

## Features

- High Efficiency (Up to 85%)
- 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 and Open Lamp Protection
- SELV and Class 2 Output
- Class II
- Reliable Device for Strain Relief



## Description

The LUC-024SxxxDSW(SSW) series operates 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(1)	Output Voltage Range	Max. Output Power	Typical Efficiency (2)	Power Factor		Model Number
					120Vac	220Vac	
350 mA	90 ~ 305 Vac 127~250 Vdc	44~72 Vdc	25 W	85%	0.96	0.95	LUC-024S035DSW(SSW)
530 mA	90 ~ 305 Vac 127~250 Vdc	29~48 Vdc	25 W	85%	0.96	0.95	LUC-024S053DSW(SSW)(3)
700 mA	90 ~ 305 Vac 127~250 Vdc	22~36 Vdc	25 W	84%	0.96	0.95	LUC-024S070DSW(SSW)(3)
1050 mA	90 ~ 305 Vac 127~250 Vdc	15~24 Vdc	25 W	83%	0.96	0.95	LUC-024S105DSW(SSW)(3)

**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) Class 2 output (USR & CNR) for Dry and Damp 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 AC Current	-	-	0.35 A	Measured at full load and 100 Vac input
	-	-	0.175 A	Measured at full load and 220 Vac input
Inrush Current	-	-	40 A	At 220Vac input, 25 °C cold start, duration=220 μs, 10%lpk-10%lpk.
Inrush Current(I <sup>2</sup> t)	-	-	0.2 A <sup>2</sup> s	
Power Factor	0.90	-	-	At 100Vac-277Vac, 75%load-100%load
THD	-	-	20%	

## Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%	-	5%	
Startup Overshoot Current	-	-	10%	Full load condition
No Load Voltage				
$I_o = 350 \text{ mA}$	73 V	77 V	80 V	
$I_o = 530 \text{ mA}$	49 V	52 V	55 V	
$I_o = 700 \text{ mA}$	38 V	40 V	42 V	
$I_o = 1050 \text{ mA}$	25 V	28 V	30 V	
Output voltage Ripple				
$I_o = 350 \text{ mA}$	-	-	4.0 V	Load conditions, Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 uF ceramic capacitor and a 10 uF electrolytic capacitor
$I_o = 530 \text{ mA}$	-	-	3.0 V	
$I_o = 700 \text{ mA}$	-	-	2.7 V	
$I_o = 1050 \text{ mA}$	-	-	2.0 V	
Line Regulation	-	-	$\pm 1\%$	
Load Regulation	-	-	$\pm 3\%$	
Turn-on Delay Time	-	0.6 s	1.0 s	Measured at 120Vac input
	-	0.3 s	0.6 s	Measured at 220Vac input
Temperature Coefficient	-	-	0.06%/°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
Short Circuit Protection	Hiccup Mode. The power supply shall be self-recovery when the fault condition is removed.			

## General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency				
$I_o = 350 \text{ mA}$	82%	84%	-	Measured at full load and 120 Vac input
$I_o = 530 \text{ mA}$	82%	84%	-	
$I_o = 700 \text{ mA}$	81%	83%	-	
$I_o = 1050 \text{ mA}$	80%	82%	-	
Efficiency				
$I_o = 350 \text{ mA}$	83%	85%	-	Measured at full load and 220 Vac input
$I_o = 530 \text{ mA}$	83%	85%	-	
$I_o = 700 \text{ mA}$	82%	84%	-	
$I_o = 1050 \text{ mA}$	81%	83%	-	
Efficiency				
$I_o = 350 \text{ mA}$	82%	84%	-	Measured at full load and 277 Vac input
$I_o = 530 \text{ mA}$	82%	84%	-	
$I_o = 700 \text{ mA}$	81%	83%	-	
$I_o = 1050 \text{ mA}$	80%	82%	-	
No Load Power Dissipation	-	-	2 W	
MTBF	-	307,000 Hours	-	Measured at 120Vac input, 80%load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	-	67,000 Hours	-	Measured at 120Vac input, 80%Load and 60°C case temperature; See life time vs. Tc curve for the details

## General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Case Temperature	-	-	90 °C	
Dimensions Inches (L × W × H) Millimeters (L × W × H)	6.30×1.58×1.18 160× 40×30			
Net Weight		180 g		

