

INVENTRONICS

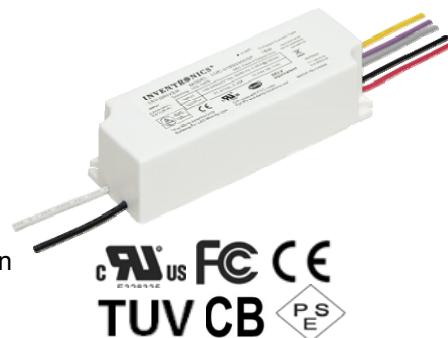
LUC-018SxxxDSP(SSP)

Rev. D

Driving the Lighting Revolution

Features

- 0 -10V Dimmable (Compatible with Passive Dimmers)
- Constant Current Output
- High Efficiency
- Active Power Factor Correction
- All-Around Protection: OVP, SCP and Open Lamp Protection
- SELV and Class 2



Description

The LUC-018SxxxDSP(SSP) series operate from a 90 ~ 305 Vac input range. They are designed to be highly efficient and reliable. Features include over voltage, short circuit and open lamp 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	31~ 51 Vdc	18 W	85%	0.94	LUC-018S035DSP(SSP)(2)
500 mA	90 ~ 305 Vac	22~ 36 Vdc	18 W	85%	0.94	LUC-018S050DSP(SSP)(3)
700 mA	90 ~ 305 Vac	16~ 26 Vdc	18 W	84%	0.94	LUC-018S070DSP(SSP)(3)
1050 mA	90 ~ 305 Vac	10~ 17 Vdc	18 W	82%	0.94	LUC-018S105DSP(SSP)(3)

Notes: (1) Measured in 220 Vac input at full load;
 (2) Class 2 (USR), Non-Class 2 (CNR);
 (3) Class 2 (USR & CNR);

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 Vac	-	305 Vac	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.5 mA	At 277Vac, 60Hz input
Input AC Current	-	-	0.28 A	Measured at full load and 100 Vac input
	-	-	0.12 A	Measured at full load and 220 Vac input
Inrush Current	-	-	40 A	At 220Vac input, 25°C cold start, duration=200 μs, 10%l _{pk} -10%l _{pk} .
Inrush Current(I ² t)	-	-	0.11 A ² s	
Power Factor	0.90	-	-	At 100Vac-277Vac, 90%load-100%load
THD	-	-	20%	

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%	-	5%	

Output Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Startup Overshoot Current	-	-	10%	Full load condition
Output Current Ripple	-	30%Io	50%Io	Full load condition
Line Regulation	-	-	±1%	
Load Regulation	-	-	±3%	
Turn-on Delay Time	-	0.5 s	1.0 s	Measured at 120Vac input
Dimming Range (Io)	10%		100%	
Temperature coefficient	-	-	0.03%/°C	Case temperature = 0°C ~Tc max

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

Protection Functions

Parameter	Min.	Typ.	Max.	Notes
No Load Voltage Io = 350 mA Io = 500 mA Io = 700 mA Io = 1050 mA	52 V 37 V 27 V 18 V	56 V 40 V 31 V 21 V	59.1 V 42 V 34 V 24 V	
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 Io = 350 mA Io = 500 mA Io = 700 mA Io = 1050 mA	83% 83% 82% 80%	84% 84% 83% 81%	- - - -	Measured at full load and 120 Vac input
Efficiency Io = 350 mA Io = 500 mA Io = 700 mA Io = 1050 mA	84% 84% 83% 81%	85% 85% 84% 82%	- - - -	Measured at full load and 220 Vac input
Efficiency Io = 350 mA Io = 500 mA Io = 700 mA Io = 1050 mA	83% 83% 82% 80%	84% 84% 83% 81%	- - - -	Measured at full load and 277 Vac input
No Load Power Dissipation	-	-	1 W	
MTBF	-	235,900 Hours	-	Measured at 120Vac input, 80%load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	-	61,900 Hours	-	Measured at 120Vac input, 80%load and 60°C Case temperature, See life time vs. Tc curve for more details

General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Case Temperature	-	-	90 °C	
Dimensions Inches (L × W × H) Millimeters (L × W × H)	4.72× 1.65 × 1.20 120 × 42 × 30.5			
Net Weight		190 g		

