

## 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-012SxxxDSM (SSM) 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 %	0.95	LUC-012S035DSM(SSM)
500 mA	90 ~ 305 Vac	12~ 24 Vdc	12 W	81 %	0.95	LUC-012S050DSM(SSM)
700 mA	90 ~ 305 Vac	9 ~ 17 Vdc	12 W	81 %	0.95	LUC-012S070DSM(SSM)

**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, 60Hz input
Input AC Current	-	-	0.18 A	Measured at full load and 120 Vac input
Inrush Current	-	-	20 A	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	Full load condition
Startup Overshoot Current	-	-	20%	Full load condition
Line Regulation	-	-	1%	/
Load Regulation	-	-	3%	/
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 change 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 <sub>o</sub> = 350 mA I <sub>o</sub> = 500 mA I <sub>o</sub> = 700 mA	81% 80% 80%	82% 81% 81%	- - -	Measured at full load and 277 Vac input
Efficiency I <sub>o</sub> = 350 mA I <sub>o</sub> = 500 mA I <sub>o</sub> = 700 mA	79% 78% 78%	80% 79% 79%	- - -	Measured at full load and 120 Vac input
Power Factor I <sub>o</sub> = 350 mA I <sub>o</sub> = 500 mA I <sub>o</sub> = 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 <sub>o</sub> = 350 mA I <sub>o</sub> = 500 mA I <sub>o</sub> = 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	200,000 Hours			Measured at 120Vac input, 80%load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	50,000 Hours			Measured at 120Vac input, 80%load; Case temperature=60°C @ Tc point. See the life vs. Tc curve for the details
Dimensions Inches (L × W × H) Millimeters (L × W × H)	3.3 × 1.65 × 0.98 84 × 42 × 25			
Net Weight		170g		

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

## Environmental Specifications

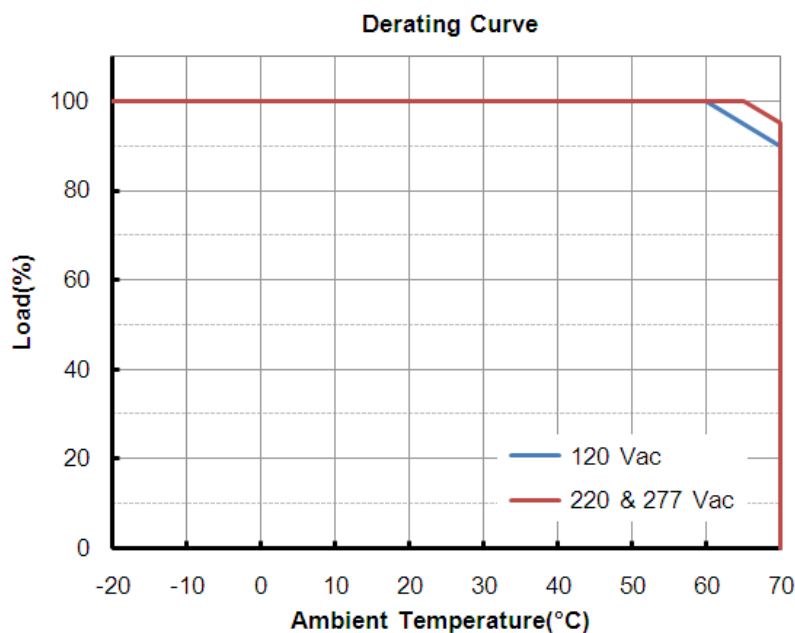
Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-20 °C	-	+70 °C	Humidity: 10% RH to 90% RH.
Storage Temperature	-30 °C	-	+85 °C	Humidity: 5% RH to 90% RH

Specifications are subject to change without notice.

