Features

- Ultra High Efficiency (Up to 93.5%)
- Active Power Factor Correction (0.99 Typical)
- Constant Current Output
- Lightning Protection
- All-Round Protection: SCP, OTP, OVP
- Waterproof (IP67)
- Comply With UL8750 & EN61347 Safety Regulations

Description

The EUC-200SxxxDT Series operate from a 90 ~ 305 Vac input range. These units will provide up to a 1.4 A of output current and a maximum output voltage of 445 V for 200 W maximum output power. They are designed to be highly efficient and highly reliable. The standard features include dimming control, lightning protection, 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 (2)
					110Vac	220Vac	
450 mA	90 ~ 305 Vac	445 Vdc	200 W	93.5%	0.99	0.96	EUC-200S045DT
700 mA	90 ~ 305 Vac	285 Vdc	200 W	93.0%	0.99	0.96	EUC-200S070DT☆
1050 mA	90 ~ 305 Vac	190 Vdc	200 W	93.0%	0.99	0.96	EUC-200S105DT
1400 mA	90 ~ 305 Vac	142 Vdc	200 W	92.5%	0.99	0.96	EUC-200S140DT

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.
(3) ☆: Popular model.

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	-	-	2.4 A	Measured at full load and 100 Vac input.
	-	-	1.2 A	Measured at full load and 220 Vac input.
Inrush current	-	-	65 A	At 230Vac input 25℃ Cold start

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Range I_O = 450 mA I_O = 700 mA I_O = 1050 mA I_O = 1400 mA	 427 mA 665 mA 997 mA 1330 mA	 450 mA 700 mA 1050 mA 1400 mA	 473 mA 735 mA 1102 mA 1470 mA	Without dimming
No-load Output Voltage I_O = 450 mA I_O = 700 mA I_O = 1050 mA I_O = 1400 mA	 - - - -	 462 V 297 V 200 V 148 V	 - - - -	
Output Voltage Range I_O = 450 mA I_O = 700 mA I_O = 1050 mA I_O = 1400 mA	 223 V 143 V 95 V 71 V	 - - - -	 445 V 285 V 190 V 142 V	
Ripple and Noise (pk-pk) I_O = 450 mA I_O = 700 mA I_O = 1050 mA I_O = 1400 mA	 - - - -	 - - - -	 13.4 V 8.6 V 5.7 V 4.3 V	Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 uF ceramic capacitor and a 10 uF electrolytic capacitor.
Line Regulation	-	-	1%	
Load Regulation	-	-	3%	
Turn-on Delay Time	-	1.0 S	2.0 S	Measured at 110Vac input.
	-	1.0 S	2.0 S	Measured at 220Vac input.

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

Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Voltage Protection I_O = 450 mA I_O = 700 mA I_O = 1050 mA I_O = 1400 mA	 534 V 342 V 228 V 170 V	 601 V 385 V 257 V 192 V	 668 V 428 V 285 V 213 V	Latch mode. The power supply shall return to normal operation only after the power is turn-on again.
Over Temperature Protection	-	110 °C	-	Maximum temperature of components inside the case.
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 = 450 mA I_O = 700 mA I_O = 1050 mA I_O = 1400 mA	 90.5% 90.0% 90.0% 89.5%	 91.5% 91.0% 91.0% 90.5%	 - - - -	Measured at full load, 110Vac input, 25℃ ambient temperature, after the unit is thermally stabilized. It will be lower about 1%, if measured immediately after startup.
Efficiency I_O = 450 mA I_O = 700 mA I_O = 1050 mA I_O = 1400 mA	 92.5% 92.0% 92.0% 91.5%	 93.5% 93.0% 93.0% 92.5%	 - - - -	Measured at full load, 220Vac input, 25℃ ambient temperature, after the unit is thermally stabilized. It will be lower about 1%, if measured immediately after startup.
MTBF I_O = 1400 mA I_O = 450 mA	 332,000 hours 339,000 hours			Measured at 110Vac input, 80%Load and 25° C ambient temperature (MIL-HDBK-217F).
Life Time I_O = 1400 mA I_O = 450 mA	 60,000 hours 64,000 hours			Measured at 220Vac input, 80%Load and 45° C ambient temperature.
Dimensions Inches (L × W × H) Millimeters (L × W × H)	 9.37 × 3.13 × 1.81 238 × 79.5 × 46			
Net Weight	-	1500 g	-	

