

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 ² t)	-	-	0.2 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 Tolerance	-5%	-	5%	
Startup Overshoot Current	-	-	10%	Full load condition
No Load Voltage				
$I_o = 350$ mA	73 V	77 V	80 V	
$I_o = 530$ mA	49 V	52 V	55 V	
$I_o = 700$ mA	38 V	40 V	42 V	
$I_o = 1050$ mA	25 V	28 V	30 V	
Output voltage Ripple				
$I_o = 350$ 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
$I_o = 530$ mA	-	-	3.0 V	
$I_o = 700$ mA	-	-	2.7 V	
$I_o = 1050$ 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				
$I_o = 350$ mA	82%	84%	-	Measured at full load and 120 Vac input
$I_o = 530$ mA	82%	84%	-	
$I_o = 700$ mA	81%	83%	-	
$I_o = 1050$ mA	80%	82%	-	
Efficiency				
$I_o = 350$ mA	83%	85%	-	Measured at full load and 220 Vac input
$I_o = 530$ mA	83%	85%	-	
$I_o = 700$ mA	82%	84%	-	
$I_o = 1050$ mA	81%	83%	-	
Efficiency				
$I_o = 350$ mA	82%	84%	-	Measured at full load and 277 Vac input
$I_o = 530$ mA	82%	84%	-	
$I_o = 700$ mA	81%	83%	-	
$I_o = 1050$ 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.

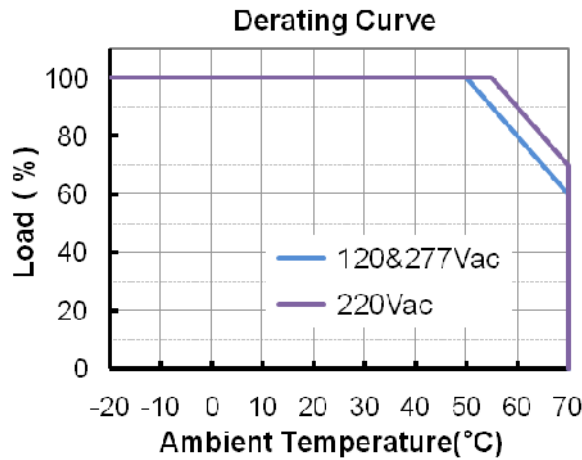
Environmental Specifications

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

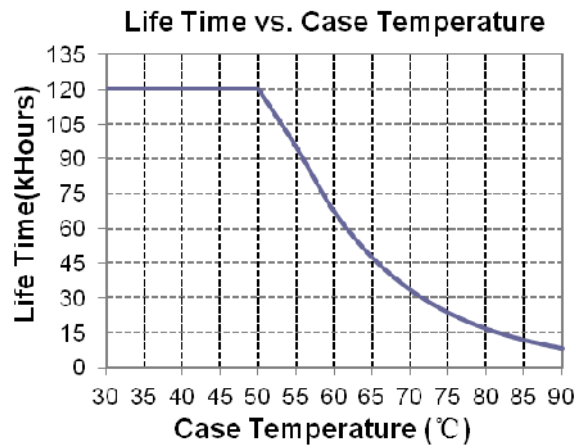
Safety & EMC Compliance

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

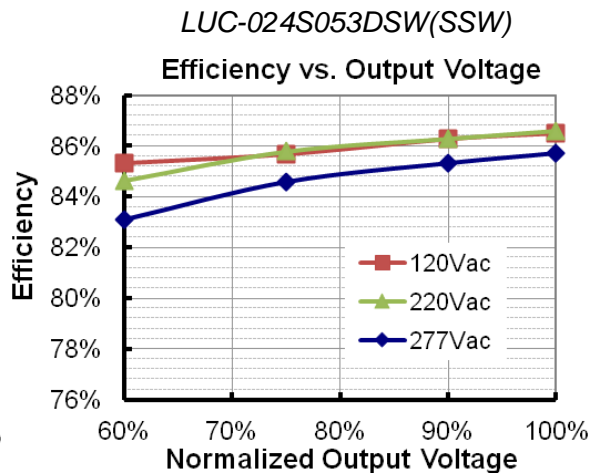
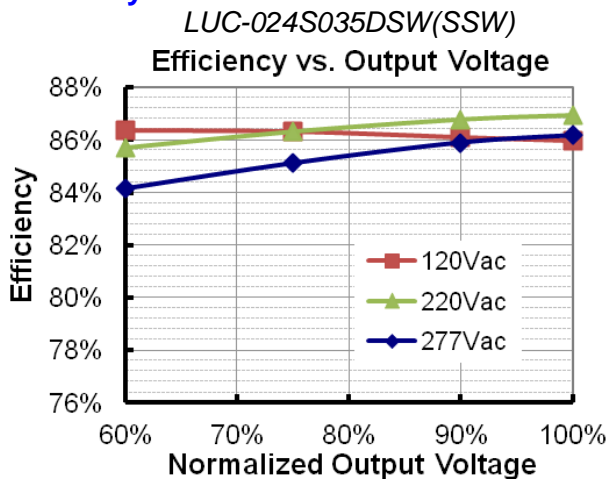
Derating Curve

