Features

- High Efficiency (Up to 88%)
- Active Power Factor Correction (Typical 0.92)
- Constant Output Current
- Lightning Protection
- Waterproof (IP67)
- Dimming Control
- All-Round Protection: OVP, SCP，OLP
- Comply With UL8750 & EN61347 Safety Regulations
- Comply With FCC Part15 Class B

E328335

Description

The EUC-035SxxxDT(ST) Series operate from a 90 ~ 305 Vac input range. These units will provide up to a 2900 mA of output current and a maximum output voltage of 100 V for 35 W maximum output power. They are designed to be highly efficient and highly reliable. Features include Dimming control, 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	
2900 mA	90 ~ 305 Vac	4 ~12 Vdc	35 W	82%	0.98	0.92	EUC-035S290DT(ST)(6)
2450 mA	90 ~ 305 Vac	5 ~15 Vdc	35 W	83%	0.98	0.92	EUC-035S245DT(ST)(6)
2100 mA	90 ~ 305 Vac	6 ~18 Vdc	35 W	84%	0.98	0.92	EUC-035S210DT(ST)(6)
1750 mA	90 ~ 305 Vac	7 ~20 Vdc	35 W	84%	0.98	0.92	EUC-035S175DT(ST)(6)
1400 mA	90 ~ 305 Vac	8 ~24 Vdc	35 W	85%	0.98	0.92	EUC-035S140DT(ST)(6)
1050 mA	90 ~ 305 Vac	11~33 Vdc	35 W	86%	0.98	0.92	EUC-035S105DT(ST)(6)
700 mA	90 ~ 305 Vac	17~50 Vdc	35 W	86%	0.98	0.92	EUC-035S070DT(ST)(5)☆
450 mA	90 ~ 305 Vac	26~78 Vdc	35 W	87%	0.98	0.92	EUC-035S045DT(ST)(4)
350 mA	90 ~ 305 Vac	33~100 Vdc	35 W	88%	0.98	0.92	EUC-035S035DT(ST)(4)

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 –xxxx 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).
(7) ☆: Popular model.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 V	-	305 V	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.5 mA	At 277Vac 60Hz input

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Input AC Current	-	-	0.49 A	Measured at full load and 100 Vac input.
	-	-	0.25 A	Measured at full load and 220 Vac input.
Inrush Current	-	-	60 A	At 230Vac input 25℃ Cold Start

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%	-	5%	
Current Ripple	-	-	50%	
No Load Output Voltage				
I_O = 2900 mA	-	-	17 V	
I_O = 2450 mA	-	-	20 V	
I_O = 2100 mA	-	-	24 V	
I_O = 1750 mA	-	-	26 V	
I_O = 1400 mA	-	-	30 V	
I_O = 1050 mA	-	-	39 V	
I_O = 700 mA	-	-	56 V	
I_O = 450 mA	-	-	83 V	
I_O = 350 mA	-	-	106 V	
Line Regulation	-	-	3%	
Load Regulation	-	-	5%	
Turn-on Delay Time	-	2.5 s	3.0 s	Measured at 110Vac input.
	-	1.5 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 = 2900 mA	16 V	17 V	18 V	Hiccup mode. The power supply shall be self-recovery when the fault condition is removed.
I_O = 2450 mA	19 V	20 V	21 V	
I_O = 2100 mA	23V	24 V	25 V	
I_O = 1750 mA	25 V	26 V	27 V	
I_O = 1400 mA	35 V	30 V	32 V	
I_O = 1050 mA	38 V	40 V	42 V	
I_O = 700 mA	55 V	57 V	59 V	
I_O = 450 mA	83 V	85 V	87 V	
I_O = 350 mA	108 V	110 V	112 V	
Over Load Protection	-	1.25 Vomax	-	Hiccup mode. The power supply shall be self-recovery when the fault condition is removed.
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 = 2900 mA	80%	81%	-	Measured at full load and 110 Vac input.
I_O = 2450 mA	81%	82%	-	
I_O = 2100 mA	81%	82%	-	
I_O = 1750 mA	81%	82%	-	
I_O = 1400 mA	83%	84%	-	
I_O = 1050 mA	85%	86%	-	
I_O = 700 mA	85%	86%	-	
I_O = 450 mA	86%	87%	-	
I_O = 350 mA	87%	88%	-	
Efficiency				
I_O = 2900 mA	81%	82%	-	Measured at full load and 220 Vac input.
I_O = 2450 mA	82%	83%	-	
I_O = 2100 mA	83%	84%	-	
I_O = 1750 mA	83%	84%	-	
I_O = 1400 mA	84%	85%	-	
I_O = 1050 mA	85%	86%	-	
I_O = 700 mA	85%	86%	-	
I_O = 450 mA	86%	87%	-	
I_O = 350 mA	87%	88%	-	
No Load Power Dissipation			6 W	
MTBF	541,000 hours			Measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	87,000 hours			Measured at 110Vac input, 80%Load and 45°C ambient temperature
Dimensions Inches (L × W × H) Millimeters (L × W × H)	6.77 × 1.67× 1.36 172 × 42.5× 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 ℃	-	+55 ℃	Humidity: 10% RH to 100% RH
Storage Temperature	-40 ℃	-	+85 ℃	Humidity: 5% RH to 100% RH