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

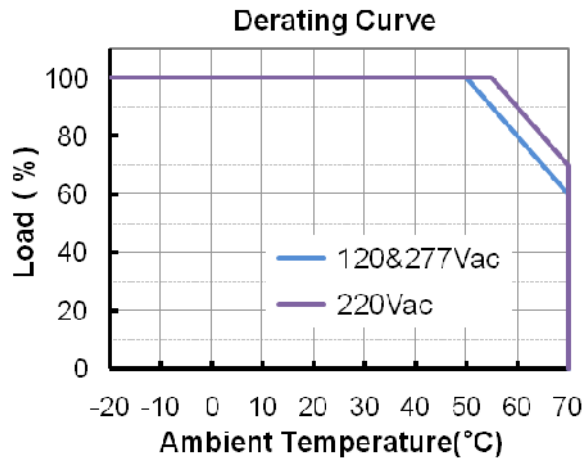
## Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-20 °C	-	+70 °C	Humidity: 10% RH to 90% RH. No condensation. See Derating Curve for more details
Storage Temperature	-30 °C	-	+85 °C	Humidity: 5% RH to 90% RH

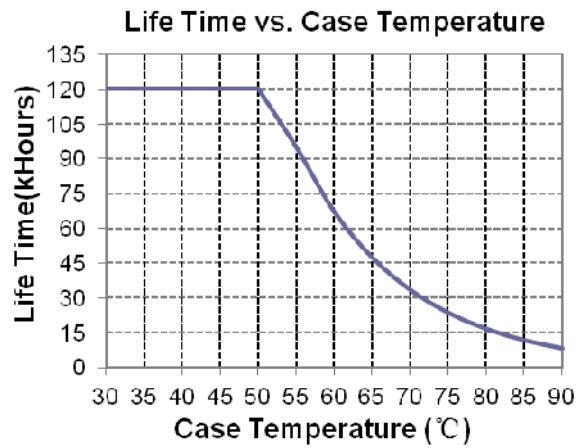
## Safety & EMC Compliance

Safety Category	Standard
CE	EN 61347-1, EN61347-2-13
UL/CUL	UL8750,UL1310,CAN/CSA-C22.2 No. 223-M91,CAN/CSA-C22.2 No. 250.13-12
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
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
EN 61000-4-8	Power Frequency Magnetic Field Test
EN 61000-4-11	Voltage Dips
EN 61547	Electromagnetic Immunity Requirements Applies to Lighting Equipment

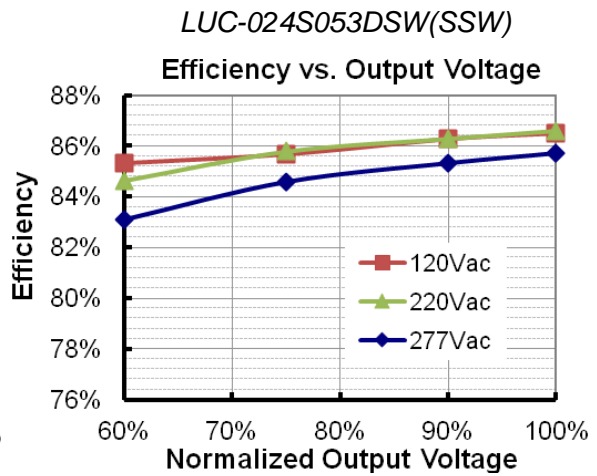
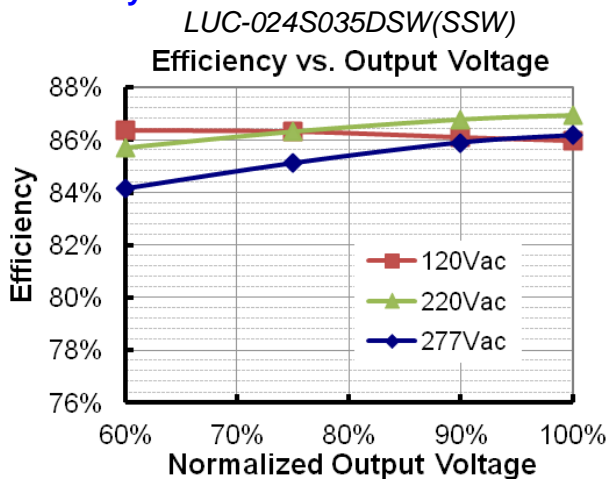
## Derating Curve