## Safety & EMC Compliance

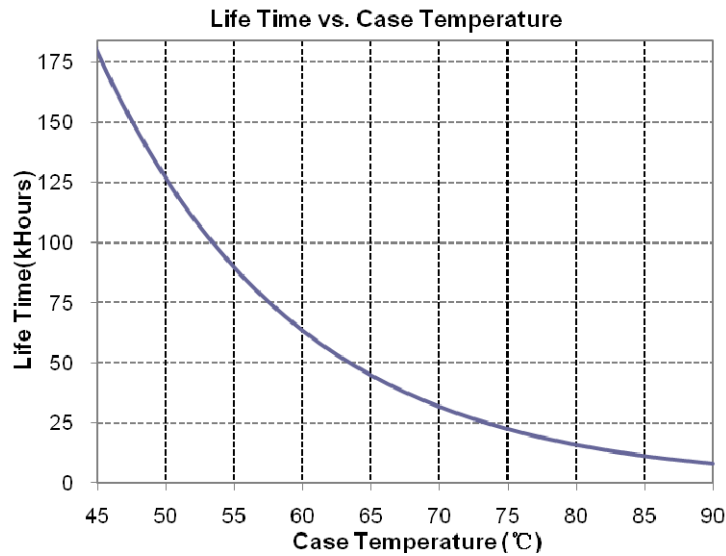
Safety Category	Standard
CE	EN 61347-1, EN61347-2-13
UL/cUL	UL8750, UL1310, UL1012, CAN/CSA-C22.2 No. 223-M91, CSA C22.2 No. 107.1-01
EMI Standards	Notes
EN 55015/CISPR15	Conducted Emission Test & Radiated Emission
EN 61000-3-2	Harmonic Current Emissions Class C
EN 61000-3-3	Voltage Fluctuations & Flicker
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

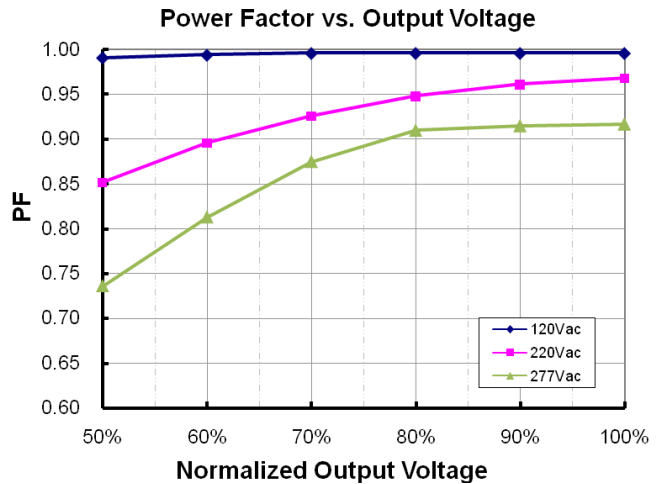
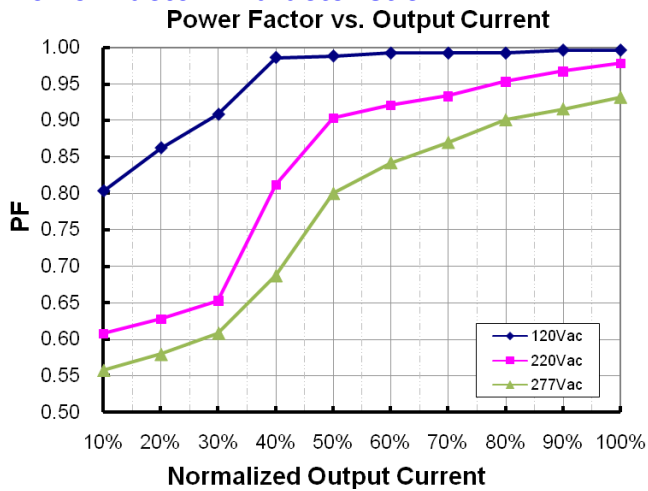


Specifications are subject to change without notice.

