

Features

- 0 -10V Dimmable (Compatible with Passive Dimmers)
- Constant Current Output
- High Efficiency
- Active Power Factor Correction
- All-Round Protection: OLP, SCP and Open Lamp Protection
- EN61347, UL8750 Safety Certifications Approved
- Class2 Output



Description

The LUC-012SxxxDSP (SSP) series operate from a 90 ~ 305 Vac input range. They are designed to be highly efficient and reliable. Features include open lamp, short circuit and over load protections.

Model List

Output Current	Input Voltage Range	Output Voltage Range	Max. Output Power	Efficiency (1)	Power Factor (1)	Model Number
350 mA	90 ~ 305 Vac	17~ 34 Vdc	12 W	82 %	0.94	LUC-012S035DSP(SSP)
500 mA	90 ~ 305 Vac	12~ 24 Vdc	12 W	81 %	0.94	LUC-012S050DSP(SSP)
700 mA	90 ~ 305 Vac	9 ~ 17 Vdc	12 W	81 %	0.94	LUC-012S070DSP(SSP)

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

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90Vac	-	305Vac	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.5 mA	At 277Vac, 50Hz input
Input AC Current	-	-	0.18 A	Measured at full load and 120 Vac input
Inrush Current	-	-	3A	At 277Vac input Ta=25°C cold start, duration = 150µs

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%	-	5%	
Output Current Ripple			30%Io	
Startup Overshoot Current	-	-	20%	Full load condition
Line Regulation	-	-	1%	Input voltage from min to max
Load Regulation	-	-	3%	Output voltage from min to max
Turn-on Delay Time	-	0.8 s	1 s	Measured at 120Vac input
Dimming Range (Io)	10%		100%	

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

Specifications are subject to changes without notice.

Protection Functions

Parameter	Min.	Typ.	Max.	Notes
No Load Voltage	Vomax	110% Vomax	120% Vomax	Vomax is the maximum operation output voltage
Short Circuit Protection	Hiccup. 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 I _o = 500 mA I _o = 700 mA	81% 80% 80%	82% 81% 81%	- - -	Measured at full load and 277 Vac input
Efficiency I _o = 350 mA I _o = 500 mA I _o = 700 mA	79% 78% 78%	80% 79% 79%	- - -	Measured at full load and 120 Vac input
Power Factor I _o = 350 mA I _o = 500 mA I _o = 700 mA	0.88 0.88 0.88	0.90 0.90 0.90	- - -	Measured at maximum output voltage and 277Vac input
Power Factor I _o = 350 mA I _o = 500 mA I _o = 700 mA	0.96 0.96 0.96	0.98 0.98 0.98	- - -	Measured at maximum output voltage and 120 Vac input
No Load Power Dissipation	-	-	3W	
MTBF	459,000 Hours	-	-	Measured at 120Vac input, 80%load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	63,530 Hours	-	-	Case temperature=60°C @ Tc point. See the life vs. Tc curve for the details
Dimensions Inches (L × W × H) Millimeters (L × W × H)	4.13 × 1.65 × 1.22 105 × 42 × 31			
Net Weight	140g			

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

Environmental Specifications

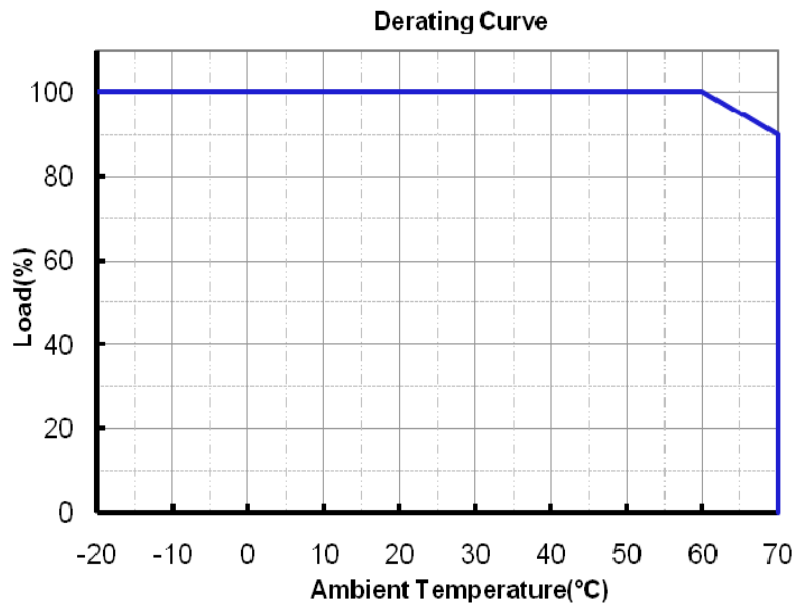
Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-20°C	-	+70 °C	Humidity: 10% RH to 90% RH.
Storage Temperature	-30 °C	-	+85 °C	Humidity: 5% RH to 90% RH