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

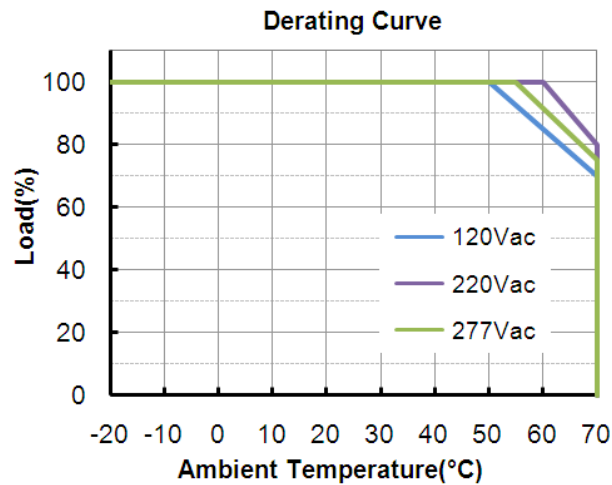
Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-20°C	-	+70 °C	Humidity: 10% RH to 90% RH. See Derating Curve for more details
Storage Temperature	-20 °C	-	+85 °C	Humidity: 5% RH to 90% RH

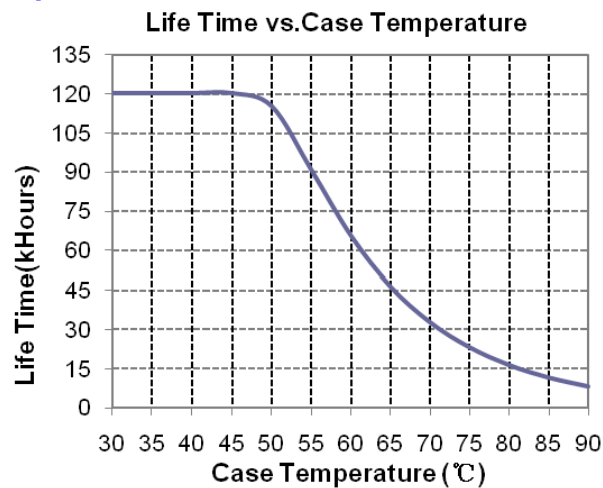
Safety & EMC Compliance

Safety Category	Standard
CE	EN 61347-1, EN61347-2-13
UL/cUL	UL8750, UL1310, CAN/CSA-C22.2 No. 223-M91
PSE	J61347-1, J61347-2-13
CB	IEC 61347-1, IEC 61347-2-13
EMI Standards	Notes
J55015, EN 55015/CISPR15	Conducted Emission Test & Radiated Emission Test
EN 61000-3-2	Harmonic Current Emissions Class C
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): 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