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

Environmental Specifications

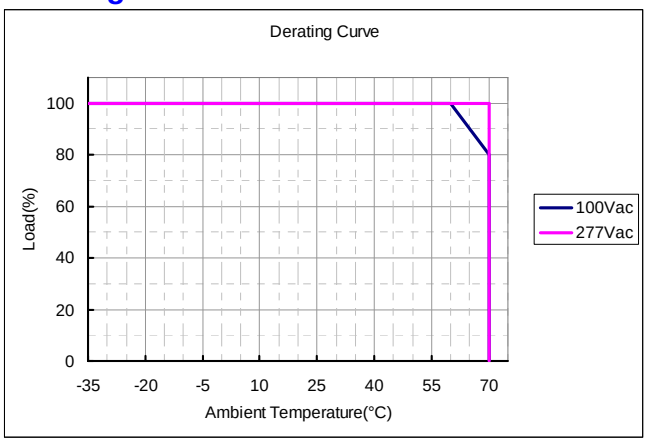
Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-35 ℃	-	+70 ℃	Humidity: 10% RH to 100% RH
Storage Temperature	-40 ℃	-	+85 ℃	Humidity: 5% RH to 100% RH

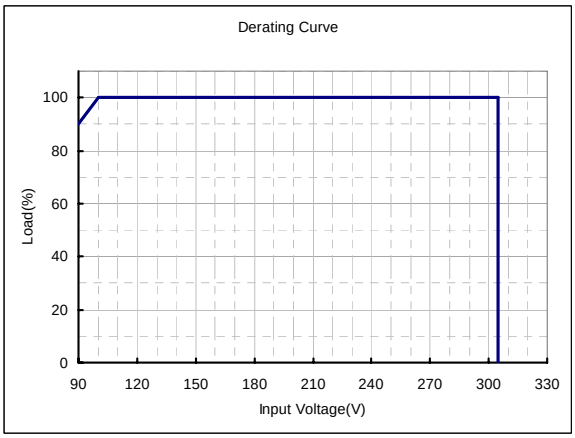
Safety & EMC Compliance

Safety Category	Country	Standard
CUL	USA & Canada	UL8750, UL935, UL1012, CSA-C22.2 No. 107.1
CE	Europe	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
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

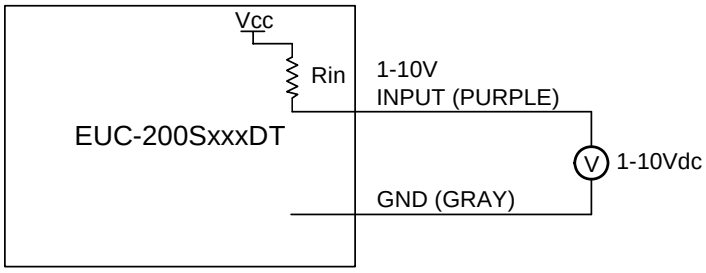


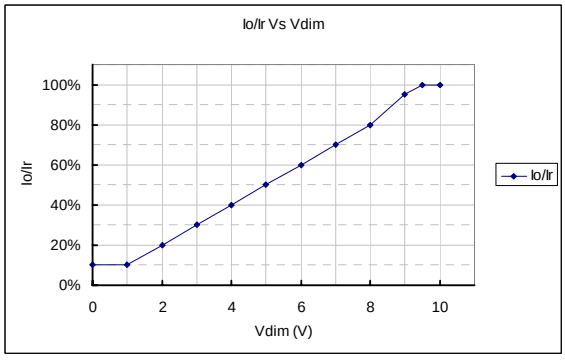


Dimming Control (On secondary side)

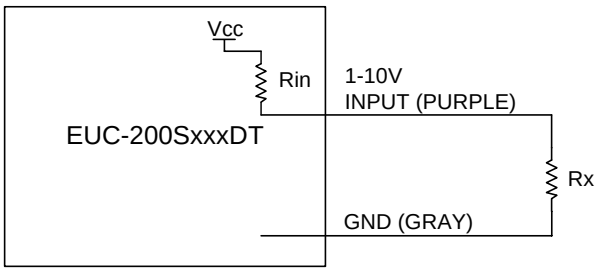
Parameter	Min.	Typ.	Max.	Notes
Absolute maximum voltage on the 1~10V input pin	-2 V	-	12 V	
Sink current on 1~10V input pin	0 mA	-	1 mA	

