


Class P

Features

- Wide input range: 90-305Vac
- Constant power mode operation
- Constant lumen output
- 3-in-1 dimming function (0-10Vdc, PWM Signal, Timer), dim-to-off
- Surge protection: Line-Line 5KV / Line-Earth 10KV
- Output and dimming signal isolated
- Output over-voltage, over-temperature and short-circuit protections
- IP67 enclosure for indoor and outdoor applications
- UL 8750 listed

Applications

- Roadway lighting, industrial lighting, plant lighting and landscape lighting

Selection Guide

Part Number	Max. Output Power (W)	Output Voltage Range (Vdc)	Full Power Output Voltage Range (Vdc)	Full Power Current Adjustable Range (A)	Default Output Current (A)	Typical Efficiency
LUB150X-041CP	150	20-41	28-41	3.66-5.40	4.20	91%
LUB150X-062CP		38-62	42-62	2.42-3.60	3.15	91%
LUB150X-108CP		54-108	71-108	1.40-2.10	2.10	91%
LUB150X-143CP		80-143	100-143	1.05-1.50	1.05	92%
LUB150X-214CP		107-214	143-214	0.70-1.05	0.70	92%

Note: X in the Part Number can be either M or V, M means 3-in-1 dimming function and offline programmable; V means non-dimmable and output current adjustable via built-in potentiometer.

Input Specifications

Parameter	Notes & Conditions	Min	Typical	Max	Unit
Input Voltage Range	AC input	90	100-277	305	Vac
Input Frequency Range		47	50/60	63	Hz
Input Current	100-277Vac input, full load	-	-	2.0	A
Power Factor	120Vac input, full load	0.97	0.99	-	-
	230Vac input, full load	0.95	0.97	-	
	277Vac input, full load	0.92	0.95	-	
Inrush Current	230Vac input, full load, cold start	-	-	75	A
Leakage Current	277Vac input, 60Hz	-	-	0.75	mA
Standby Power Consumption	M types, (dim-to-off)	-	-	3	W
THD	100-240Vac input, 50-100% of full load	-	5	10	%
	277Vac input, 70-100% of full load	-	-	15	

Output Specifications

Parameter	Notes & Conditions	Min	Typical	Max	Unit
Output Current Tolerance	Full load	-5	-	+5	%Iset
Output Current Set Point Range LUB150M-041CP LUB150M-062CP LUB150M-108CP LUB150M-143CP LUB150M-214CP		0.54 0.36 0.21 0.15 0.11	- - - - -	5.40 3.60 2.10 1.50 1.05	A
Output Current Set Point Range LUB150V-041CP LUB150V-062CP LUB150V-108CP LUB150V-143CP LUB150V-214CP		2.70 1.80 1.05 0.75 0.53	- - - - -	5.40 3.60 2.10 1.50 1.05	A
Output Current Set Point Range LUB150X-041CP LUB150X-062CP LUB150X-108CP LUB150X-143CP LUB150X-214CP	Constant power	3.66 2.42 1.39 1.05 0.70	- - - - -	5.40 3.60 2.10 1.50 1.05	A
Total Output Current Ripple	230Vac input, full load & LED load, peak-peak	-	5	10	%
Startup Overshoot Current	100-277Vac input, full load & LED load	-	-	10	%Iset
Output Voltage LUB150X-041CP LUB150X-062CP LUB150X-108CP LUB150X-143CP LUB150X-214CP	No load	- - - - -	- - - - -	50 70 120 160 240	V
Line Regulation	100-277Vac input	-1	-	+1	%
Load Regulation	230Vac input, 60-100% of full load	-3	-	+3	%
Turn-on Delay	120Vac input, full load	-	1	2	s
	230Vac input, full load	-	-	0.5	
Efficiency LUB150X-041CP I _o = 3.66A I _o = 5.40A LUB150X-062CP I _o = 2.42A I _o = 3.60A LUB150X-108CP I _o = 1.40A I _o = 2.10A LUB150X-143CP I _o = 1.05A I _o = 1.50A LUB150X-214CP I _o = 0.70A I _o = 1.05A	120Vac input, full load	87 86 87 86 88 88 88 88 88 87	89 88 89 88 90 90 90 90 90 89	- - - - - - - - - -	%
Efficiency LUB150X-041CP I _o = 3.66A I _o = 5.40A LUB150X-062CP I _o = 2.42A I _o = 3.60A LUB150X-108CP I _o = 1.40A I _o = 2.10A LUB150X-143CP I _o = 1.05A I _o = 1.50A	230Vac input, full load	89 88 89 88 90 90 90 90	91 90 91 90 91 91 92 92	- - - - - - - -	%

