

Features

- High Efficiency (Up to 90%)
- Active Power Factor Correction (Typical 0.95)
- Cascade Connection
- Adjustable Constant Output Current with Dip Switch
- Dimming Control (0-10V)
- IP20
- All-Around Protection: OVP, SCP,OTP and Open Lamp Protection
- SELV and Class 2 Output
- Class II
- Reliable Device for Strain Relief



Description

The LUC-042SxxxDSW(SSW) series operates from a 90 ~ 305 Vac input range. They are designed to be highly efficient and highly reliable. Features include dimming control, over voltage protection, short circuit protection, over load protection, and over temperature protection.

Models

Output Current	Input Voltage Range(1)	Output Voltage Range	Max. Output Power	Typical Efficiency (2)	Power Factor		Model Number
					120Vac	220Vac	
350 mA	90 ~ 305 Vac 127~250 Vdc	60~120Vdc	42 W	90%	0.96	0.95	LUC-042S035DSW(SSW)(3)
530 mA	90 ~ 305 Vac 127~250 Vdc	40~79 Vdc	42 W	90%	0.96	0.95	LUC-042S053DSW(SSW)(3)
700 mA	90 ~ 305 Vac 127~250 Vdc	28~56 Vdc	39 W	90%	0.96	0.95	LUC-042S070DSW(SSW)(4)
1050 mA	90 ~ 305 Vac 127~250 Vdc	20~38 Vdc	40 W	89%	0.96	0.95	LUC-042S105DSW(SSW)(4)
1400 mA	90 ~ 305 Vac 127~250 Vdc	15~30 Vdc	42 W	88%	0.96	0.95	LUC-042S140DSW(SSW)(4)
1750 mA	90 ~ 305 Vac 127~250 Vdc	12~24 Vdc	42 W	87%	0.96	0.95	LUC-042S175DSW(SSW)(4)
2100 mA	90 ~ 305 Vac 127~250 Vdc	10~20 Vdc	42 W	87%	0.96	0.95	LUC-042S210DSW(SSW)(4)

Notes: (1) UL, FCC certified input voltage range: 100-277Vac or 127-300Vdc; Other certified input voltage range except UL, FCC: 100-240Vac or 127-250Vdc.

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

(3) Non-Class 2 output (USR & CNR).

(4) Class 2 output (USR & CNR) for day and lamp location.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 Vac	-	305 Vac	127~250Vdc
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75 mA	At 277Vac 60Hz input

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Input AC Current	-	-	0.6 A	Measured at full load and 100 Vac input.
	-	-	0.3 A	Measured at full load and 220 Vac input.
Inrush Current	-	-	70 A	At 220Vac input 25°C Cold Start. Duration=200 μs, 10%Ipk-10%Ipk.
Inrush Current(I ² t)	-	-	0.32 A ² s	
Power Factor	0.90	-	-	At 100Vac-277Vac, 75%load-100%load
THD	-	-	20%	

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Range	-5% I _o	-	5% I _o	
No Load Output Voltage				
I _o = 350 mA	-	-	132V	
I _o = 530 mA	-	-	90V	
I _o = 700 mA	-	-	59.6V	
I _o = 1050 mA	-	-	42V	
I _o = 1400 mA	-	-	34V	
I _o = 1750 mA	-	-	27V	
I _o = 2100 mA	-	-	24V	
Output Voltage Ripple				
I _o = 350 mA	-	-	6V	
I _o = 530 mA	-	-	4V	
I _o = 700 mA	-	-	4V	
I _o = 1050 mA	-	-	4V	
I _o = 1400 mA	-	-	4V	
I _o = 1750 mA	-	-	3V	
I _o = 2100 mA	-	-	3V	
Output Current Overshoot / Undershoot	-	-	10%I _o	At full load condition.
Line Regulation	-	-	±1%	
Load Regulation	-	-	±1%	
Turn-on Delay Time	-	0.6 s	1.0 s	Measured at 120Vac input.
	-	0.3 s	0.5 s	Measured at 220Vac input.
Temperature Coefficient	-	-	0.03%/°C	Case temperature = 0°C ~T _c max

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

Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Short Circuit Protection	Hiccup Mode. The power supply shall be self-recovery when the fault condition is removed.			
Over Temperature Protection	Decrease output current mode. When the case temperature reaches 100±10°C, the output current decreases to 50%I _o until the case temperature reaches 75°C.			

