

Features

- Ultra High Efficiency (Up to 91.0%)
- Six Channels Output
- Active Power Factor Correction (0.99 Typical)
- Constant Current Output
- Lightning Protection
- All-Round Protection: SCP, OTP, OVP
- Waterproof (IP67) and Damp & Wet Location



Description

The EUC-240HxxxDT(ST) series operate from a 90 ~ 305 Vac input range. They are designed to be highly efficient and highly reliable. Features include lightning protection, short circuit protection, over voltage protection and over temperature protection.

Models

Output Current (1)	Input Voltage Range	Output Voltage Range	Max. Output Power	Typical Efficiency (2)	Power Factor		Model Number (3)
					120Vac	220Vac	
350 mA	90~305 Vac	57~114Vdc	240 W	91.0%	0.99	0.95	EUC-240H035DT(ST)(4)
700 mA	90~305 Vac	29~54 Vdc	227 W	91.0%	0.99	0.95	EUC-240H070DT(ST)(5)
1050 mA	90~305 Vac	19~38 Vdc	240 W	90.5%	0.99	0.95	EUC-240H105DT(ST)(5)
1400 mA	90~305 Vac	15~25.7Vdc	216 W	90.0%	0.99	0.95	EUC-240H140DT(ST)(6)

Notes: (1) The output current is adjustable at factory from 50% to 100%.

(2) Measured at full load and 220 Vac input.

(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 60Hz input
Input AC Current	-	-	2.9 A	Measured at full load and 100 Vac input.
	-	-	1.3 A	Measured at full load and 220 Vac input.
Inrush Current	-	-	75 A	At 220Vac input, 25°C cold start, duration=1.2 ms, 10%Ipk-10%Ipk.
Inrush Current(I ² t)	-	-	2 A ² s	
Power Factor	0.90	-	-	At 100Vac-277Vac, 75%load-100%load
THD	-	-	20%	At 100Vac-277Vac, 75%load-100%load

Specifications are subject to changes without notice.

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output channel	-	6	-	
Output Current Tolerance	-5%	-	5%	
No-load Output Voltage				
$I_o=350$ mA	-	127 V	130 V	
$I_o=700$ mA	-	59.5 V	60.0 V	
$I_o=1050$ mA	-	41.5 V	42.4 V	
$I_o=1400$ mA	-	29.0 V	30.0 V	
Output Current Ripple (pk-pk)	-	10% I_o	15% I_o	
Output Current Overshoot / Undershoot	-	8%	10%	At full load condition.
Line Regulation	-	-	$\pm 1\%$	
Load Regulation	-	-	$\pm 5\%$	
Turn-on Delay Time	-	1.0 s	2.0 s	Measured at 120Vac input.
	-	0.5 s	1.5 s	Measured at 220Vac input.
Temperature coefficient			0.03%/°C	Case temperature = 0~Tc max

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

Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Temperature Protection---Tc	-	110 °C	-	Maximum temperature of the case
Short Circuit Protection	No damage shall occur when any output operating in a short circuit condition. The power supply shall be recovery when the power restarted.			

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency	$I_o=350$ mA	87.0%	88.0%	Measured at full load, 120Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be about 1% lower, if measured immediately after startup.
	$I_o=700$ mA	87.0%	88.0%	
	$I_o=1050$ mA	86.0%	87.0%	
	$I_o=1400$ mA	86.0%	86.0%	
Efficiency	$I_o=350$ mA	90.0%	91.0%	Measured at full load, 220Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be about 1% lower, if measured immediately after startup.
	$I_o=700$ mA	90.0%	91.0%	
	$I_o=1050$ mA	89.5%	90.5%	
	$I_o=1400$ mA	89.0%	90.0%	
Efficiency	$I_o=350$ mA	90.0%	91.0%	Measured at full load, 277Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be about 1% lower, if measured immediately after startup.
	$I_o=700$ mA	90.0%	91.0%	
	$I_o=1050$ mA	89.5%	90.5%	
	$I_o=1400$ mA	89.0%	90.0%	
MTBF		201,400 Hours		Measured at 220Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)

Specifications are subject to changes without notice.