LUB150X-214CP Io = 0.70A Io = 1.05A		91 90	93 92	- -	
Efficiency LUB150X-041CP Io = 3.66A Io = 5.40A LUB150X-062CP Io = 2.42A Io = 3.60A LUB150X-108CP Io = 1.40A Io = 2.10A LUB150X-143CP Io = 1.05A Io = 1.50A LUB150X-214CP Io = 0.70A Io = 1.05A	277Vac input, full load	89 88 89 88 90 90 90 90 91 90 91 91	91 90 91 90 91 91 92 92 93 92	- - - - - - - - - -	%

Note: Unless otherwise specified, data in this datasheet should be tested under the conditions of 230Vac input, rated load and Ta=25°C.

Protection Specifications

Parameter	Notes
Over Voltage Protection	The driver will enter protection mode and will resume normal operation when the fault condition is cleared.
Over Temperature Protection	The output current will decrease, and will return to its set point when the over temperature condition is cleared.
Short-circuit Protection	The driver will enter constant current/auto recovery mode. No damage will occur when the output is shorted. The output current will return to its set point when the fault condition is cleared.

Environmental and Other Specifications

Parameter	Notes & Conditions	Min	Typical	Max	Unit
Ambient Temperature	Ta	-40	-	+60	°C
Operating Case Temperature	Tc	-40	-	+90	°C
Storage Temperature		-40	-	+85	°C
Storage Relative Humidity		5	-	100	%RH
Isolation Voltage	Input-Output	-	3,750	-	Vac
	Input-PE	-	1,600	-	
	Output-PE	-	1,600	-	
Insulation Resistance	Input-Output/Input-PE/Output-PE, 500Vdc/60s /70%RH	50	-	-	MΩ
Grounding Resistance	25A/60s	-	-	0.1	Ω
Life Time	230Vac, full load, 75°C case temperature	-	50	-	10 ³ hrs
MTBF(MIL-HDBK-217F)	230Vac input, 80% of full load	-	200	-	10 ³ hrs
Dimensions (L*W*H)	173.6 x 68.0 x 37.0 mm				
Weight	800±100g				

Dimming Specifications

Parameter		Notes & Conditions	Min	Typical	Max	Unit
Absolute Maximum Voltage		0-10V on the DIM +	-	10	-	V
Source Current		0-10V on the DIM +	-	0.2	0.4	mA
Dimming Output Range		LUB150M-041CP	0.54	-	5.40	A
		LUB150M-062CP	0.36	-	3.60	
		LUB150M-108CP	0.21	-	2.10	
		LUB150M-143CP	0.15	-	1.50	
		LUB150M-214CP	0.11	-	1.05	
Dimming Range			0	-	10	V
PWM	High Level	Default 0-10V / PWM Dimming	9.7	-	10.3	V
	Low Level		0	-	0.3	V
	Frequency Range		300	-	2,000	Hz
	Duty Cycle		1	-	99	%

EMC Specifications

Parameter	Standards
EMI	EN55015
	EN61000-3-2, 3
EMS	EN61547
	EN61000-4-2, 3, 4, 5, 6, 11

Typical V-I Characteristic Curves

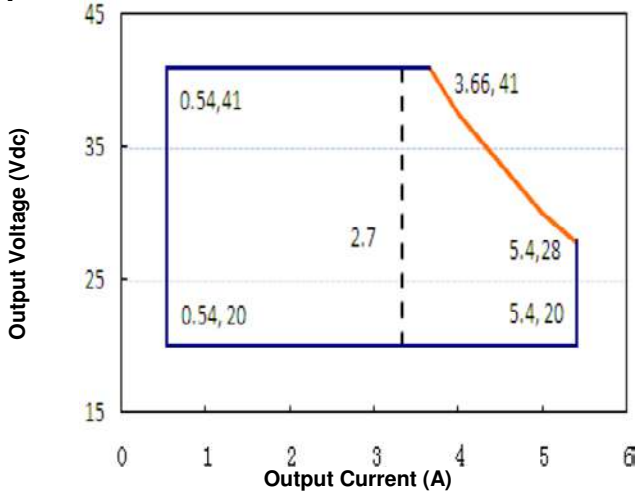


Figure 1: Typical V-I Characteristic Curve (LUB150X-041CP)