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency I _o = 350 mA I _o = 530 mA I _o = 700 mA I _o = 1050 mA I _o = 1400 mA I _o = 1750 mA I _o = 2100 mA	87% 87% 87% 86% 85% 84% 84%	89% 89% 89% 88% 87% 86% 86%	- - - - - - -	Measured at full load and 120 Vac input.
Efficiency I _o = 350 mA I _o = 530 mA I _o = 700 mA I _o = 1050 mA I _o = 1400 mA I _o = 1750 mA I _o = 2100 mA	88% 88% 88% 87% 86% 85% 85%	90% 90% 90% 89% 88% 87% 87%	- - - - - - -	Measured at full load and 220 Vac input.
Efficiency I _o = 350 mA I _o = 530 mA I _o = 700 mA I _o = 1050 mA I _o = 1400 mA I _o = 1750 mA I _o = 2100 mA	88% 88% 88% 87% 86% 85% 85%	90% 90% 90% 89% 88% 87% 87%	- - - - - - -	Measured at full load and 277 Vac input.
No Load Power Dissipation	-	-	3 W	
MTBF	-	235,000 Hours	-	Measured at 120Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	-	80,500 Hours	-	Measured at 120Vac input, 80%Load and 60°C Case temperature. See life time vs. Tc curve for the details
Case Temperature	-	-	80°C	
Dimensions Inches (L × W × H) Millimeters (L × W × H)	4.73×3.15×1.26 120×80×32			
Net Weight	-	220 g	-	

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

Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-30 °C	-	+70 °C	Humidity: 10% RH to 90% RH; No Condensation See Derating Curve for more details
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 90% RH

Safety & EMC Compliance

Safety Category	Standard
CE	EN 61347-1, EN61347-2-13
UL/CUL	UL 8750,UL1310,CAN/CSA-C22.2 No. 250.13-12,CAN/CSA-C22.2 No. 223-M9

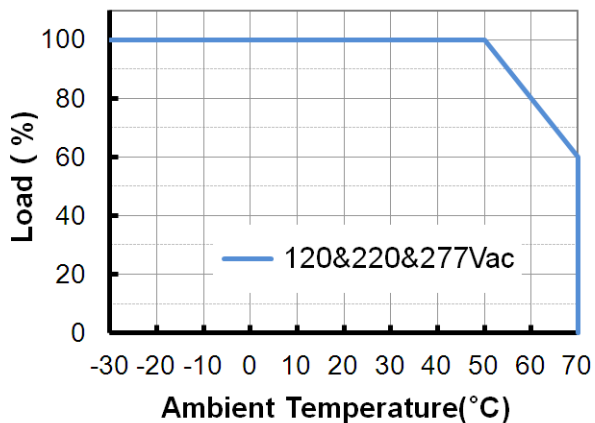
Safety & EMC Compliance (Continued)

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
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired Operation.
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: level 3, criteria A
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 2 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

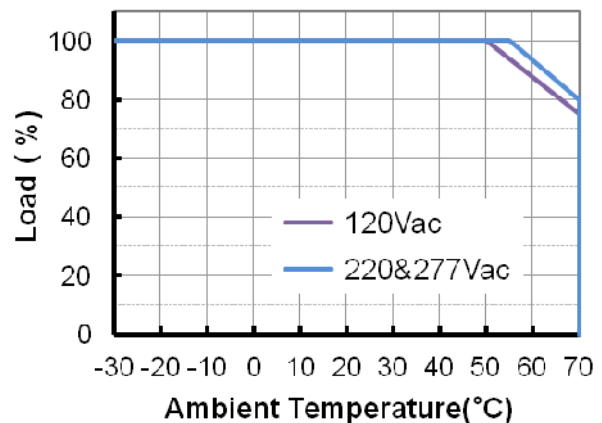
LUC-042S210DSW(SSW)