General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Life Time		81,800 Hours		Measured at 220Vac 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)		8.27 × 3.9 × 1.5 210 × 100 × 38		
Net Weight	-	1600 g	-	

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

Environmental Specifications

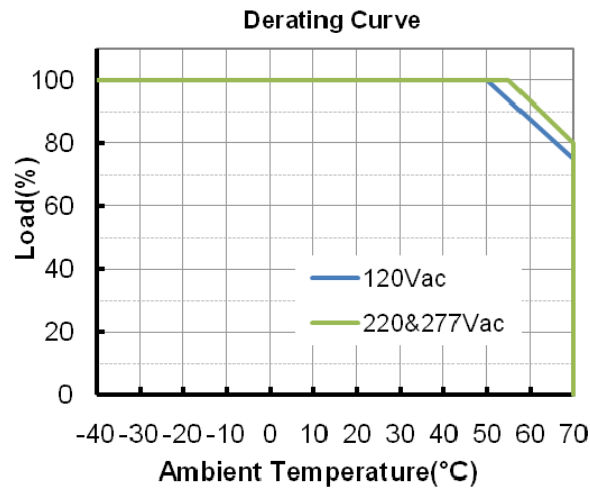
Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-40 °C	-	+70 °C	Humidity: 10% RH to 100% RH See Derating Curve for more details
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH

Safety & EMC Compliance

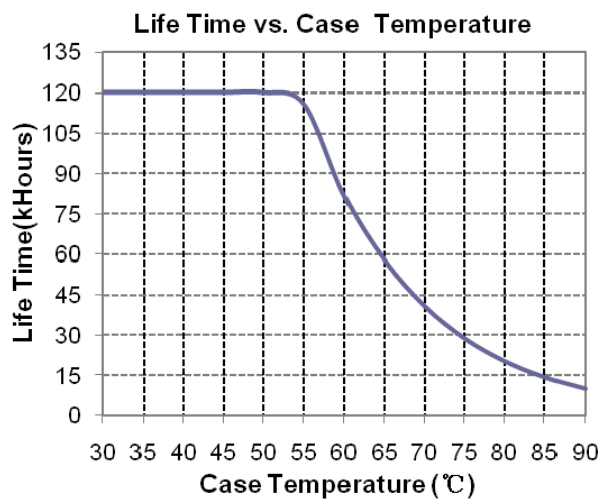
Safety Category	Standard
UL/CUL	UL8750 , CSA-C22.2 No. 107.1
CE	EN 61347-1, EN61347-2-13
EMI Standards	Notes
EN 55015	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
FCC Part 15	ANSI C63.4: 2009 Class B
EMS Standards	Notes
EN 61000-4-2	Electrostatic Discharge (ESD): 15 kV air discharge, 8 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

Specifications are subject to changes without notice.