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Safety & EMC Compliance

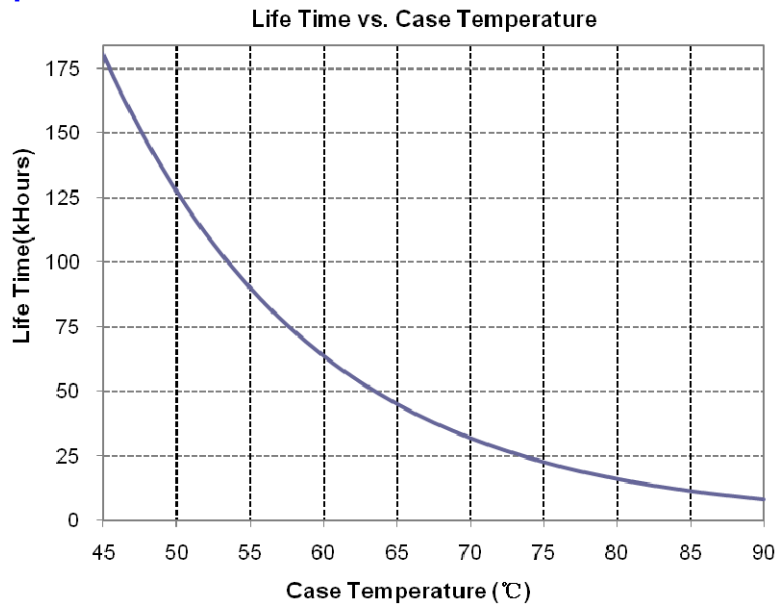
Safety Category	Standard
CE	EN 61347-1, EN61347-2-13
UL/cUL	UL8750, UL1310, UL1012, CAN/CSA-C22.2 No. 223-M91, CSA C22.2 No. 107.1-01
EMI Standards	Notes
EN 55015/CISPR15	Conducted Emission Test & Radiated Emission Test with 6 dB margin
EN 61000-3-2	Harmonic Current Emissions Class C
EN 61000-3-3	Voltage Fluctuations & Flicker
FCC Part 15	Class B
EMS Standards	Notes
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge Level 3, Criteria A
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS Level 3, Criteria A
EN 61000-4-4	Electrical Fast Transient / Burst-EFT Level 3, Criteria A
EN 61000-4-5	Surge Immunity Test: AC Power Line: Line to Line 1 kV
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS Level 3, Criteria A
EN 61000-4-8	Power Frequency Magnetic Field Test 3A/m , Criteria A
EN 61000-4-11	Voltage Dips Criteria B
EN 61547	Electromagnetic Immunity Requirements Applies to Lighting Equipment

Derating Curve

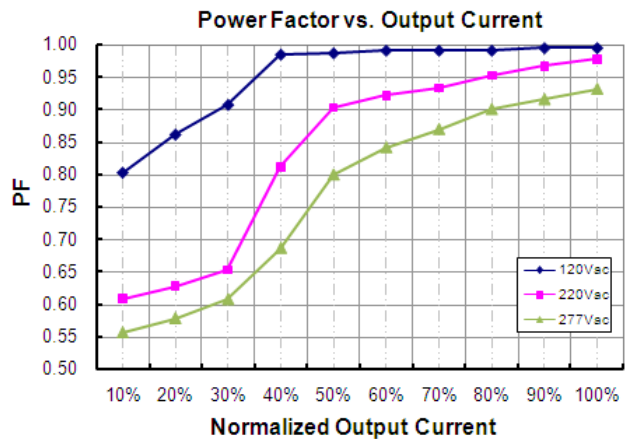
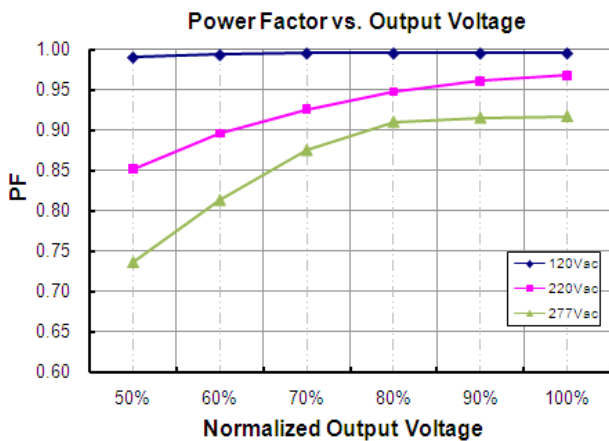