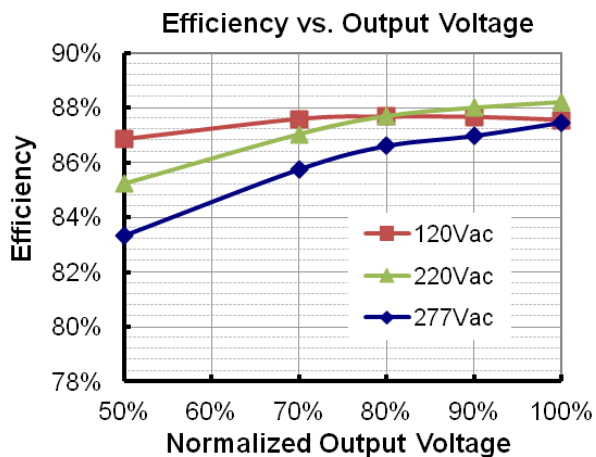


Life Time vs. Case Temperature Curve

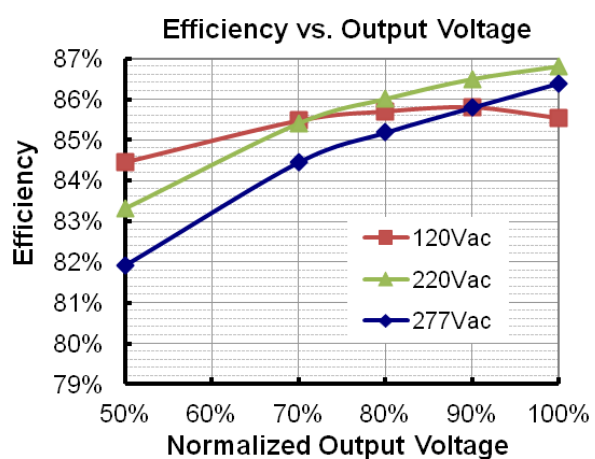


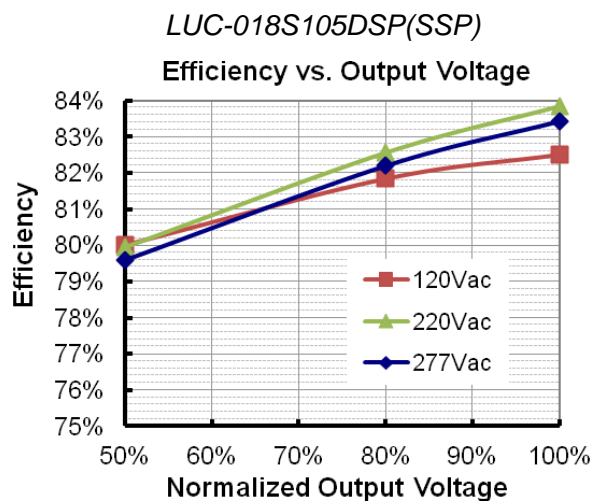
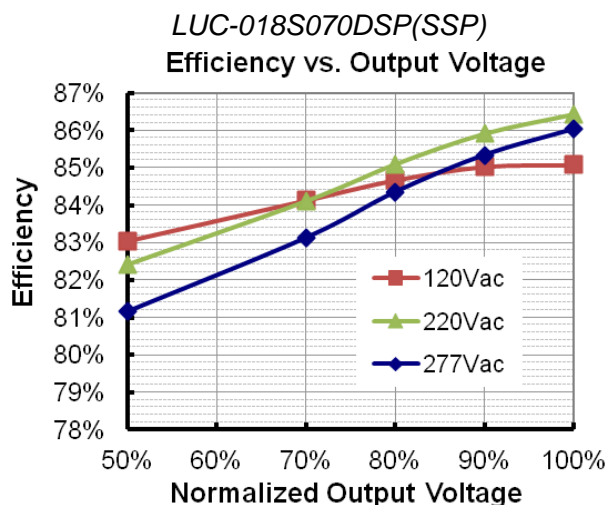
Efficiency vs. Load

LUC-018S035DSP(SSP)

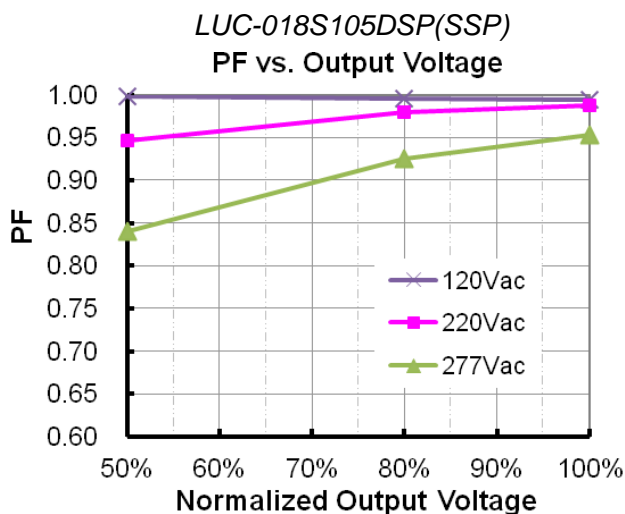
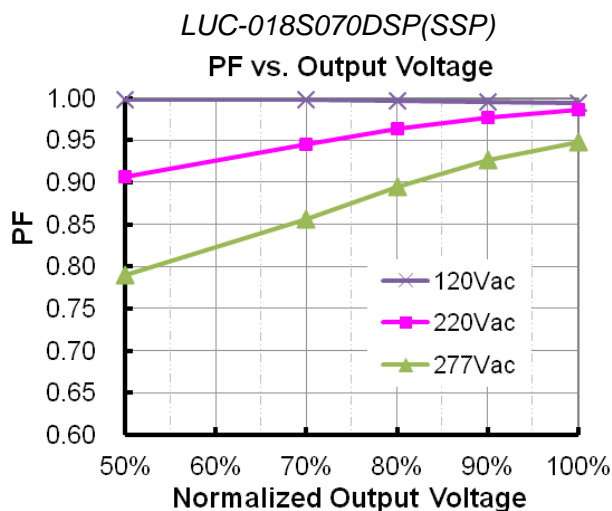
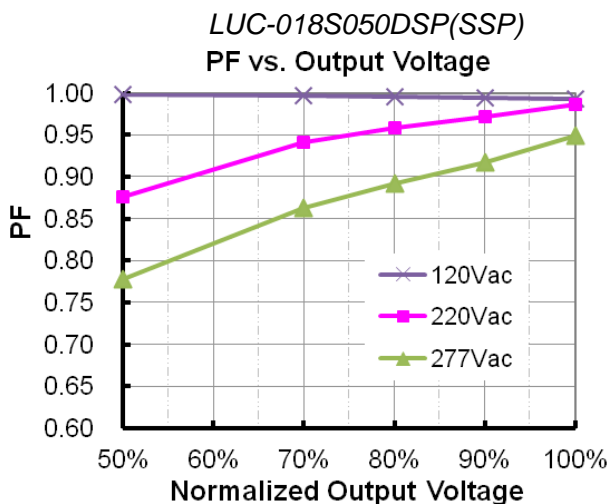
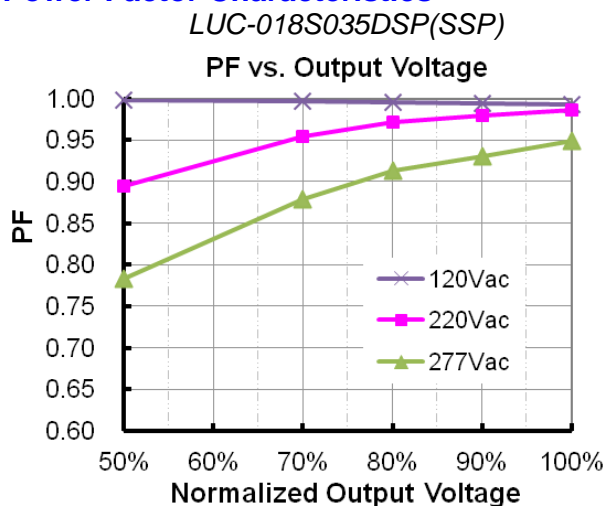