Derating Curve

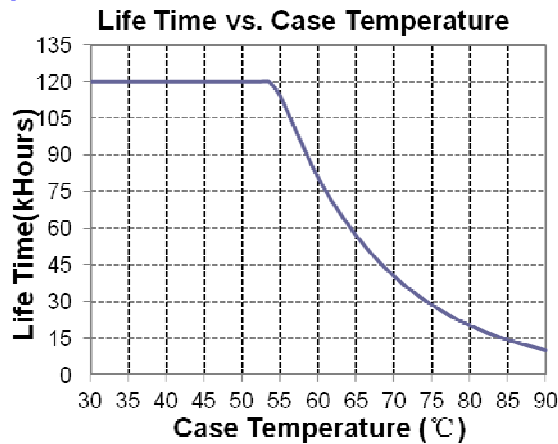


Others

Derating Curve



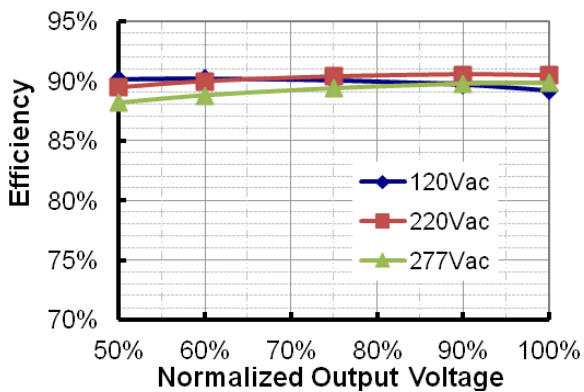
Life Time vs. Case Temperature Curve



Efficiency vs. Load

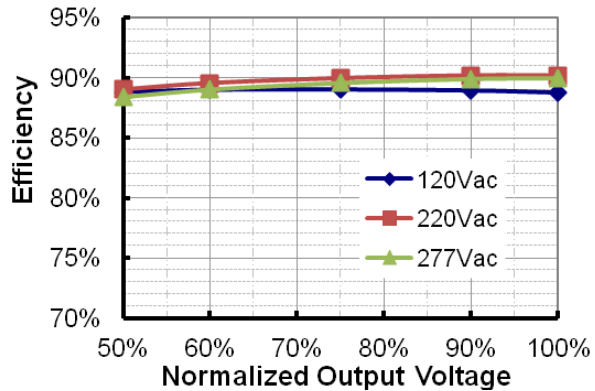
LUC-042S035DSW(SSW)

Efficiency vs. Output Voltage



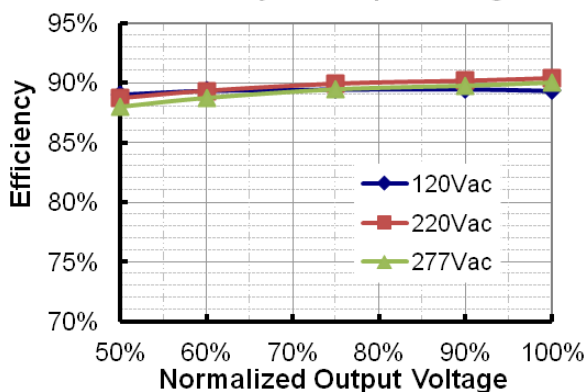
LUC-042S053DSW(SSW)

Efficiency vs. Output Voltage



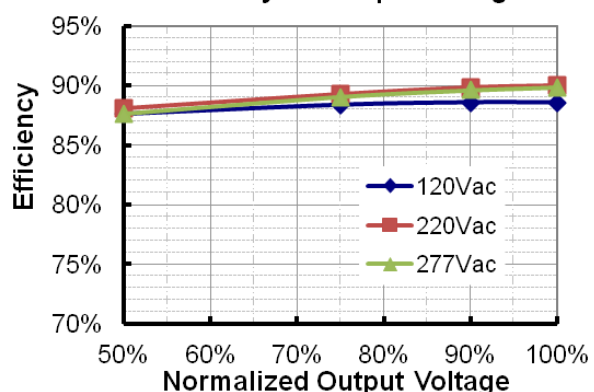
LUC-042S070DSW(SSW)

Efficiency vs. Output Voltage



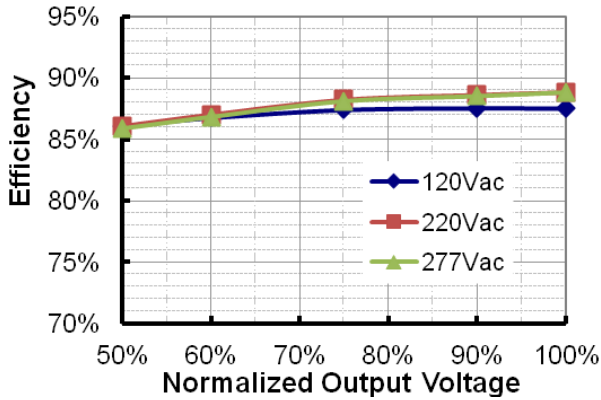
LUC-042S105DSW(SSW)

Efficiency vs. Output Voltage



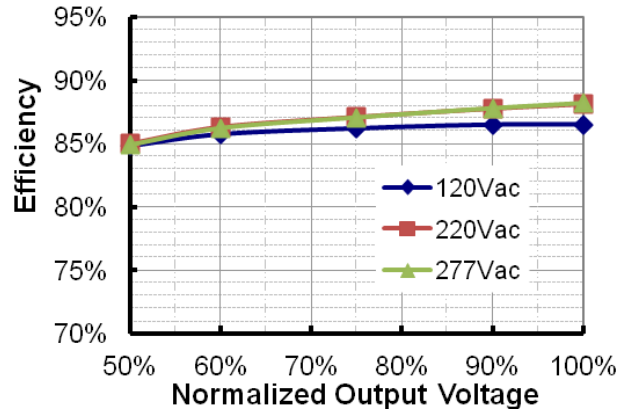
LUC-042S140DSW(SSW)