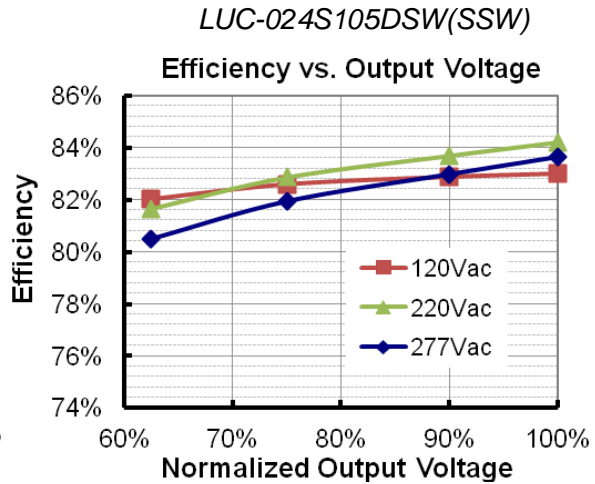
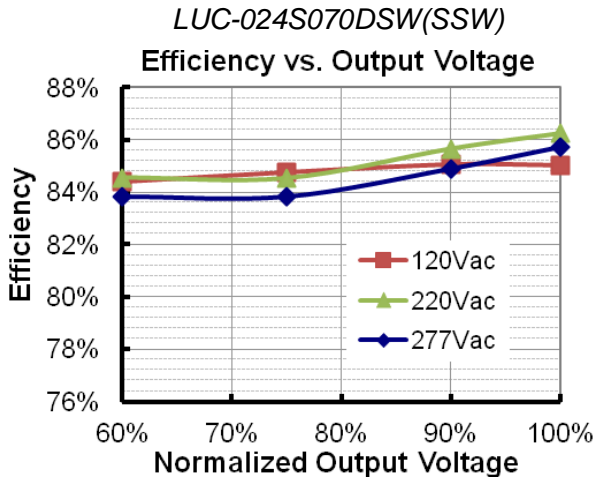


## Life Time vs. Case Temperature Curve

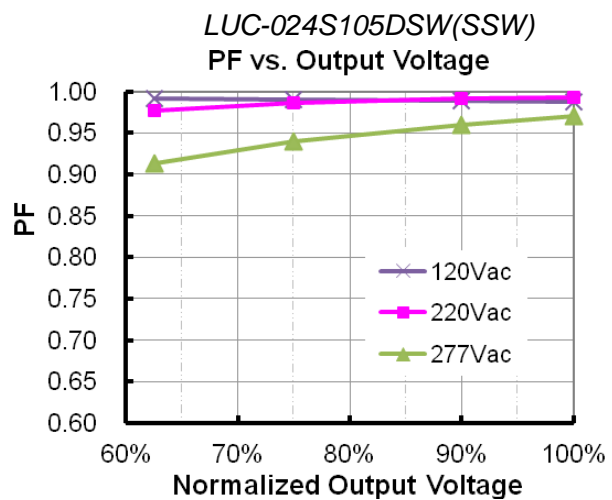
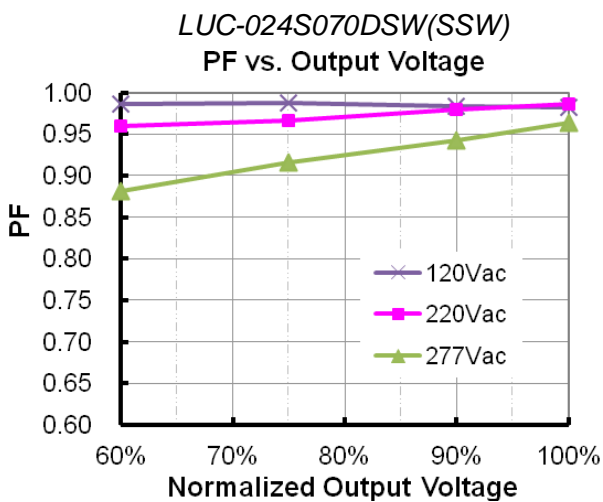
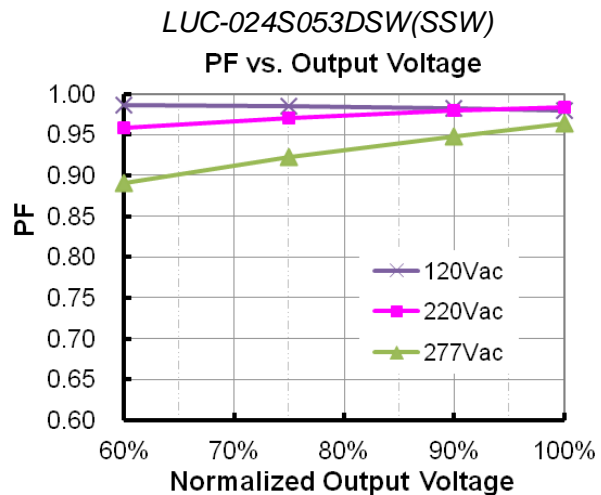
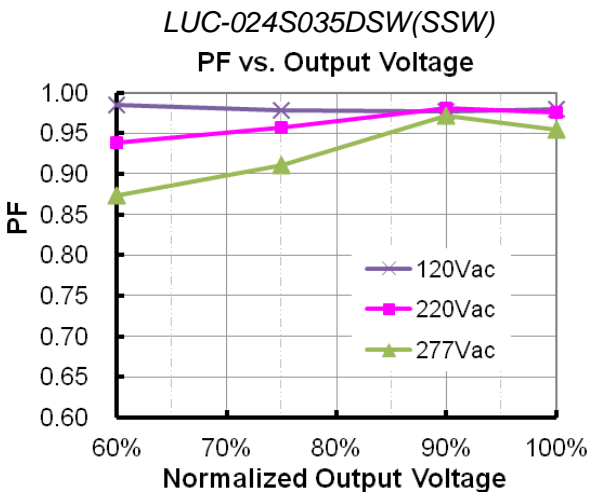