LUC-018S050DSP(SSP)



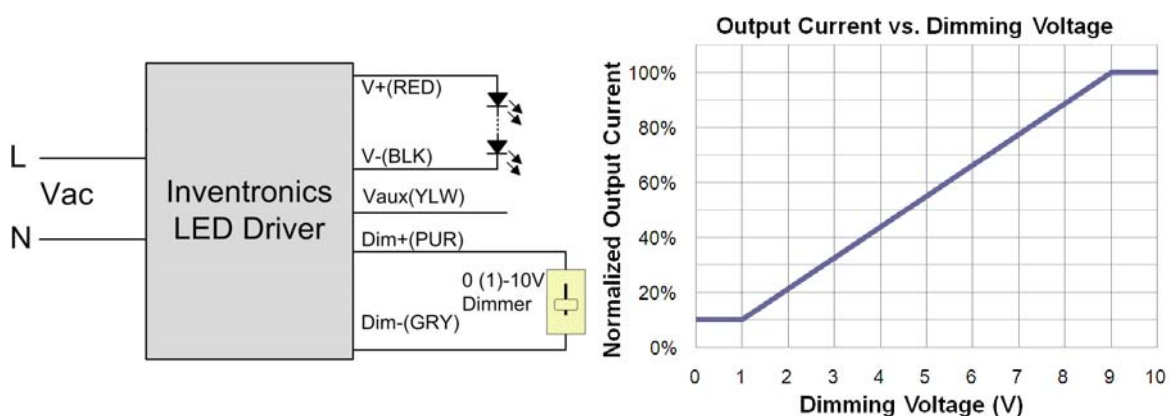


Power Factor Characteristics



Dimming Control (On secondary side)