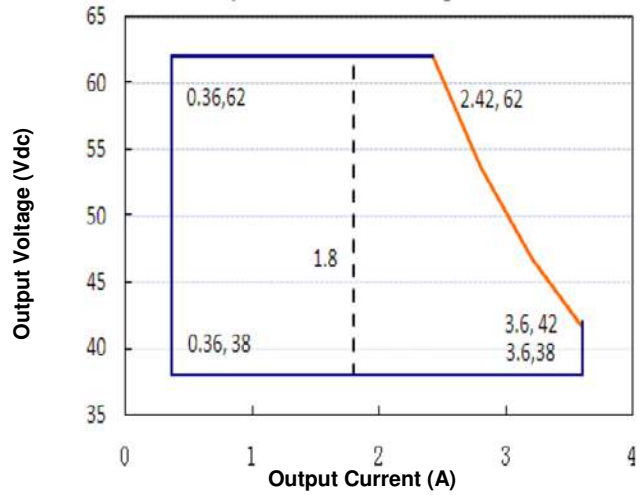


Figure 2: Typical V-I Characteristic Curve (LUB150X-062CP)

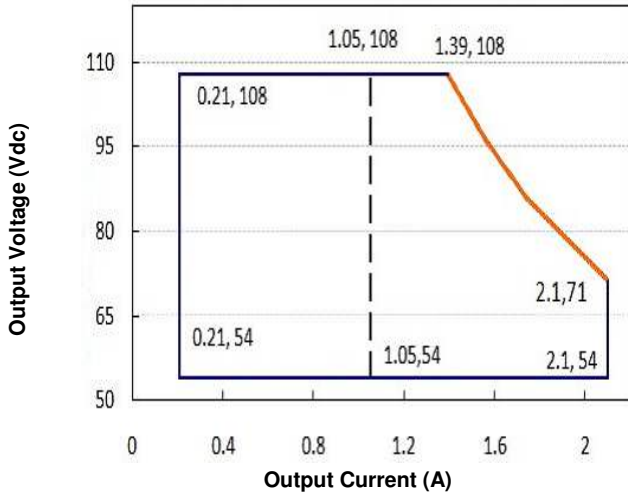


Figure 3: Typical V-I Characteristic Curve (LUB150X-108CP)

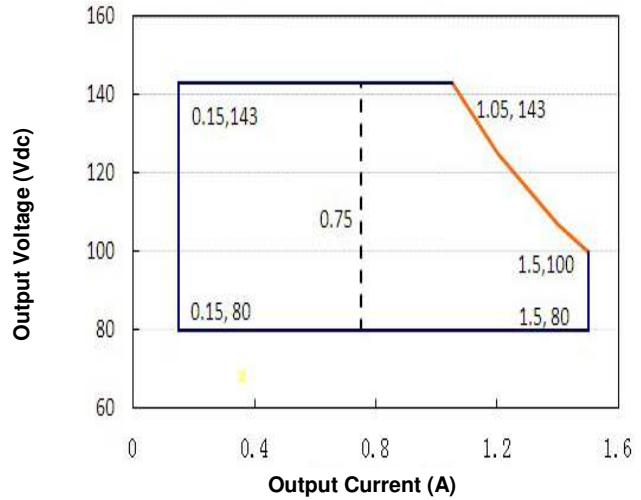


Figure 4: Typical V-I Characteristic Curve (LUB150X-143CP)

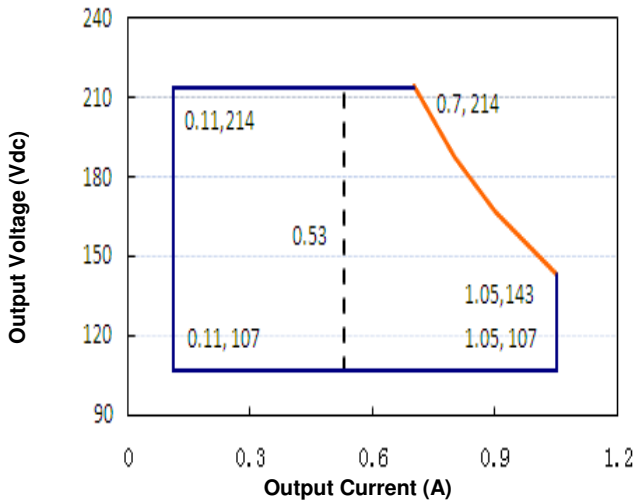


Figure 5: Typical V-I Characteristic Curve (LUB150X-214CP)

Note: X=V is suitable for the right area of dotted line, X=M is suitable for the solid line contained area.