Efficiency vs. Output Voltage



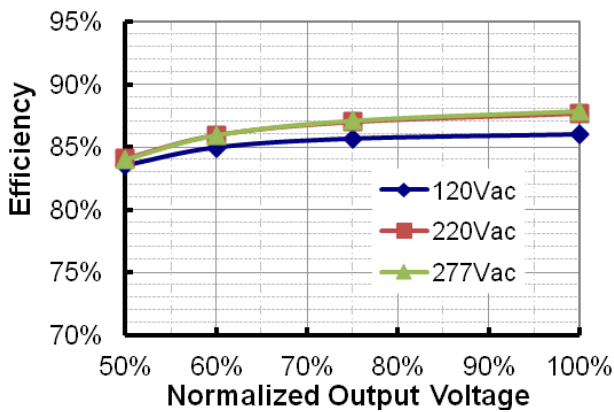
LUC-042S175DSW(SSW)

Efficiency vs. Output Voltage



LUC-042S210DSW(SSW)

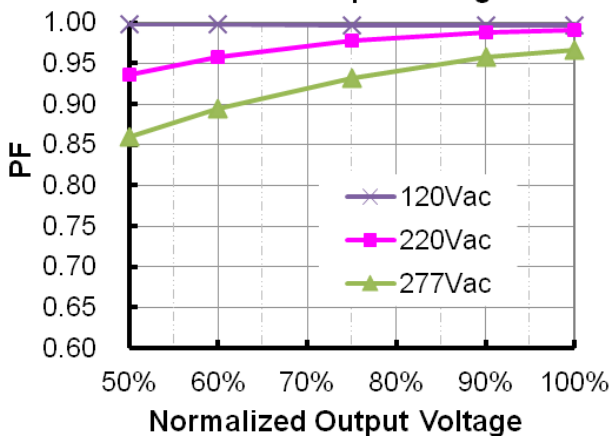
Efficiency vs. Output Voltage



Power Factor Characteristics

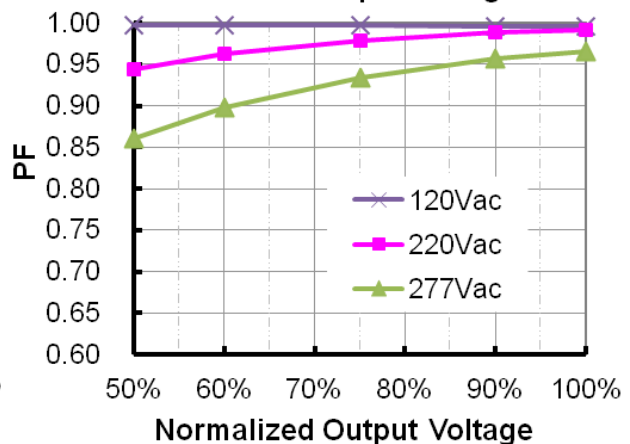
LUC-042S035DSW(SSW)