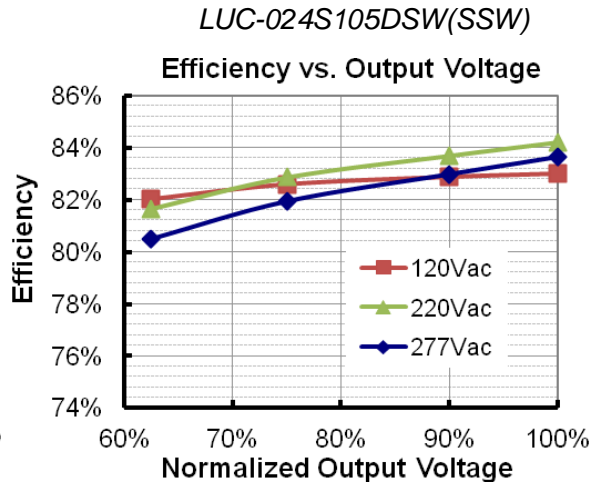
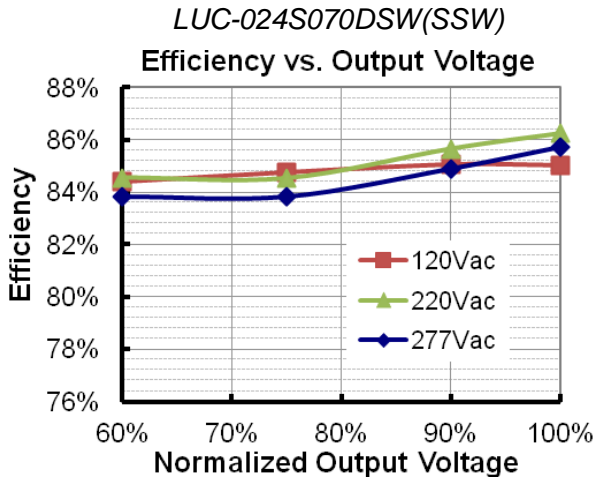


