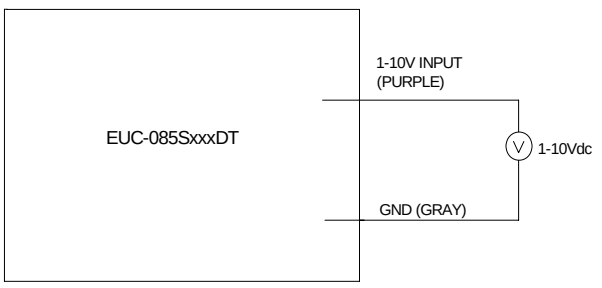


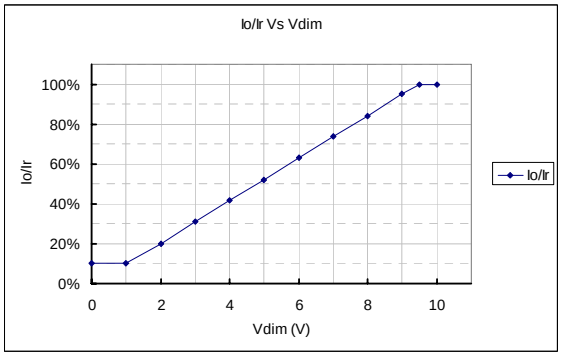


Dimming Control (On secondary side)

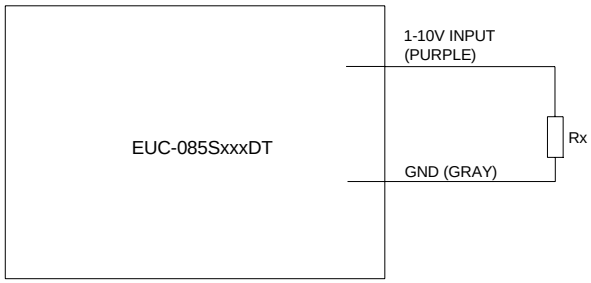
Parameter	Min.	Typ.	Max.	Notes
Absolute maximum voltage on 1-10V input pin	-2 V	-	12 V	
Source current on 1~10V input pin	0 mA	-	0.5 mA	

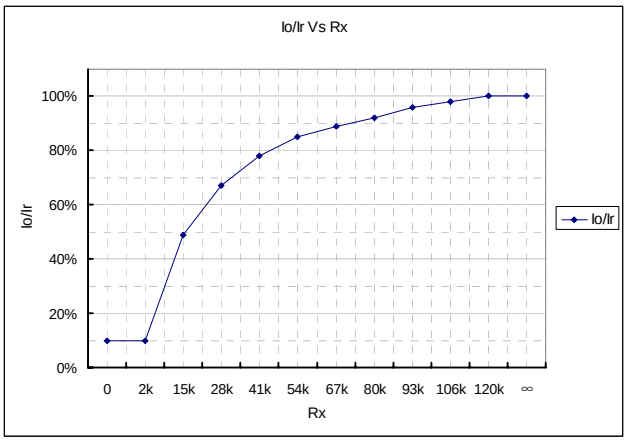
The dimmer control may be operated from either a potentiometer or from an input signal of 1 – 10 Vdc. Two recommended implementations are provided below.