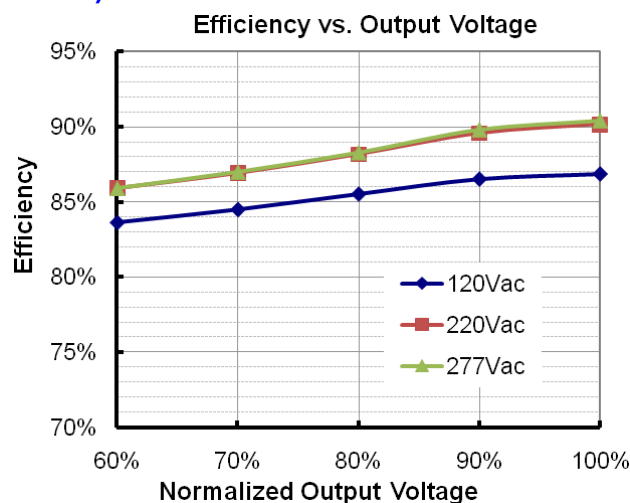
Derating Curve



Life Time vs. Case Temperature Curve

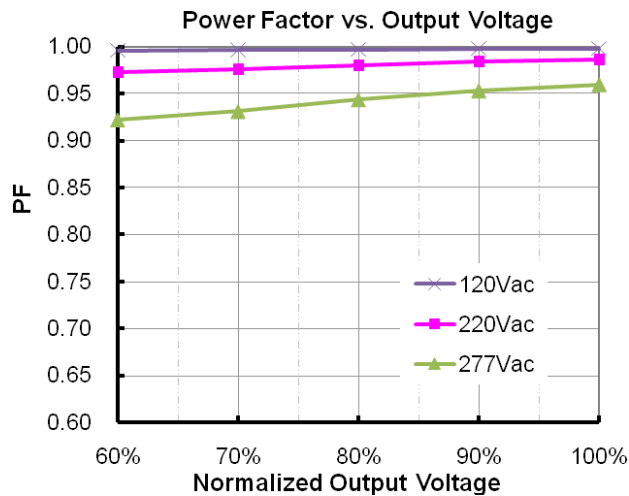


Efficiency vs. Load (350 mA)



Specifications are subject to changes without notice.

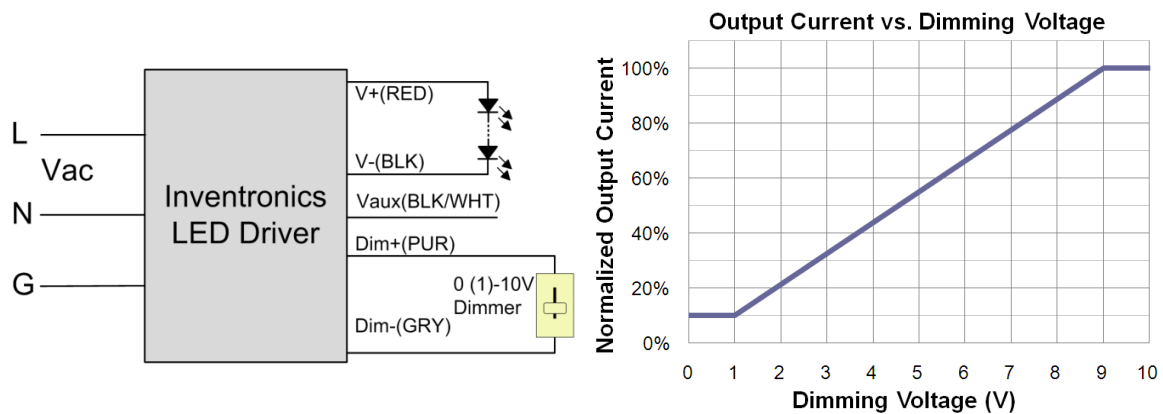
Power Factor Characteristics



Dimming Control (On secondary side)

Parameter	Min.	Typ.	Max.	Notes
12V output voltage (V _{aux})	10.8 V	12 V	13.2 V	
12V Output source current	0 mA		20 mA	
Absolute Maximum voltage on the 1~10V input pin	-20 V	-	20 V	
Source current on 1~10V input pin	0 uA	-	200 uA	

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.