Life Time vs. Case Temperature Curve

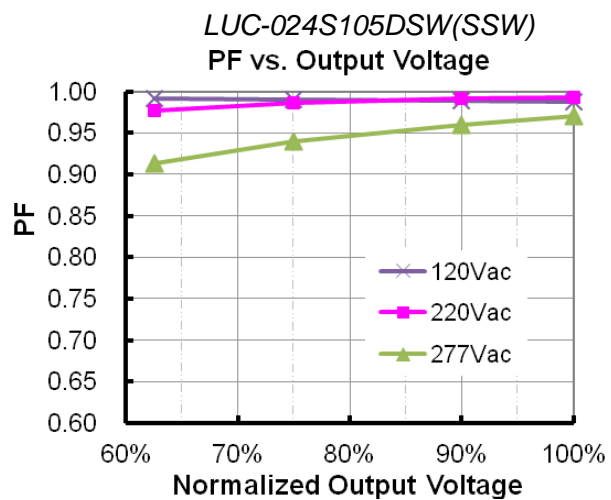
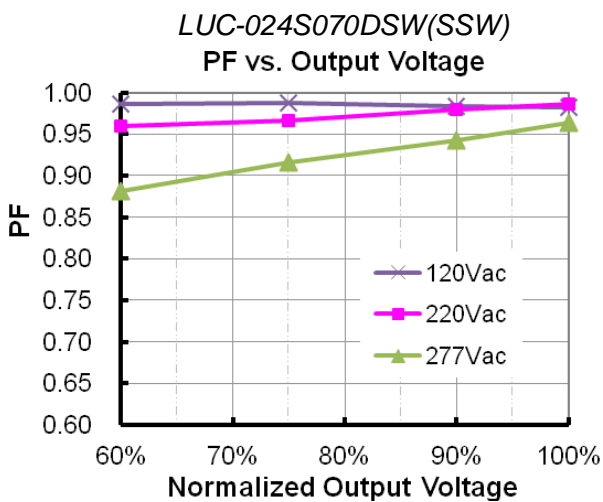
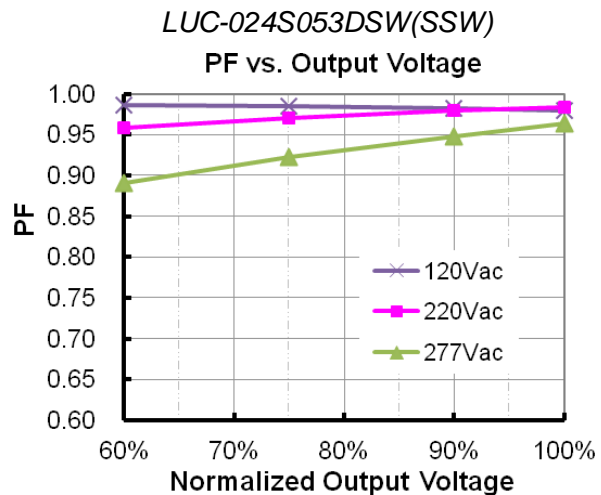
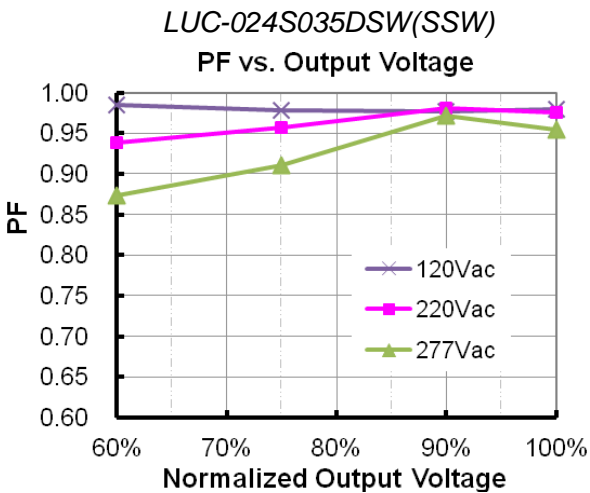


Efficiency vs. Load





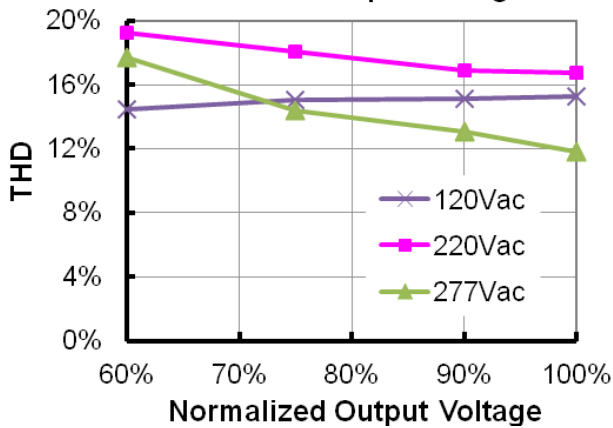
Power Factor Characteristics



Total Harmonic Distortion

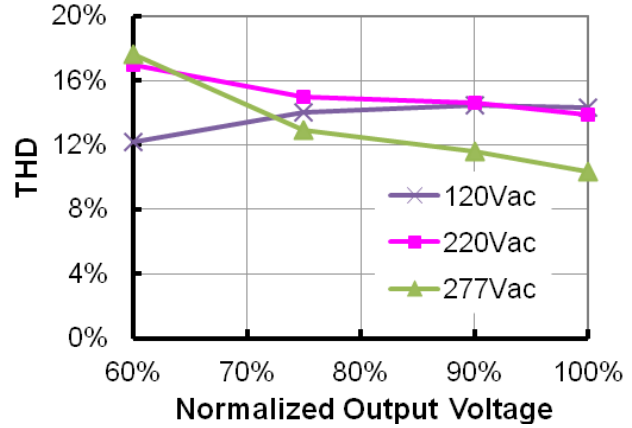
LUC-024S035DSW(SSW)