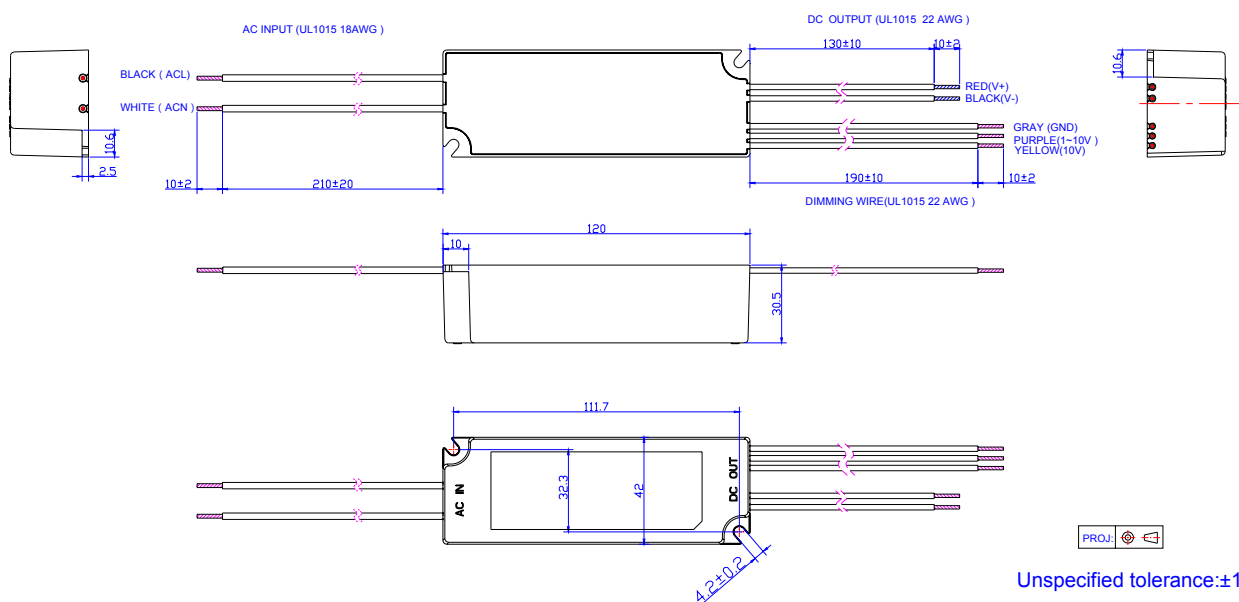
Parameter	Min.	Typ.	Max.	Notes
Absolute Maximum Voltage on the 0~10V Wire	-20 V	-	20 V	
0~10V Wire Current Sourcing Capability	150 μ A	200 μ A	250 μ A	
12 V output voltage (Vaux)	10.5 V	12 V	12.5 V	
12 V source current (Vaux)	-	-	0.06 A	



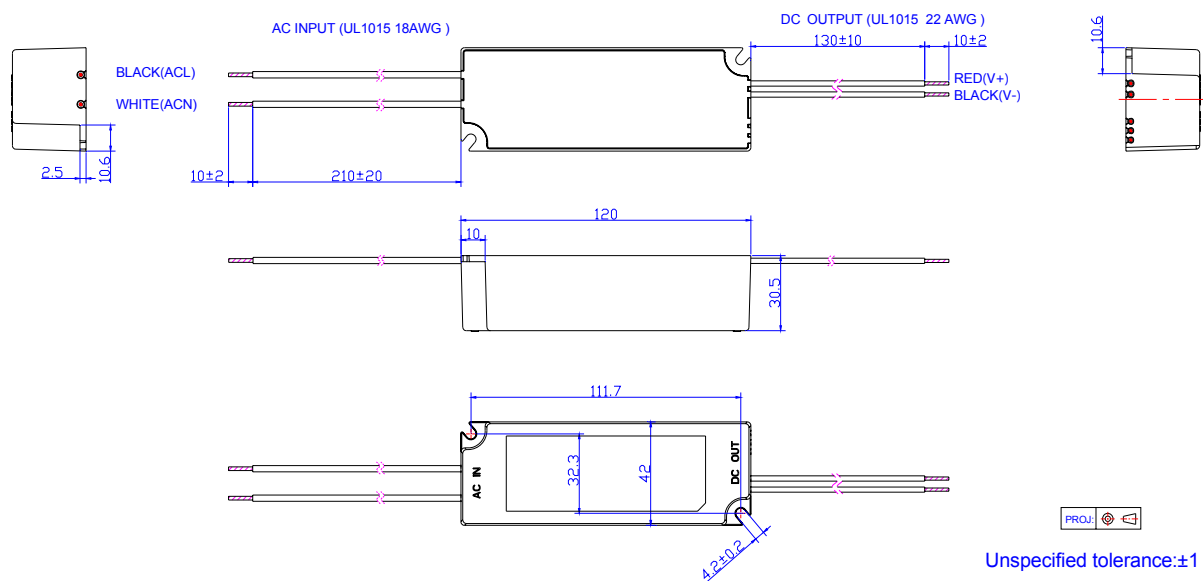
Note : If 0-10V dimming is not used, Dim + can be either open or connected to Vaux.

Mechanical Outline

LUC-018SxxxDSP



LUC-018SxxxSSP



RoHS Compliance

Our products comply with the European Directive 2011/65/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
2012-4-1	A	Datasheet Released	/	/
2012-7-17	B	Max Case Temperature 90 °C	/	Added
		Product Picture	/	Updated
		Mechanical Outline	/	Corrected
		12 V output voltage (Vaux) Min	11.5 V	10.5 V
2012-8-2	C	Details of No Load Voltage	/	Added
		Details of OVP	/	Added
2012-8-30	D	Inrush Current(I^2t)	/	Added
		Min PF	/	Added
		Max THD	/	Added
		Temperature coefficient	/	Added