Characteristic Curves

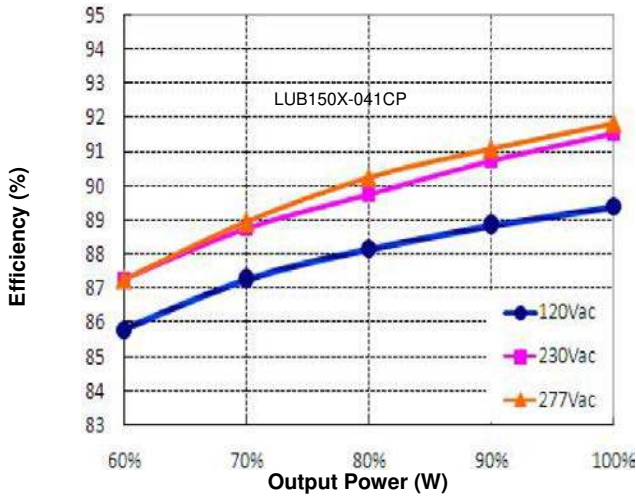


Figure 6: Efficiency vs. Output Power (Io=3.66A)

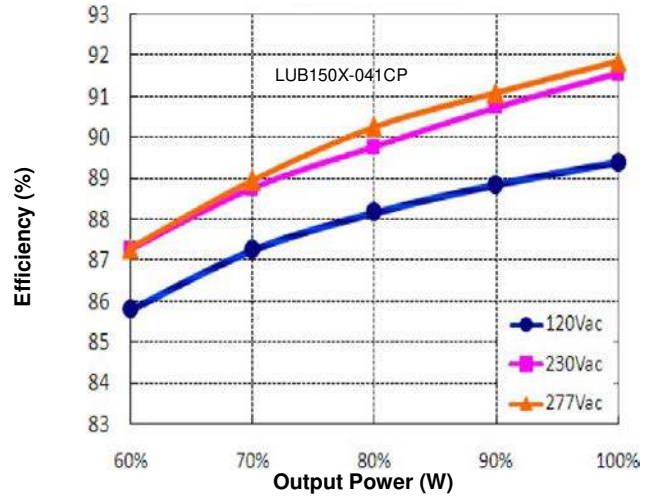


Figure 7: Efficiency vs. Output Power (Io=5.40A)

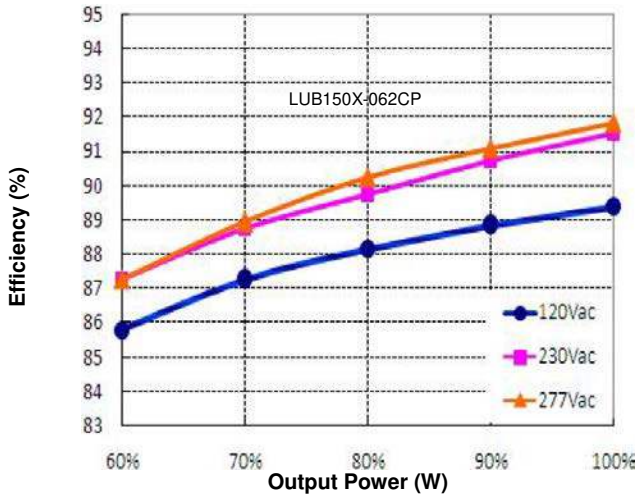


Figure 8: Efficiency vs. Output Power (Io=2.42A)

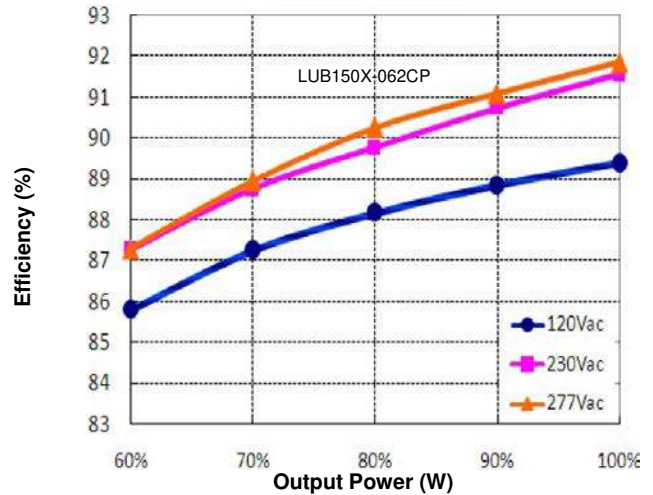


Figure 9: Efficiency vs. Output Power (Io=3.60A)