THD vs. Output Voltage



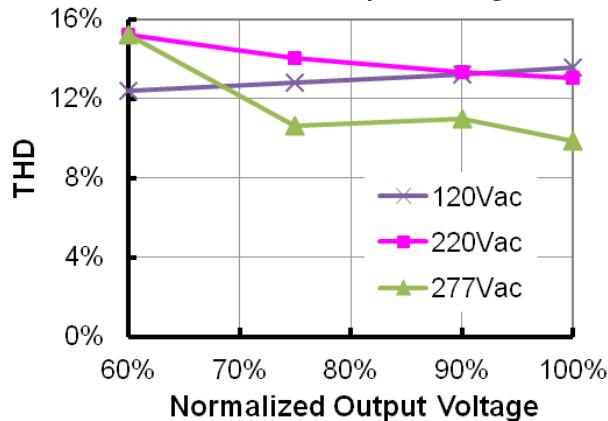
LUC-024S053DSW(SSW)

THD vs. Output Voltage



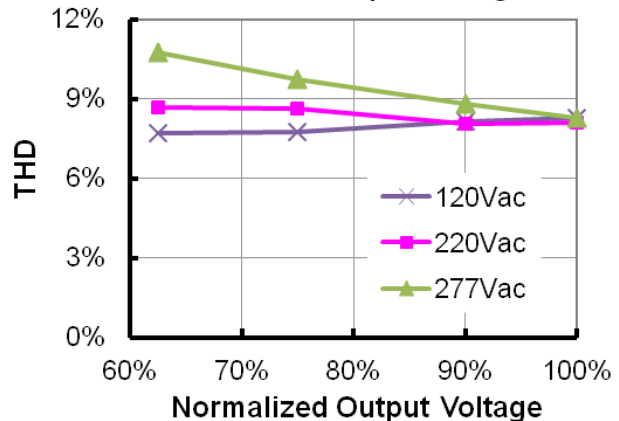
LUC-024S070DSW(SSW)

THD vs. Output Voltage



LUC-024S105DSW(SSW)

THD vs. Output Voltage



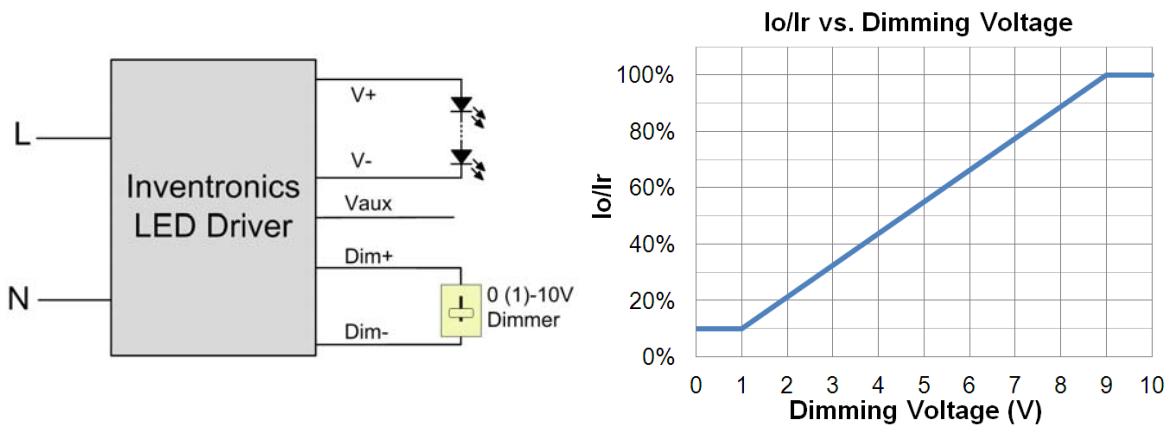
Adjustable Constant Output Current with Dip Switch (LUC-024SxxxDSW/SSW)

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

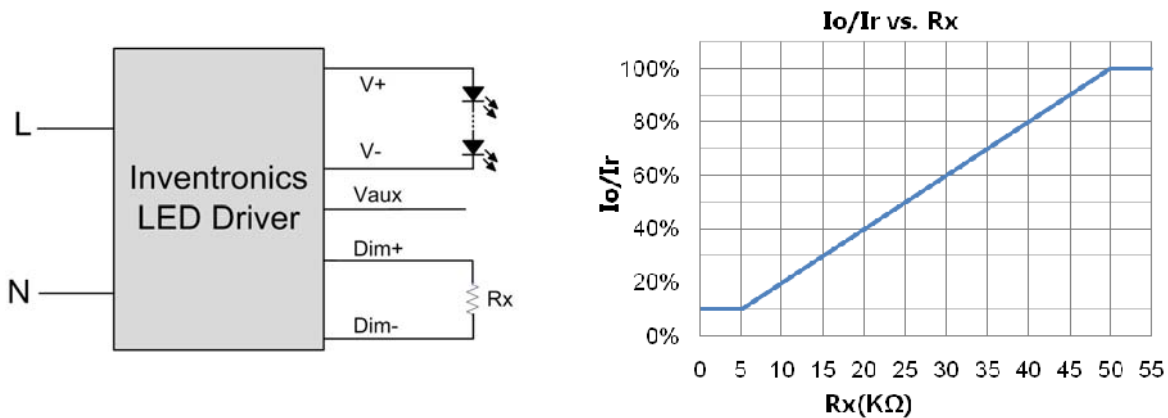
Dimming Control (On secondary side) (LUC-024SxxxDSW)