Safety & EMC Compliance

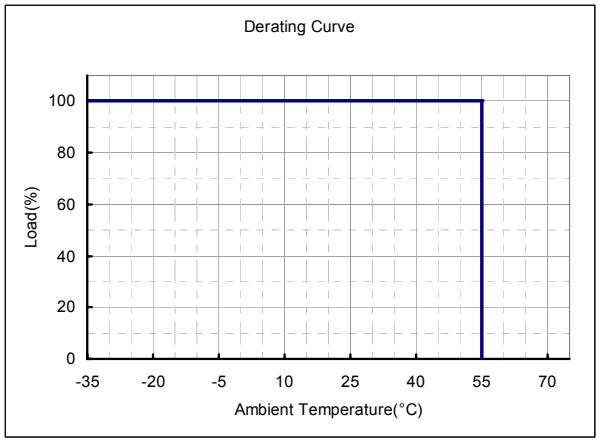
Safety Category	Standard
CUL	UL8750, UL935, UL1012, UL1310 Class 2, CSA-C22.2 No. 107.1, CSA C22.2 NO. 223-M91 Class 2
CE	EN 61347-1, EN61347-2-13
EMI Standards	**Notes**
EN 55015	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations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

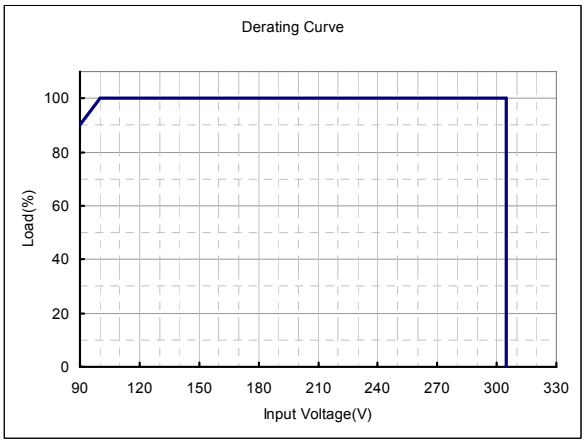
FCC	FCC Part 15 Class B, ANSI C63.4: 2009.

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 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



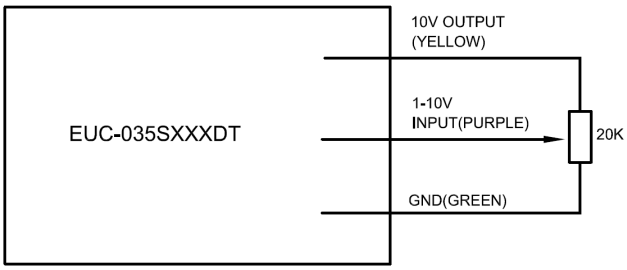


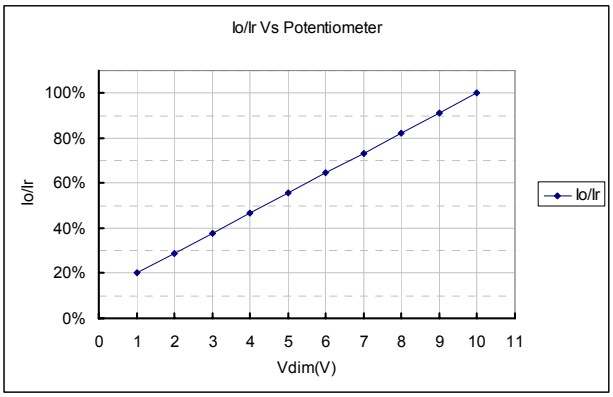
Dimming Control (On secondary side)

Parameter	Min.	Typ.	Max.	Notes
10V output voltage	9.8 V	10 V	10.2 V	
10V output source current	-10 mA	-	2 mA	
Absolute maximum voltage on the 1~10V input pin	-2 V	-	15 V	
Source current on 1~10V input pin	0 mA	-	1 mA	

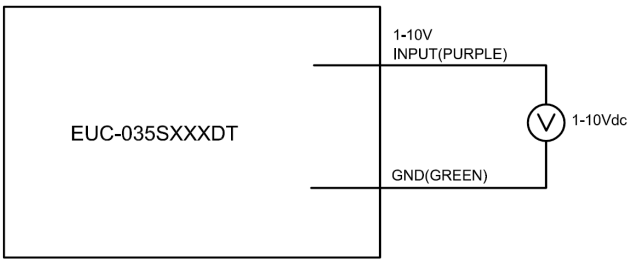
The dimmer control may be operated from either a potentiometer or from an input signal of 1 – 10 Vdc. Two recommended implementations are provided below.