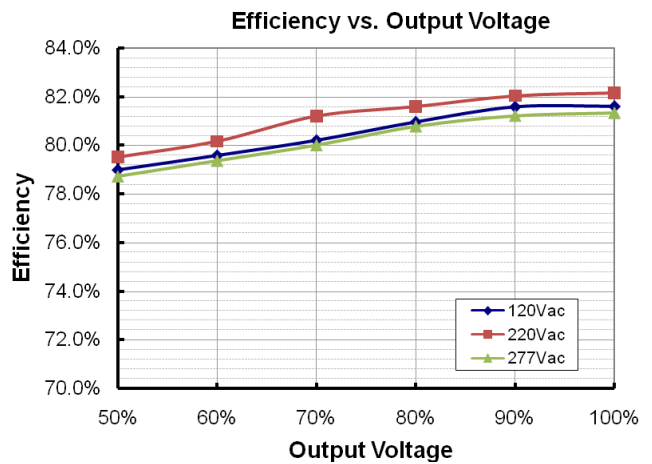
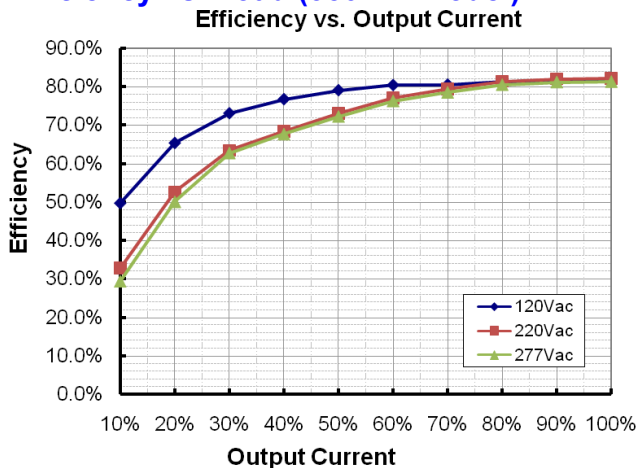
## Life vs. Case Temperature Curve



## Power Factor Characteristic



## Efficiency vs. Load (350mA model)

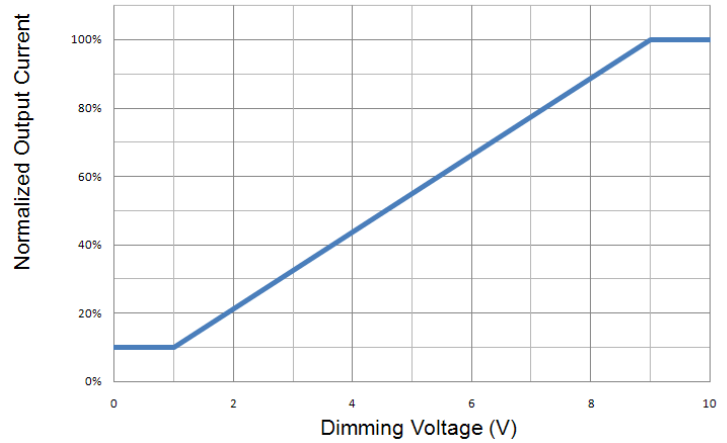
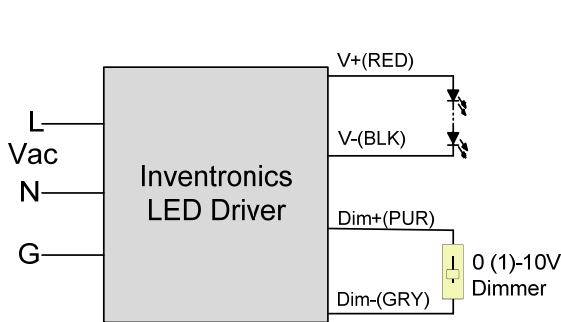


Specifications are subject to change without notice.

## Dimming Control (On secondary side)

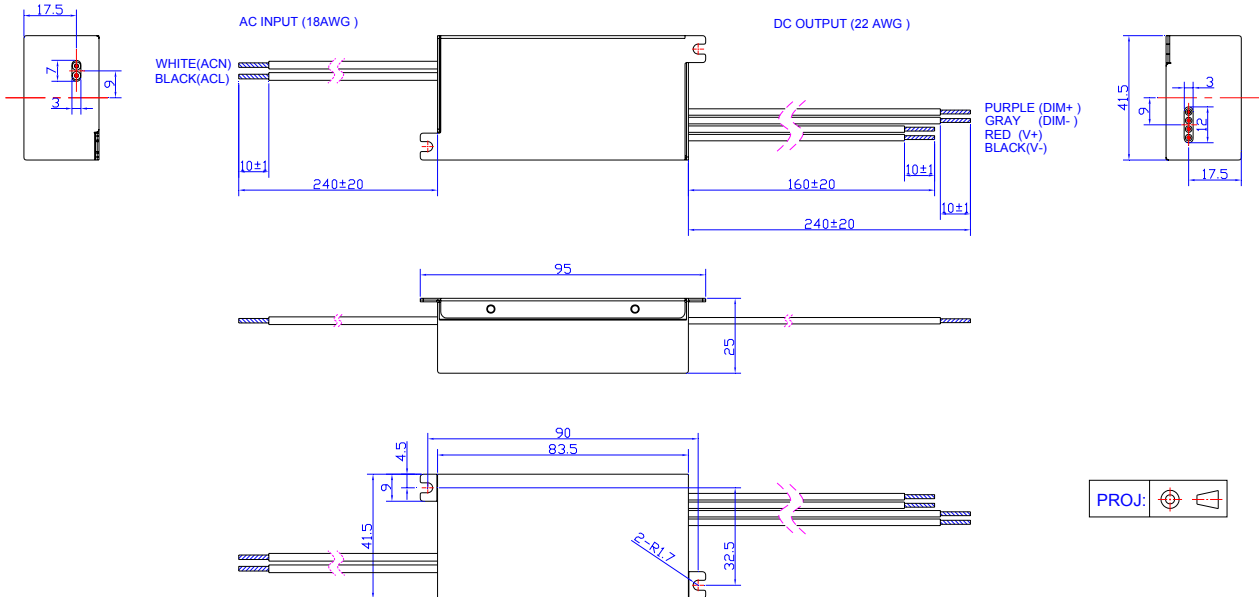
Parameter	Min.	Typ.	Max.	Notes
Absolute Maximum Voltage on the 0~10V Wire	-2 V	-	15 V	
0~10V Wire Current Sourcing Capability	100 uA	150uA	200 uA	