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

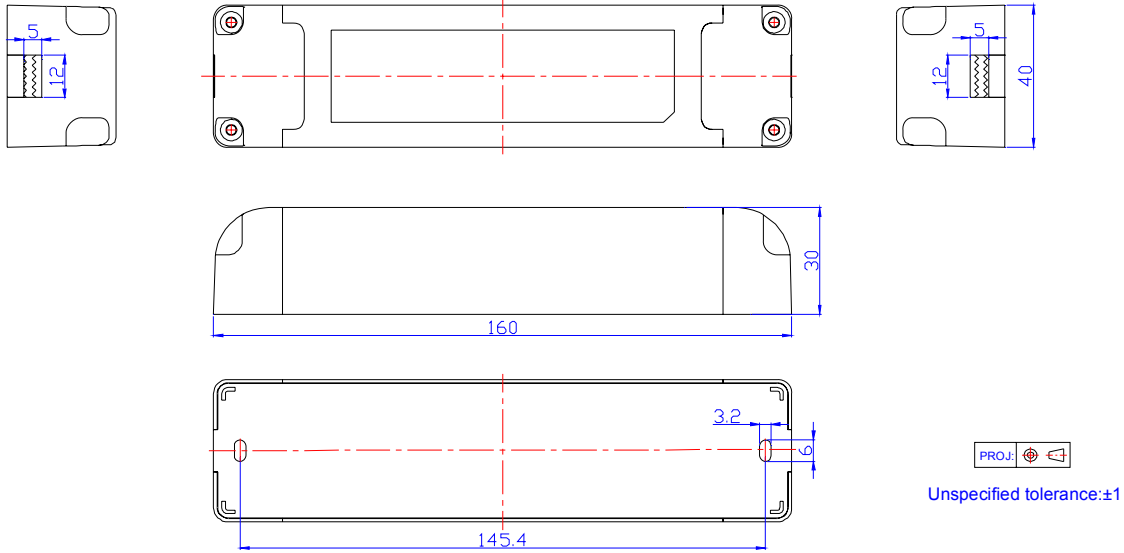


Implementation 2: Resistor Dimming

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.

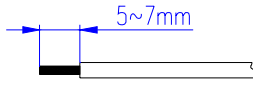
Mechanical Outline



Details of the recommended wires:

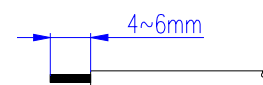
Input:

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



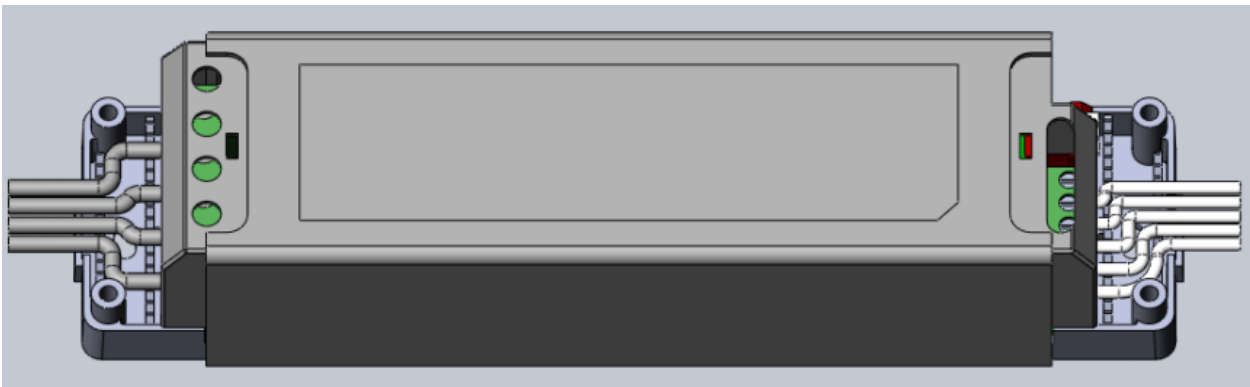
Output:

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. 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	/	/