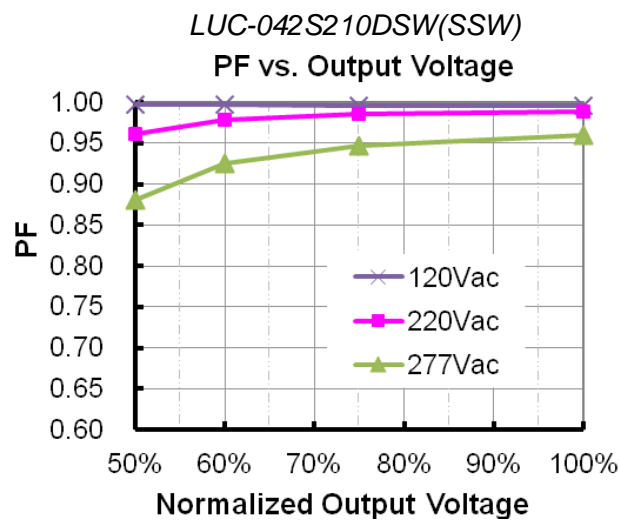
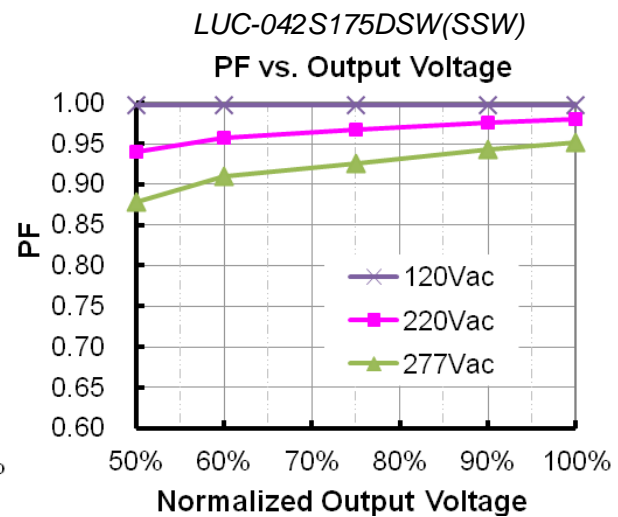
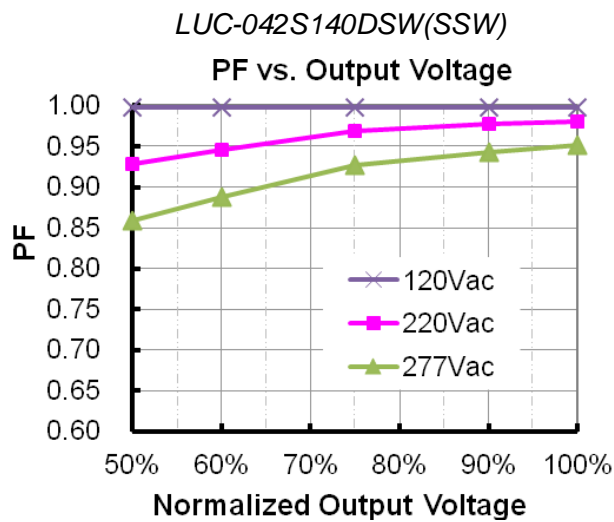
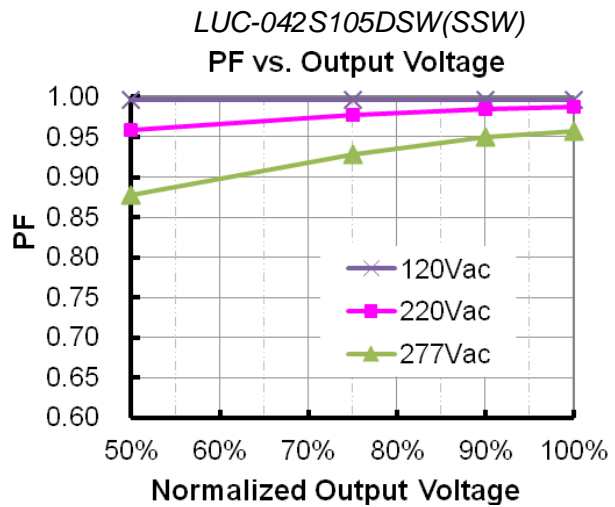
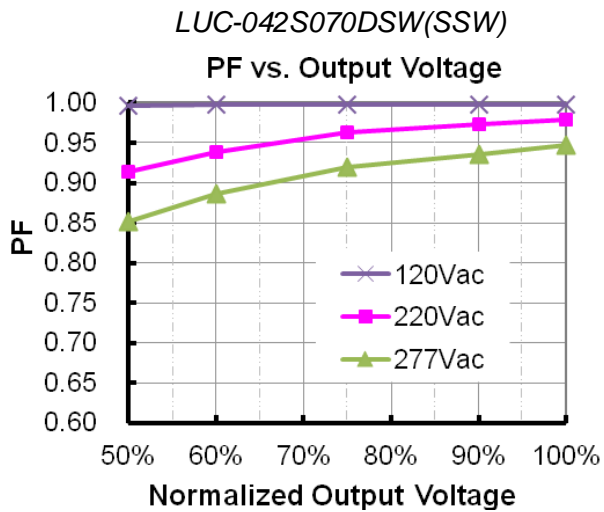
PF vs. Output Voltage



LUC-042S053DSW(SSW)

PF vs. Output Voltage

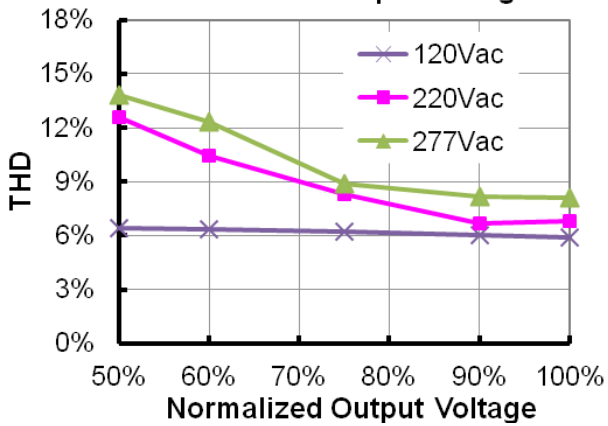




Total Harmonic Distortion

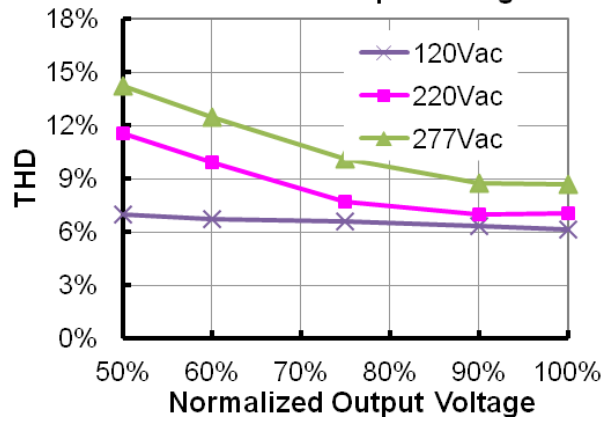
LUC-042S035DSW(SSW)