## Efficiency vs. Load





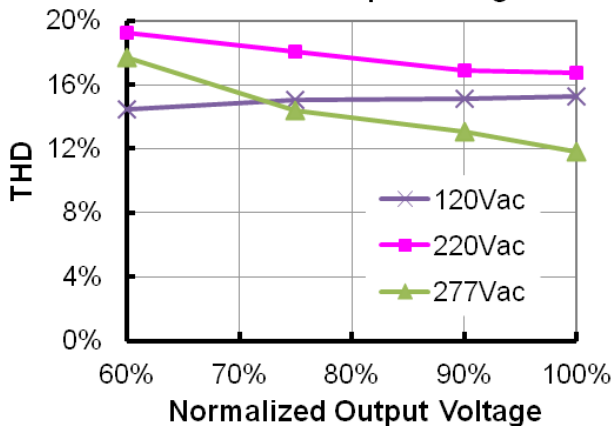
### Power Factor Characteristics



## Total Harmonic Distortion

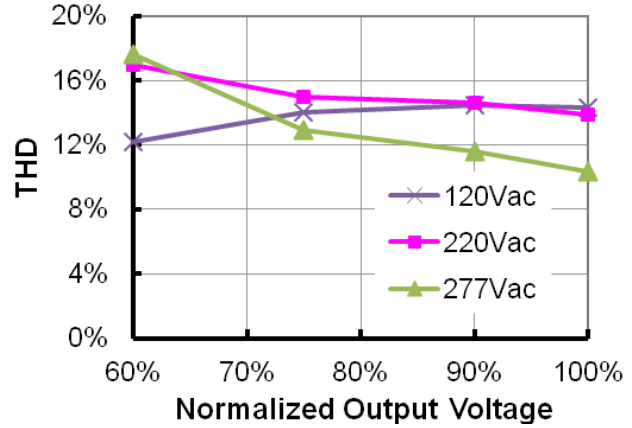
LUC-024S035DSW(SSW)

THD vs. Output Voltage



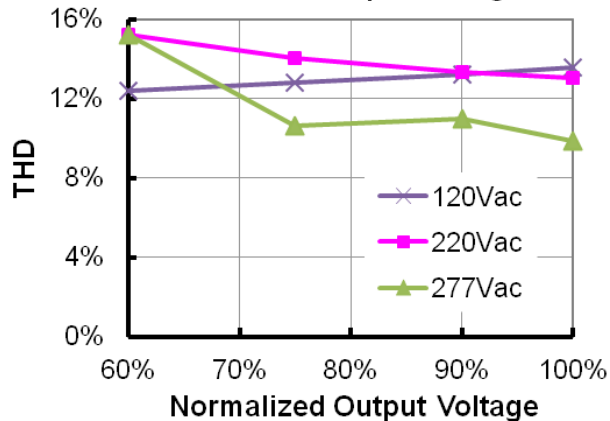
LUC-024S053DSW(SSW)