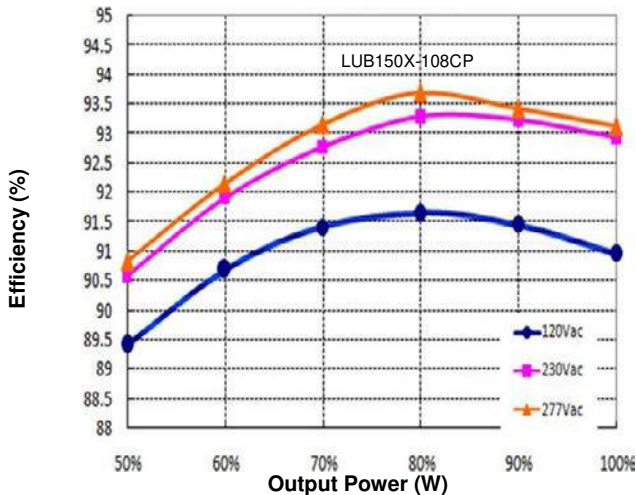


Figure 10: Efficiency vs. Output Power (Io=1.39A)

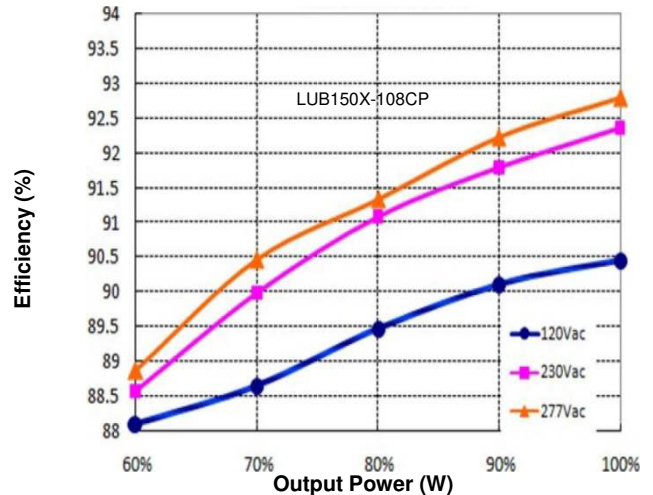


Figure 11: Efficiency vs. Output Power (Io=2.10A)

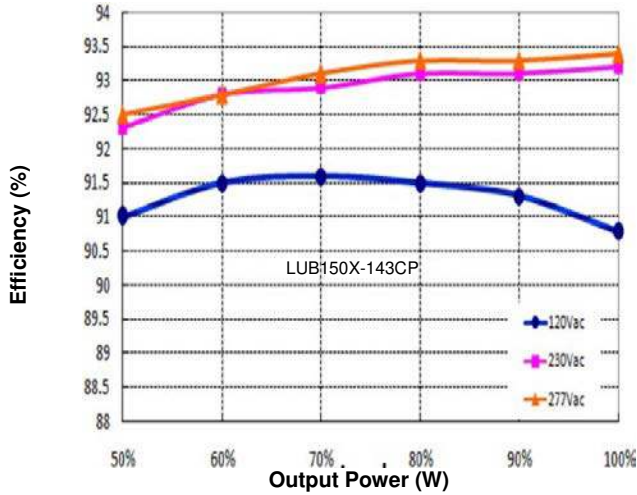


Figure 12: Efficiency vs. Output Power (Io=1.05A)

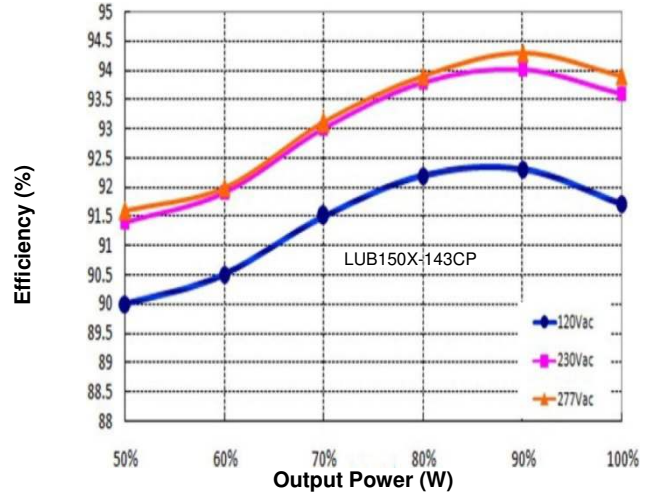


Figure 13: Efficiency vs. Output Power (Io=2.00A)