THD vs. Output Voltage



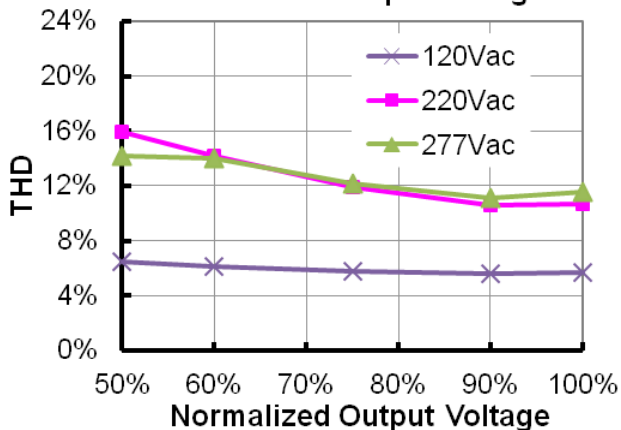
LUC-042S053DSW(SSW)

THD vs. Output Voltage



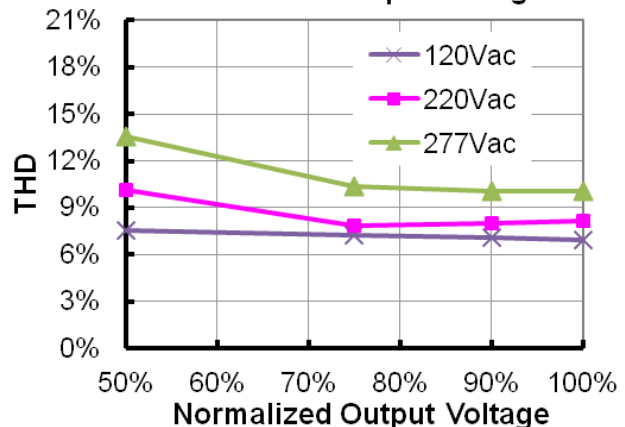
LUC-042S070DSW(SSW)

THD vs. Output Voltage



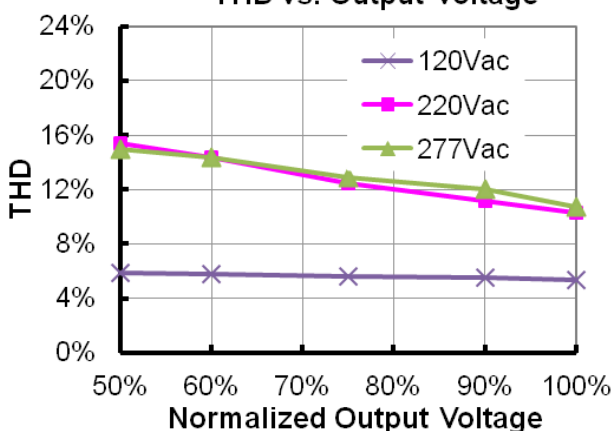
LUC-042S105DSW(SSW)

THD vs. Output Voltage



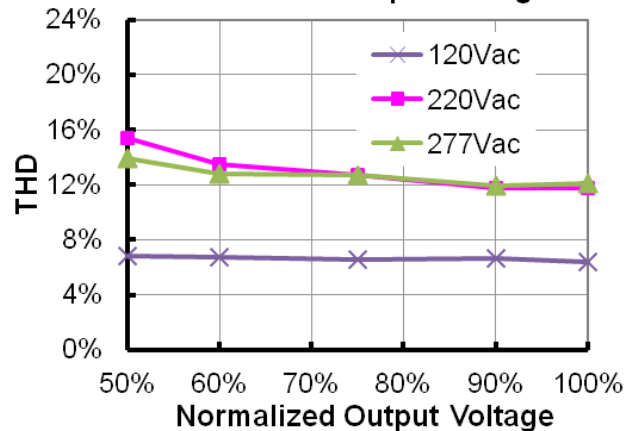
LUC-042S140DSW(SSW)

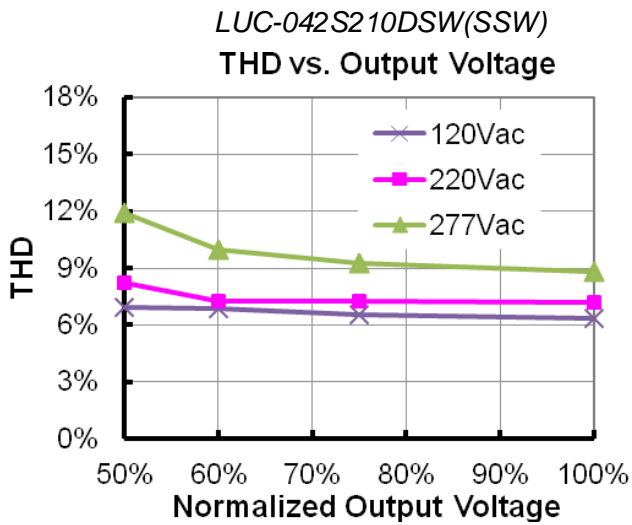
THD vs. Output Voltage



LUC-042S175DSW(SSW)