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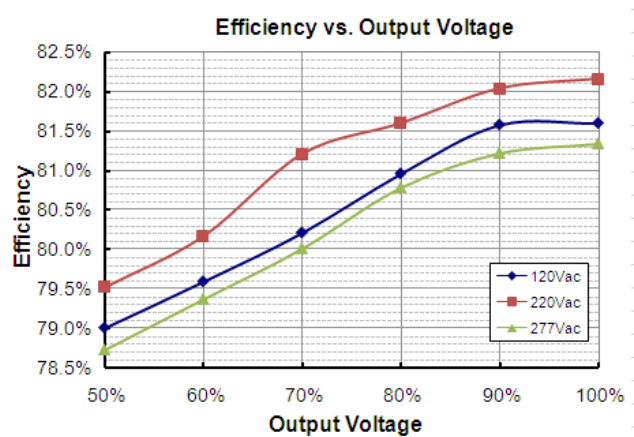
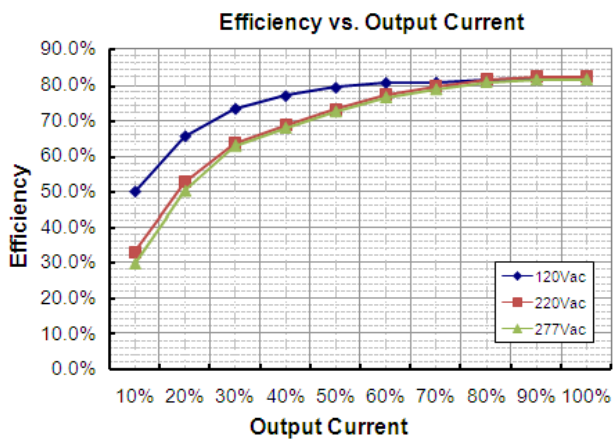
Life vs. Case Temperature Curve



Power Factor Characteristic



Efficiency vs. Load (350mA model)

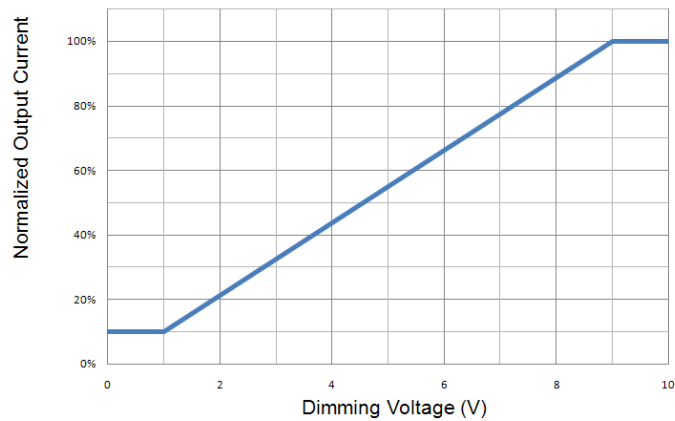


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Dimming Control (On secondary side)

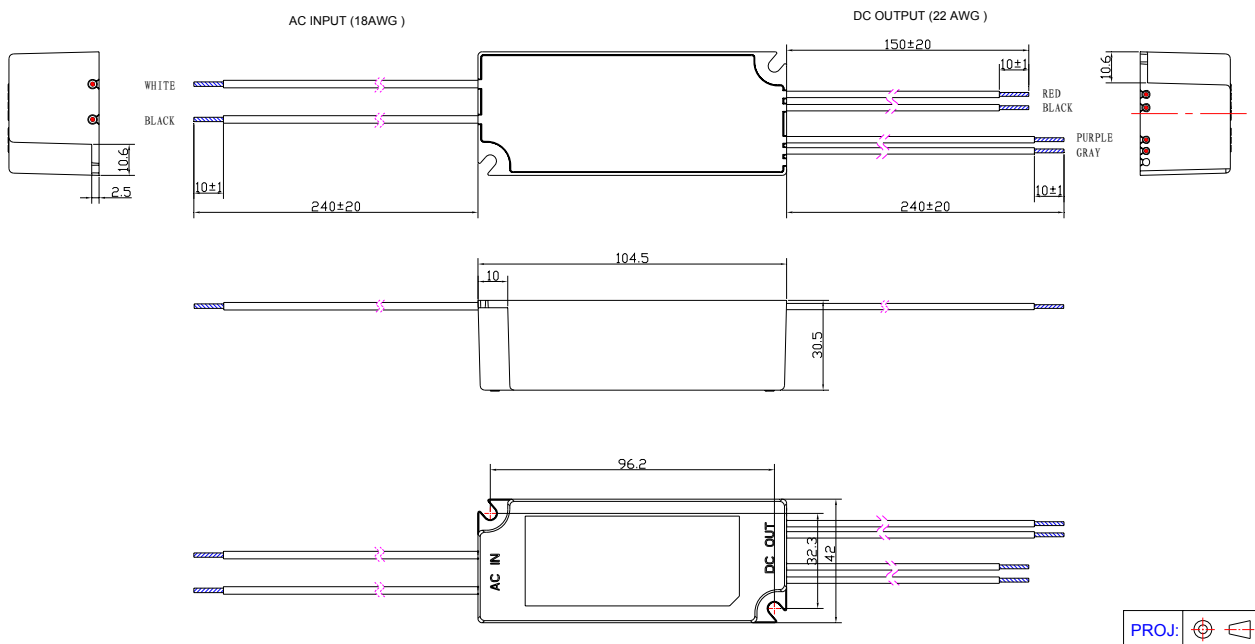
Parameter	Min.	Typ.	Max.	Notes
Absolute Maximum Voltage on the 0~10V Wire	-2 V	-	15 V	
0~10V Wire Current Sourcing Capability	100 uA	150uA	200 uA	