THD vs. Output Voltage



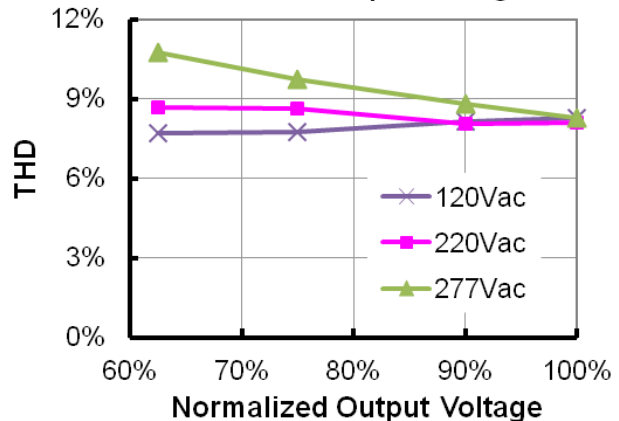
LUC-024S070DSW(SSW)

THD vs. Output Voltage



LUC-024S105DSW(SSW)

THD vs. Output Voltage



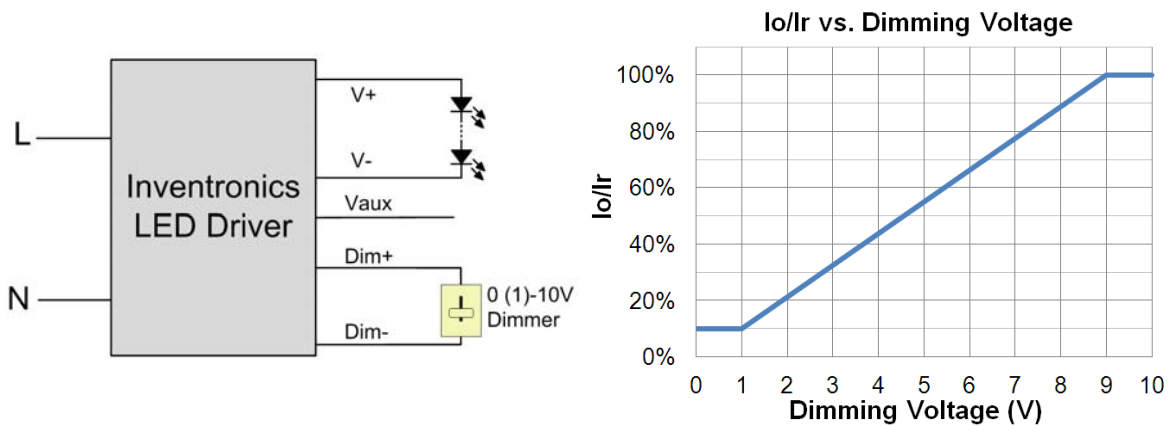
## Adjustable Constant Output Current with Dip Switch (LUC-024SxxxDSW/SSW)

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

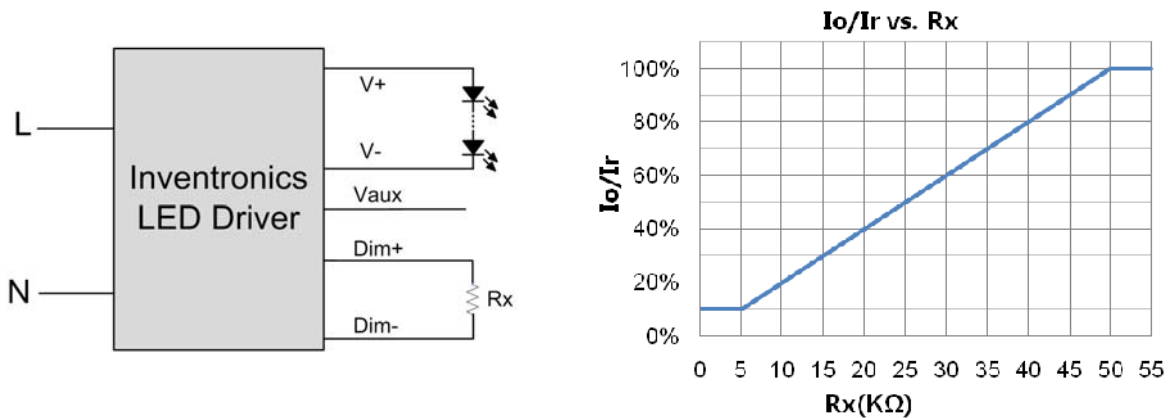
## Dimming Control (On secondary side) (LUC-024SxxxDSW)

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	170 uA	190 uA	210 uA	

The dimmer control may be operated from either a dimmer or from an input signal of 0 – 10 Vdc. The recommended implementation is provided below.