THD vs. Output Voltage





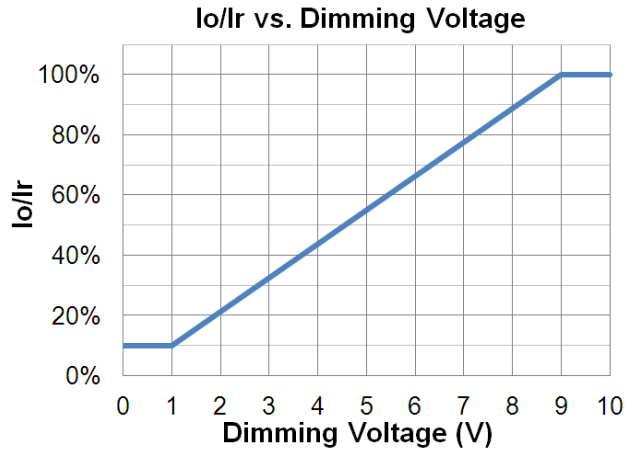
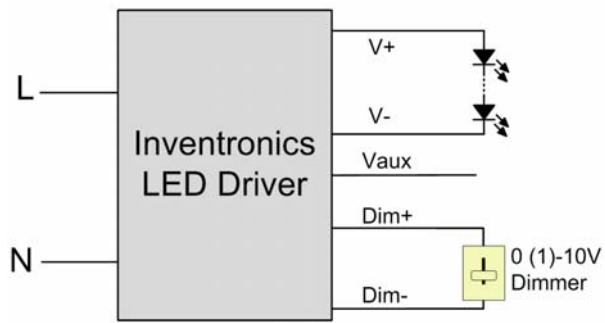
Adjustable Constant Output Current with Dip Switch (LUC-042SxxxDSW/SSW)

Dip Switch			Output Current (Iset)
1	2	3	/
OFF	OFF	OFF	100%Iomax
ON	OFF	OFF	95%Iomax
OFF	ON	OFF	90%Iomax
ON	ON	OFF	85%Iomax
OFF	OFF	ON	80%Iomax
ON	OFF	ON	75%Iomax
OFF	ON	ON	70%Iomax
ON	ON	ON	65%Iomax

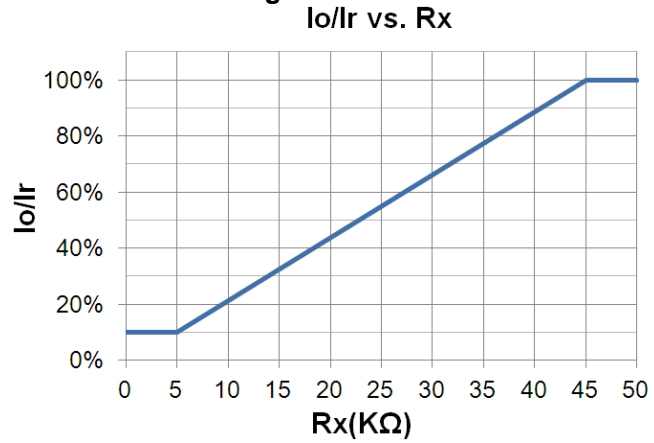
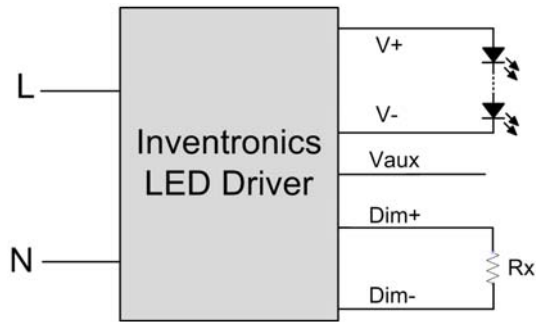
Dimming Control (On secondary side) (LUC-042SxxxDSW)

Parameter	Min.	Typ.	Max.	Notes
12V Output Voltage	10.8 V	12 V	13.2 V	
12V Output Source Current	0 mA	-	20 mA	
Absolute Maximum Voltage on the 0~10V Input Pin	-20 V	-	20 V	
Source Current on 0~10V Input Pin	180 uA	200 uA	220 uA	

The recommended implementation is provided below.