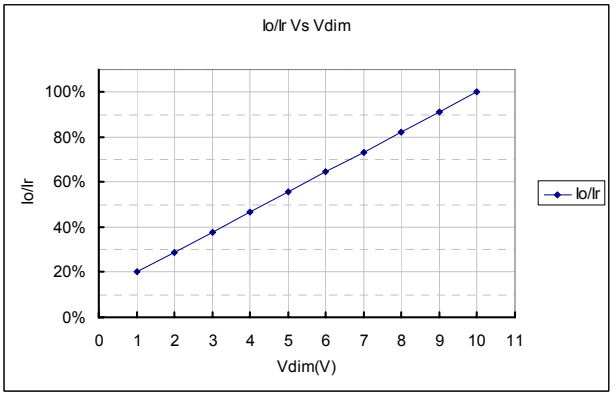
Dimming Control (Continued)





Implementation 1: Potentiometer control





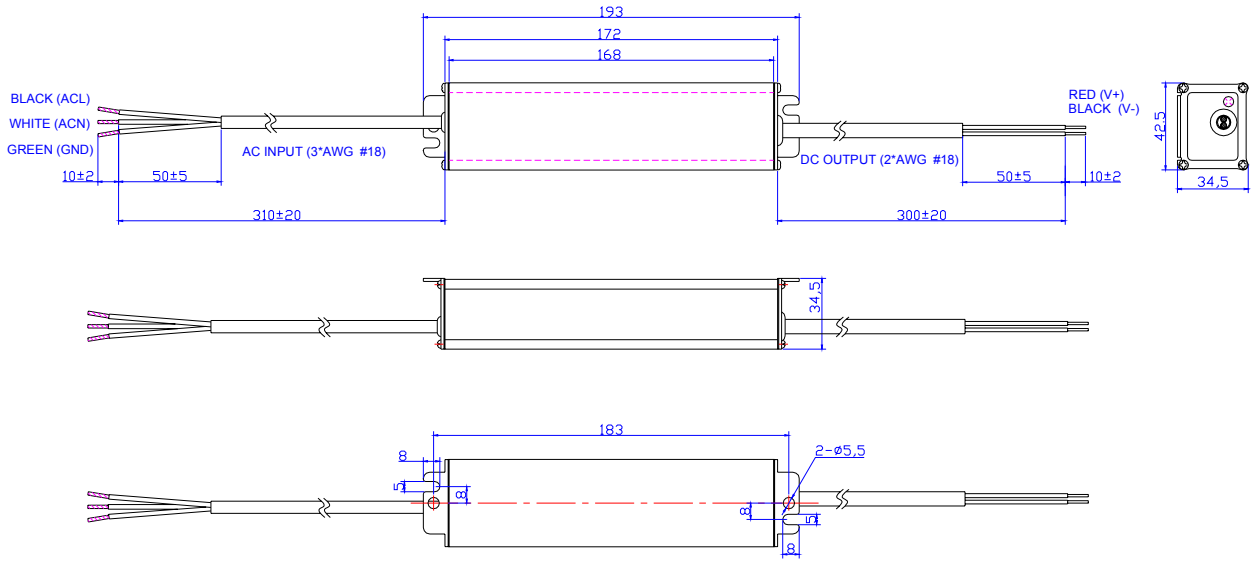
Implementation 2: DC input

Notes:

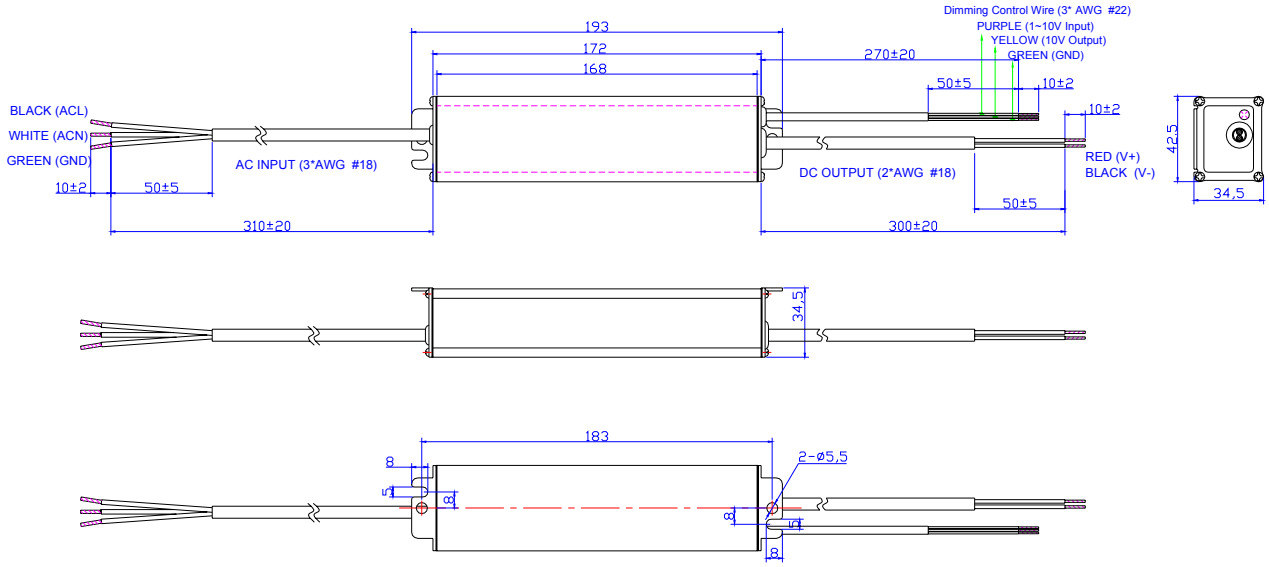
1. Io is actual output current and Ir is rated current.
2. If the dimming function is not used, please short 10 V output pin (yellow) and 1-10 V input pin(purple). The output current is about 92%Ir when the 1-10V input pin is floating.
3. For the driver to operate properly, the load voltage must be maintained above the minimum voltage threshold (approx. 33% of the max. output voltage for any given model).
4. The dimming voltage can be tuned down to less than 1V, and the output current will be decreased to about 10%Ir; but the connected LEDs may flicker. Keeping dimming voltage greater than 1V in application is strongly recommended.
5. Do not connect the GND of dimming to the output; otherwise, the LED driver can not work normally.

Mechanical Outline

EUC-035SxxxST



EUC-035SxxxDT



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
2009-09-02	V2.1	Change MTBF and Life Time		
2009-09-11	V2.2	Change Turn-on Delay Time		
2009-12-08	A	Modify the PF value, no-load power dissipation, dimming range		
2010-01-12	B	Modify the derating curve and mechanical outline		
2010-04-12	C	Change the Power Factor 110Vac	0.99	0.98
		Add Leakage Current in Input Specifications	/	Max. 0.5 mA At 277Vac 50Hz input
		Change Inrush Current	20A	60A
		Change Line Regulation	2%	3%
		Add No Load Output Voltage	/	The max. value of every model.
		Change Ripple and Noise	Max. 25% V_O	The max. value of every model.
		Change Turn-on Delay Time 110Vac 220Vac	Typ. Max. 1.7S 2.0S 0.7S 1.0S	Typ. Max. 2.5S 3.0S 1.5S 2.0S
		Delete Output Overshoot / Undershoot	Max. 10%	/
		Change Over Load Protection	Typ.: 1.25Po	Typ.: 1.25*Vmax
		Delete part of the notes in Operating Temperature	Derating: 2% per °C from 55°C to 70°C.	/
		Change the Max. Ambient Temperature in Derating Curve	+70 ℃	+55 ℃
		Change linearity of dimming curve	/	/
		Change the notes in Dimming Control	/	/
2010-10-14	D	Change the notes in Dimming Control	/	/
2011-1-10	E	Change popular models	/	/
		Change No Load Output Voltage I_O = 350 mA	Max. 104V	Max. 106V
		Change Over Voltage Protection I_O = 2900 mA I_O = 2450 mA I_O = 2100 mA I_O = 1750 mA I_O = 1400 mA I_O = 1050 mA I_O = 700 mA I_O = 450 mA I_O = 350 mA	Min. Typ. Max. 13V 15V 17V 16V 18V 20V 19V 21V 23V 23V 25V 27V 30V 32V 34V 39V 41V 43V 57V 58V 59V 95V 97V 99V 118V 120V 122V	Min. Typ. Max. 16V 17V 18V 19V 20V 21V 23V 24V 25V 25V 26V 27V 35V 30V 32V 38V 40V 42V 55V 57V 59V 83V 85V 87V 108V 110V 112V
		Add FCC Part15 Class B	/	FCC Part 15 Class B, ANSI C63.4：2009.