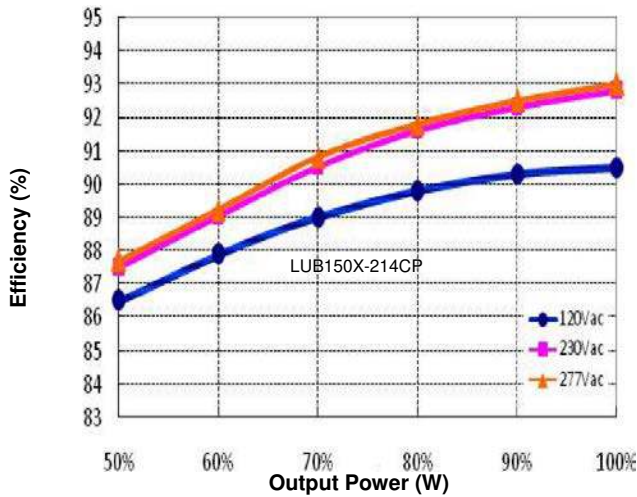


Figure 14: Efficiency vs. Output Power (Io=0.70A)

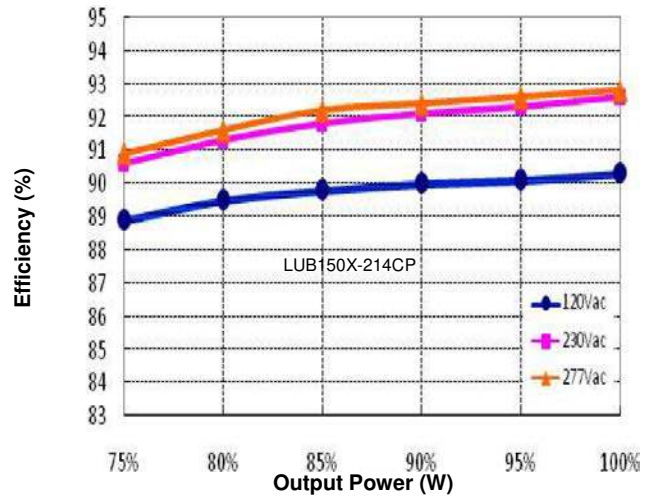


Figure 15: Efficiency vs. Output Power (Io=1.05A)