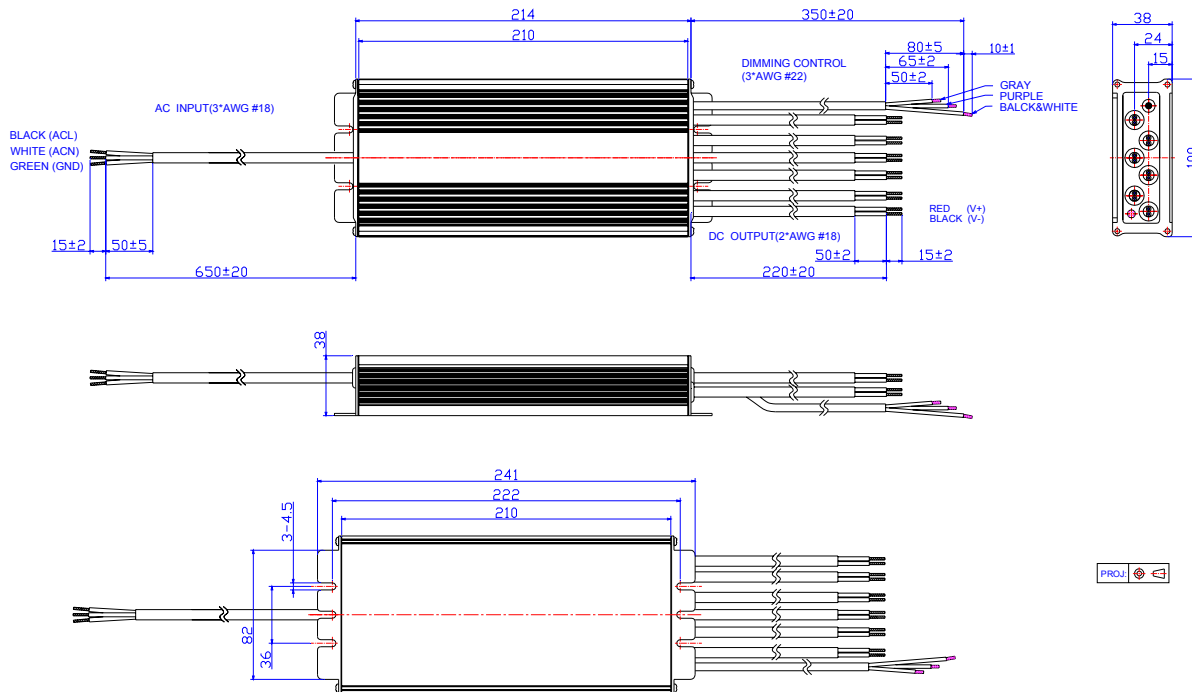
Implementation: DC input

Notes:

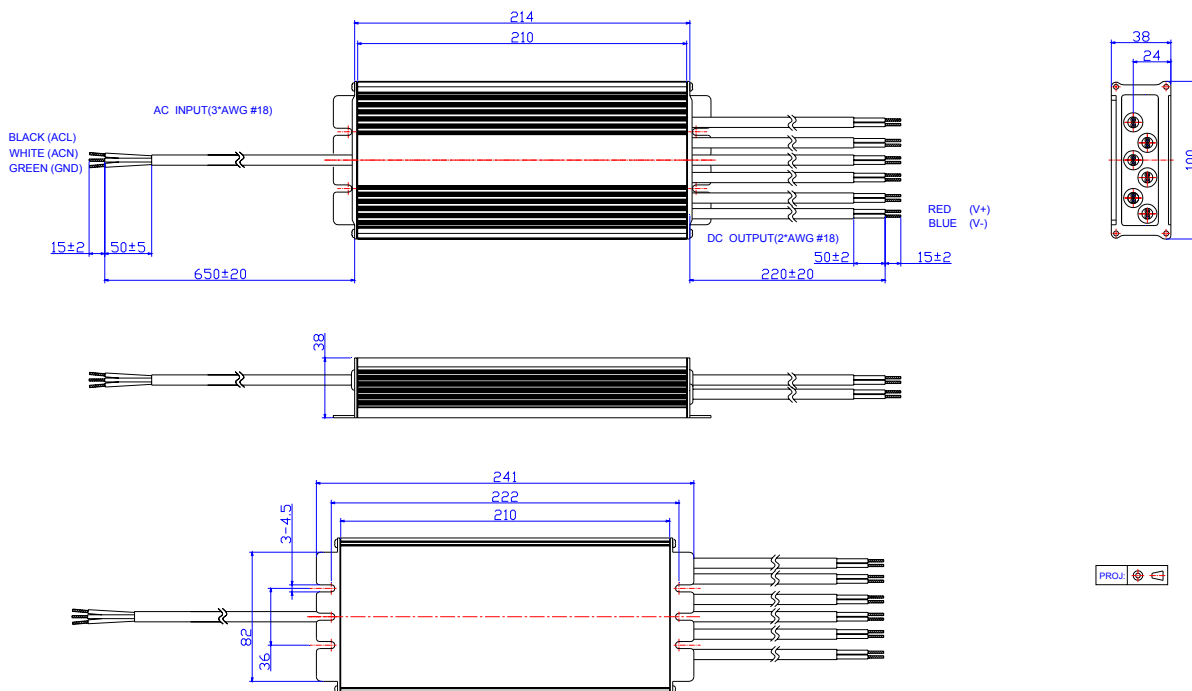
1. I_o is actual output current and I_r is rated current without dimming control.
2. For the driver to operate properly, the load voltage must be maintained above the minimum voltage threshold (approx. 50% of the max. output voltage for any given model).
3. If the output voltage is maintained above 50% of the maximum output voltage, the dimming control may be operated over the entire 1-10V range with output current varying from 10% to 100% of I_r.
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 cannot work normally.