### Implementation 1: 0-10V Dimming

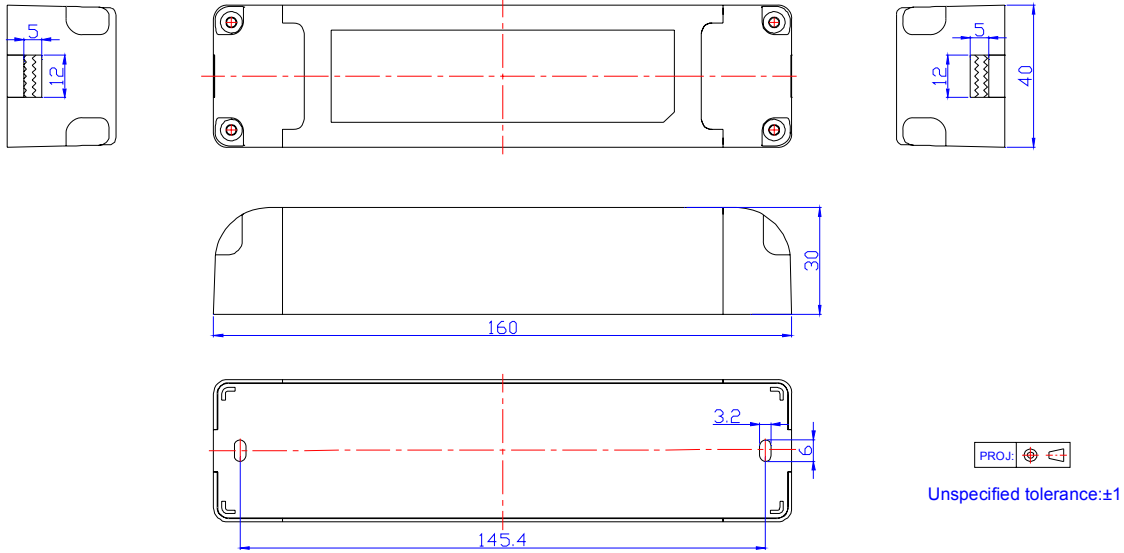


### Implementation 2: Resistor Dimming

**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.

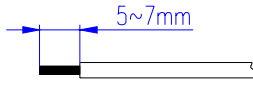
## Mechanical Outline



Details of the recommended wires:

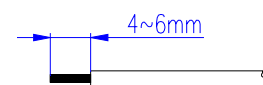
Input:

Strip wire 5-7mm  
Copper wire rated >300V  
18AWG/0.5-1.0mm<sup>2</sup>



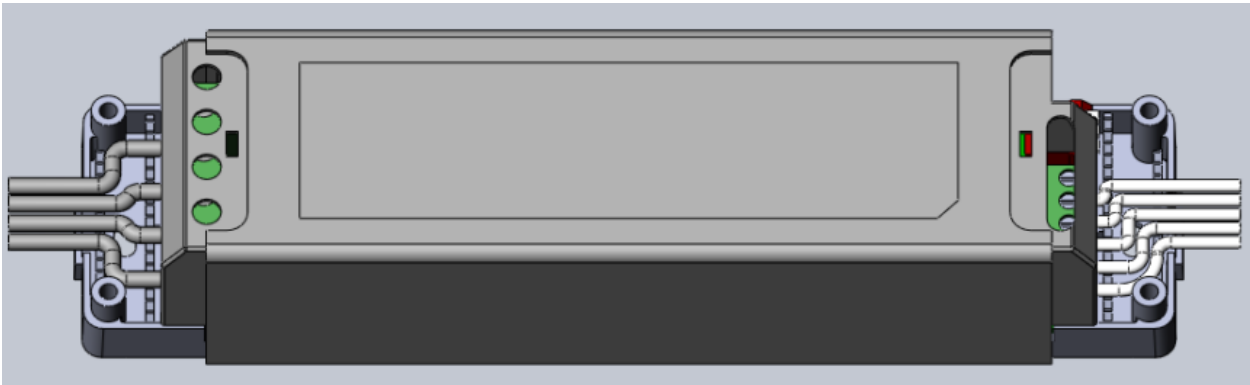
Output:

Strip wire 4-6mm  
Copper wire rated >150V  
18-22AWG/0.5-0.75mm<sup>2</sup>



### Steps of wires fixed:

1. Insert the input /output wires into connecting terminals and lock it tightly;
2. Cover the cap and Use screw to fasten the cap.



## 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
2013-10-09	A	Datasheets Release	/	/

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