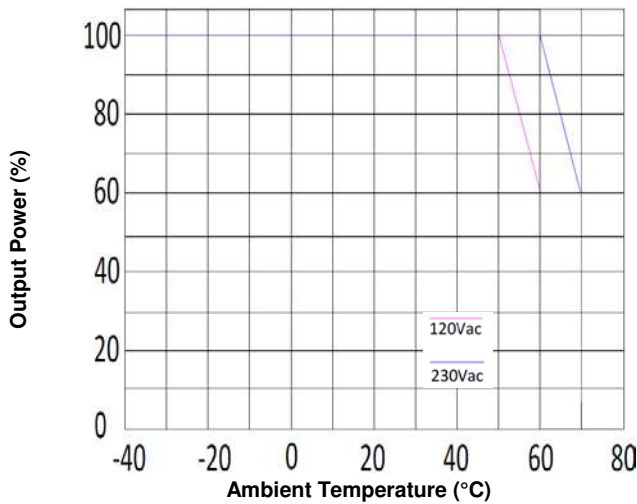


Figure 16: Output Power vs. Ambient Temperature

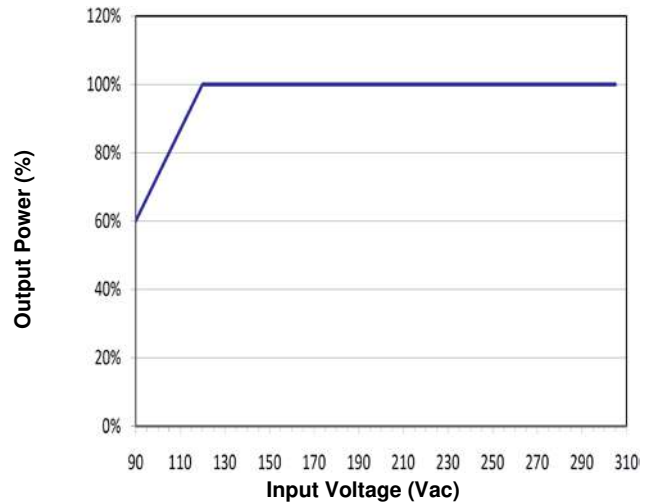


Figure 17: Output Power vs. Input Voltage

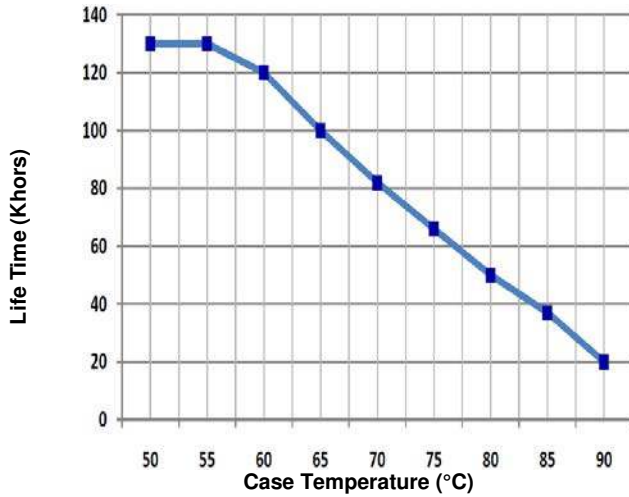


Figure 18: Life Time vs. Case Temperature