Output Current vs. Dimming Voltage



## Mechanical Outline

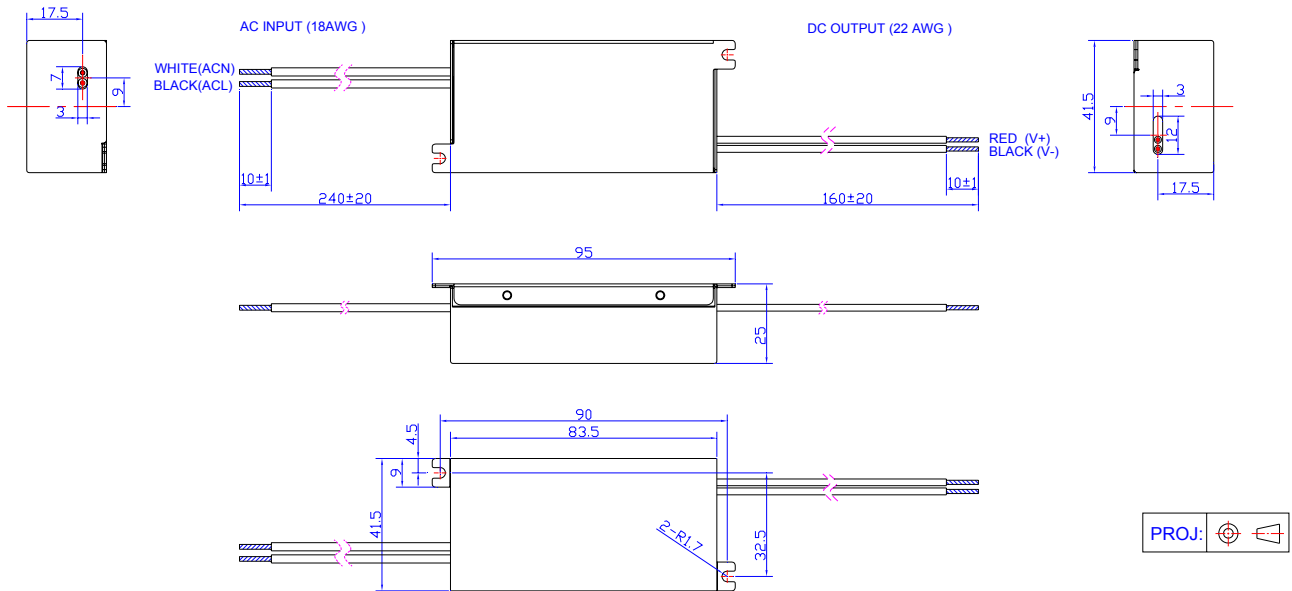
### LUC-012SxxxDSM



Specifications are subject to change without notice.

## Mechanical Outline (Continued)

LUC-012xxxSSM



## 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 change without notice.

## Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2011-9-29	A	Release	/	/
2011-10-11	B	Derating Curve, Life time, PF, EFF Curve	/	Update
2011-12-27	C	Derating Curve	/	Update

*Specifications are subject to change without notice.*