Implementation 1: DC input



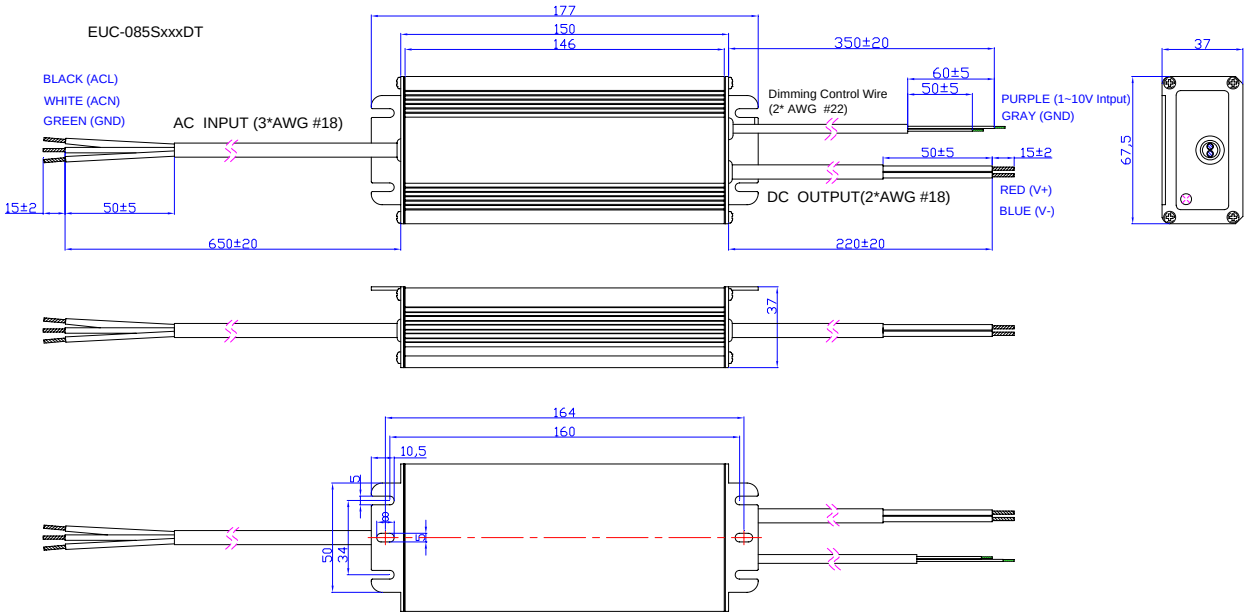


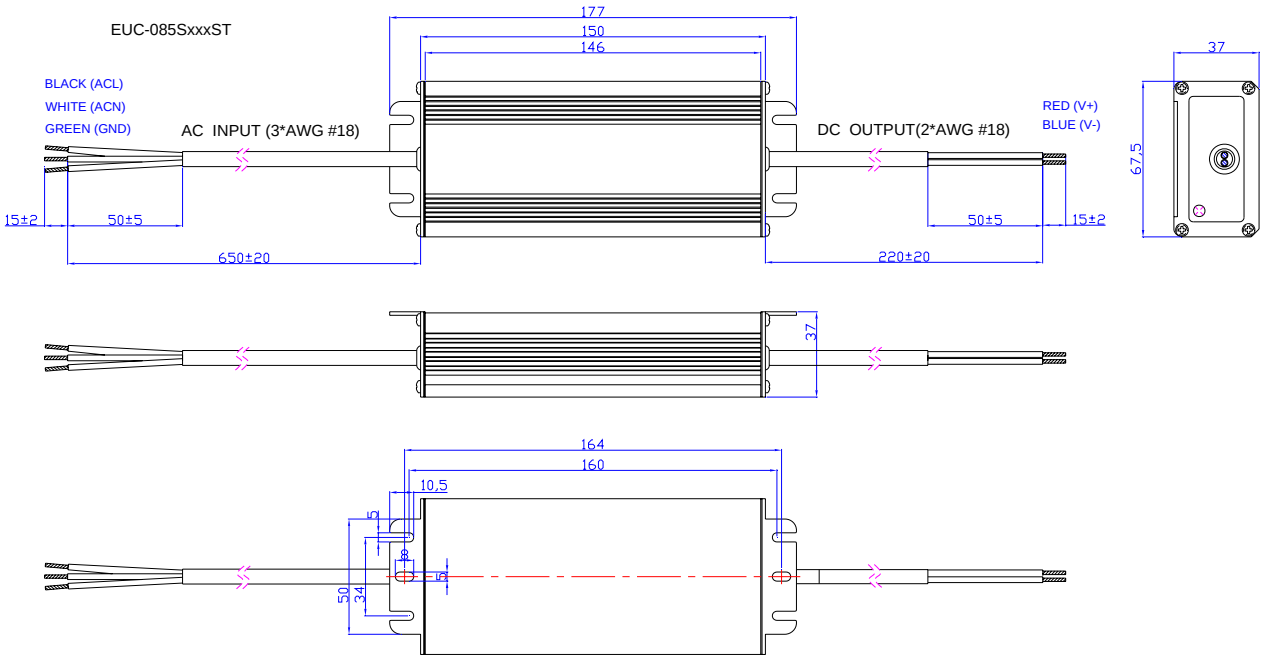
Implementation 2: External resistor

Notes:

1. Io is actual output current and Ir 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%Io.
5. Do not connect the GND of dimming to the output; otherwise, the LED driver can not work normally.

Mechanical Outline





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
2010-03-29	V2.0	First Release		
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% Vo	Max. 3% Vo
2010-11-17	C	Add Derating Curve	/	/