Implementation 1: 0-10V Dimming

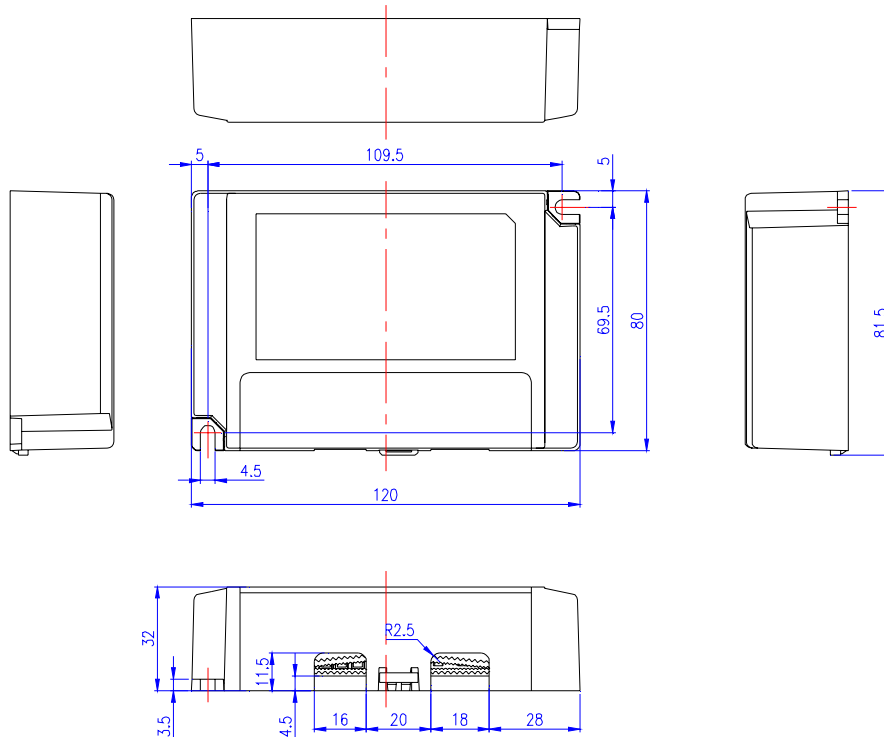


Implementation 2: Resistor Dimming

Notes:

1. I_o : output current; I_r : rated output current.
2. Do not connect the Dim- to the V- or Vaux; otherwise, the LED driver cannot work normally.
3. If 0-10V dimming is not used, Dim + can be either open or connected to Vaux.

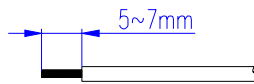
Mechanical Outline



Details of the recommended wires:

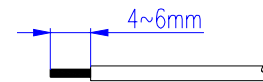
Input:

Strip wire 5-7mm
Copper wire rated >300V
18AWG/0.5-1.0mm²



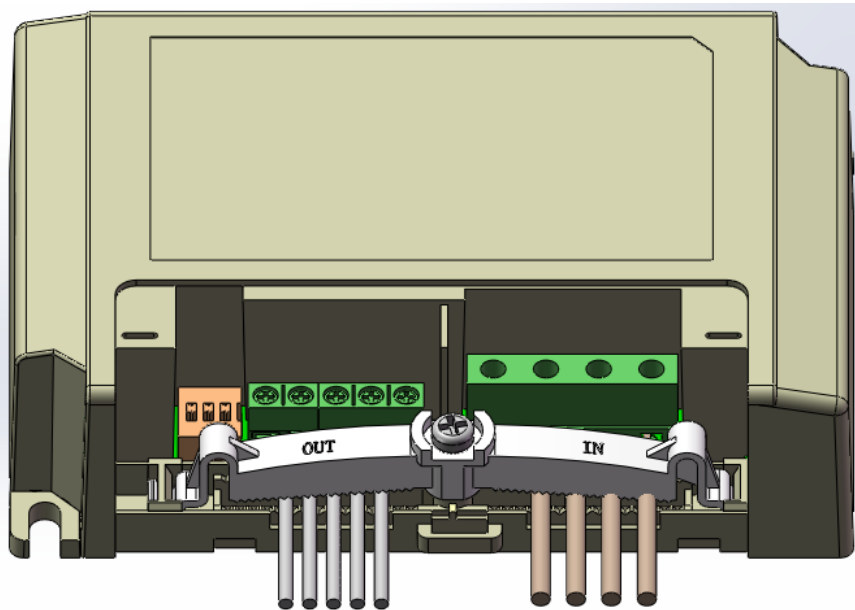
Output:

Strip wire 4-6mm
Copper wire rated >150V
18-22AWG/0.5-0.75mm²



Steps of wires fixed:

1. Insert the input /output wires into connecting terminals and lock it tightly;
2. Press wires tightly with the plastic strip: put the IN side into the right buckle and then press the OUT side into the left buckle;
3. Use screw to fasten the plastic strip;
4. Cover the cap and finish the connection.



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
2013-08-09	A	Datasheets Release	/	/

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