Output Current vs. Dimming Voltage



Mechanical Outline

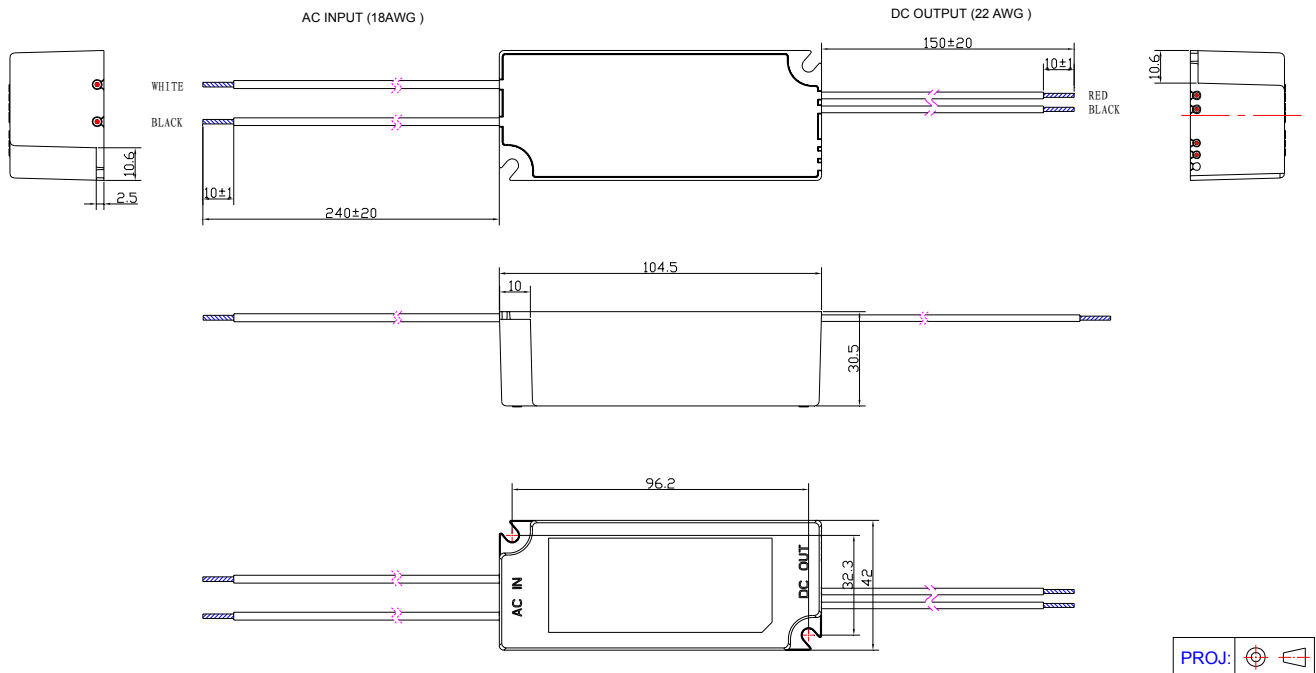
LUC-012SxxxDSP



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Mechanical Outline (Continued)

LUC-012SxxxSSP



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
2011-09-29	A	Release	/	/
2011-10-11	B	Derating Curve, Life time PF, EFF Curve	/	Update