Mechanical Outline

EUC-240HxxxDT



EUC-240HxxxST



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.

Specifications are subject to changes without notice.

Revision History

Change Date	Rev.	Description of Change				
		Item	From		To	
2011-11-2	V1.0	Preliminary Datasheets First Release	/		/	
2011-11-21	V1.1	Input AC Current	2.3A & 1A		2.9A & 1.3A	
2012-3-27	V3.0	Dimming Curve	/		Updated	
		Life Time Curve	/		Added	
2012-04-05	V3.1	No-load Output Voltage I _o =350 mA I _o =700 mA I _o =1050 mA I _o =1400 mA	127V 70 V 52 V 43 V		127V 65 V 45 V 34V	
		Net Weight	/		1600 g	
2012-04-12	V3.2	Efficiency I _o =350 mA I _o =700 mA	91.5% 91.5%		90.5% 90.5%	
2012-05-23	V4.0	Output Current Ripple (pk-pk) Max	30% I _o		15% I _o	
		Operating Temperature	-35°C		-40°C	
		Inrush Current	50 A		65 A	
2012-6-29	V4.1	Output Voltage Range I _o =350 mA I _o =700 mA I _o =1050 mA I _o =1400 mA	57~114Vdc 29~57 Vdc 19~38 Vdc 15~29 Vdc		57~114Vdc 29~54 Vdc 19~38 Vdc 15~25.7 Vdc	
		Inrush Current	65 A		75 A	
		No-load Output Voltage I _o =350 mA I _o =700 mA I _o =1050 mA I _o =1400 mA	Typ. 127 V 65 V 45 V 34 V	Max. - - -	Typ. 127 V 59.5 V 41.5 V 29 V	Max. 130 V 60 V 42.4 V 30 V
		Turn-on Delay Time at 220Vac	1.0 s	3.0 s	0.8 s	2.0 s
2012-7-9	V4.2	Derating Curve	/		Updated	
2012-8-23	V4.3	Inrush Current(I ² t)	/		Added	
		Min PF and Max THD	/		Added	
		Temperature co-efficient	/		Added	
		Life time Curve	/		Updated	
2012-9-26	V4.4	Turn-on delay time @120Vac	Type 1.0s, max 3.0s		Type 1.0s, max 2.0s	
		Turn-on delay time @220Vac	Type 0.8s, max 1.5s		Type 0.5s, max 1.5s	
		Load Regulation	±3%		±5%	
		Typical MTBF & Life time	/		Updated	
		Life time Curve	/		Updated	
		OTP Typical	100°C		110°C	

Specifications are subject to changes without notice.