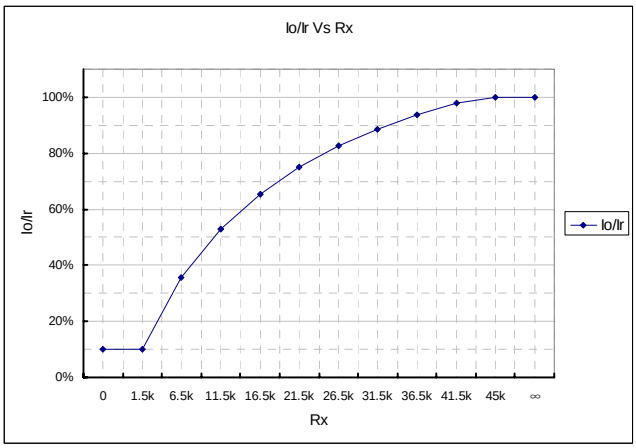
The dimmer control may be operated from either a potentiometer or from an input signal of 1 – 10 Vdc. Two recommended implementations are provided below.





Implementation 1: DC input



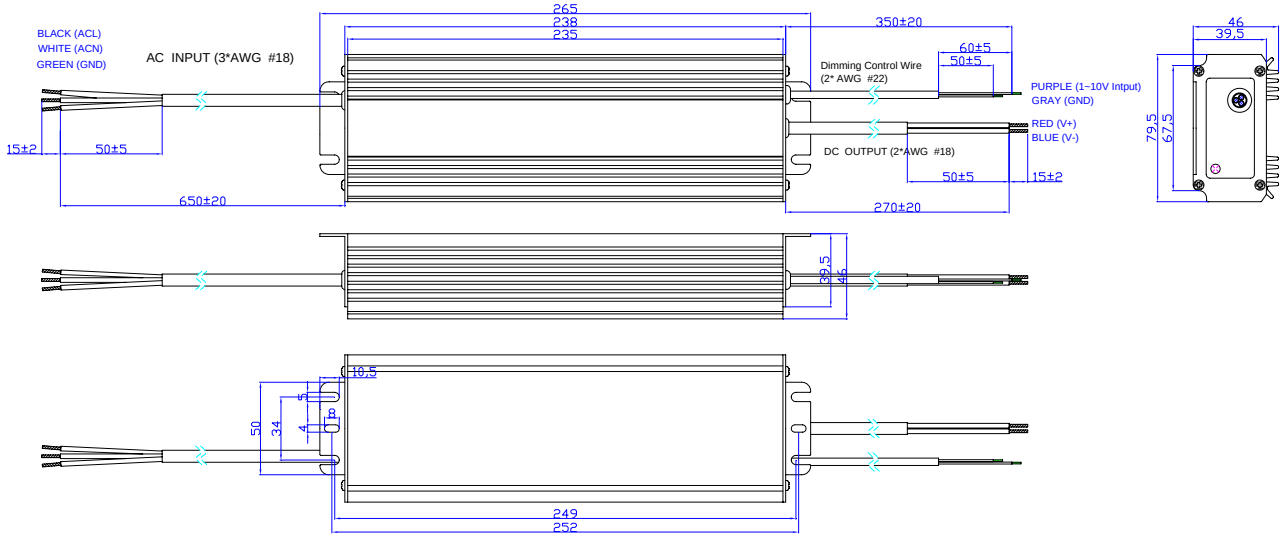


Implementation 2: External resistor

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. The internal resistor Rin is 20K, and Vcc is about 15V.
6. 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
2010-08-02	V2.0	First Release	/	/
2010-09-01	A	Change Max. Output Voltage	143 Vdc	142 Vdc
		Change Leakage Current	Max. 1.0 mA	Max. 0.75 mA
		Change MTBF	310,000 hours	300,000 hours
		Change Life Time	78,000 hours	70,000 hours
		Change Ripple and Noise	Max. 3% V_O	The max. value of every model.
		Change the dimming Implementation and notes	One dimming Implementation: DC input	Two dimming Implementations: 1. DC input 2. External resistor
		Change Mechanical Outline The dimming control Wire The output Wire	3*AWG #22 (Yellow/Purple/Green) Red/Black	2*AWG #22 (Purple/Gray) Red/Blue
2010-10-13	B	Change the dimming diagram	/	/
		Add one note for Dimming Control	/	5. The internal resistor Rin is 20K, and Vcc is about 15V.
2011-01-14	C	Add star rank for recommended models	/	☆: Popular model.
		Update MTBF & Life Time Date	For One Model	For Two Models