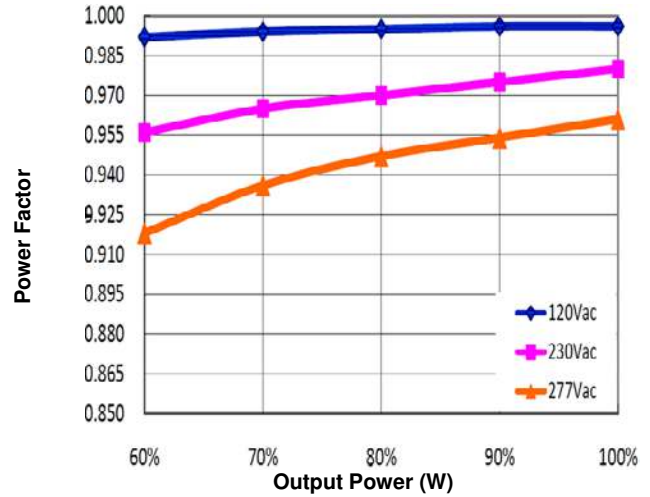


Figure 19: Power Factor vs. Output Power

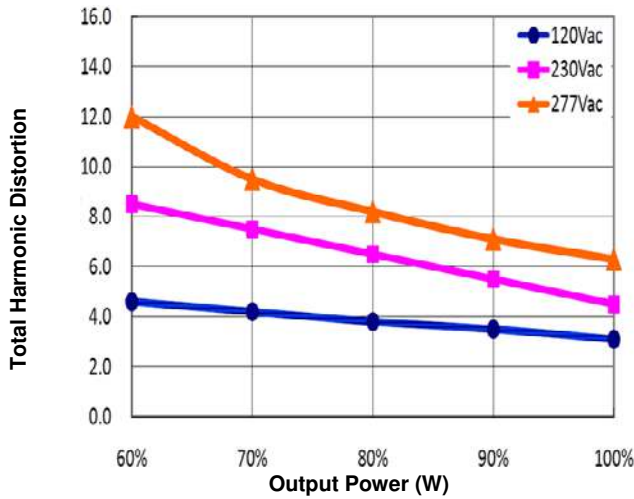


Figure 20: Total Harmonic Distortion vs. Output Power

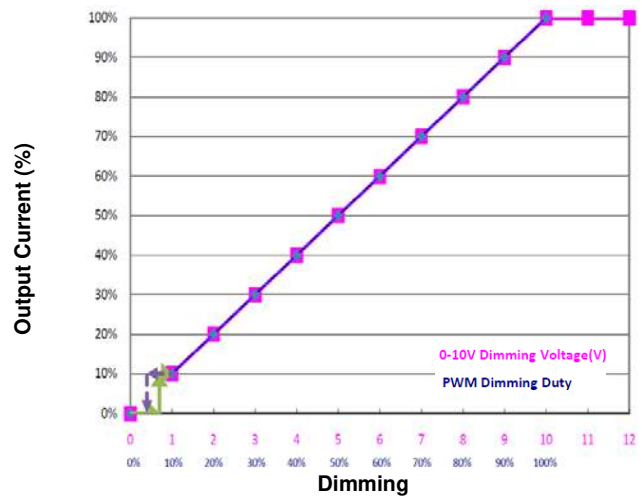
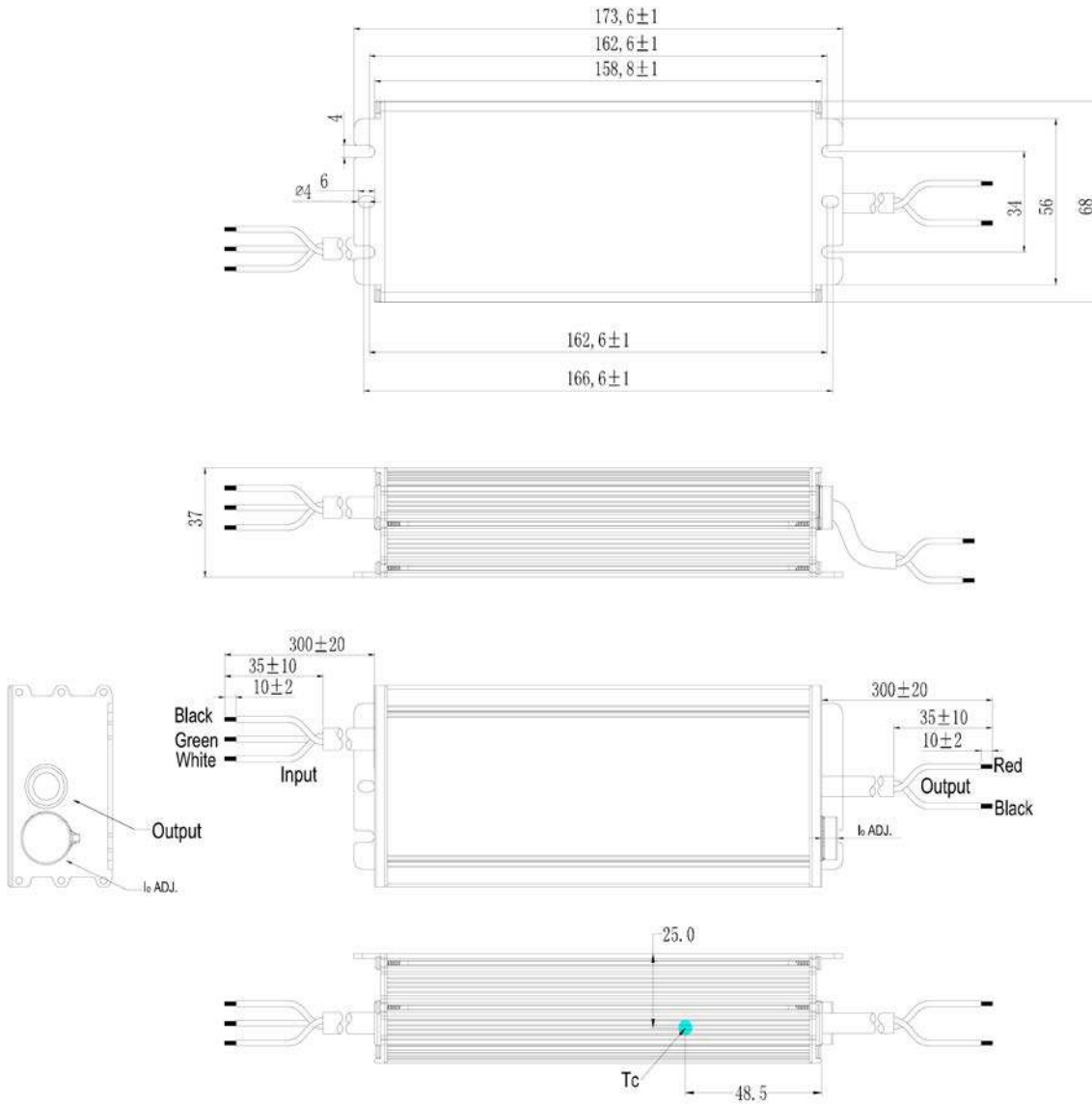
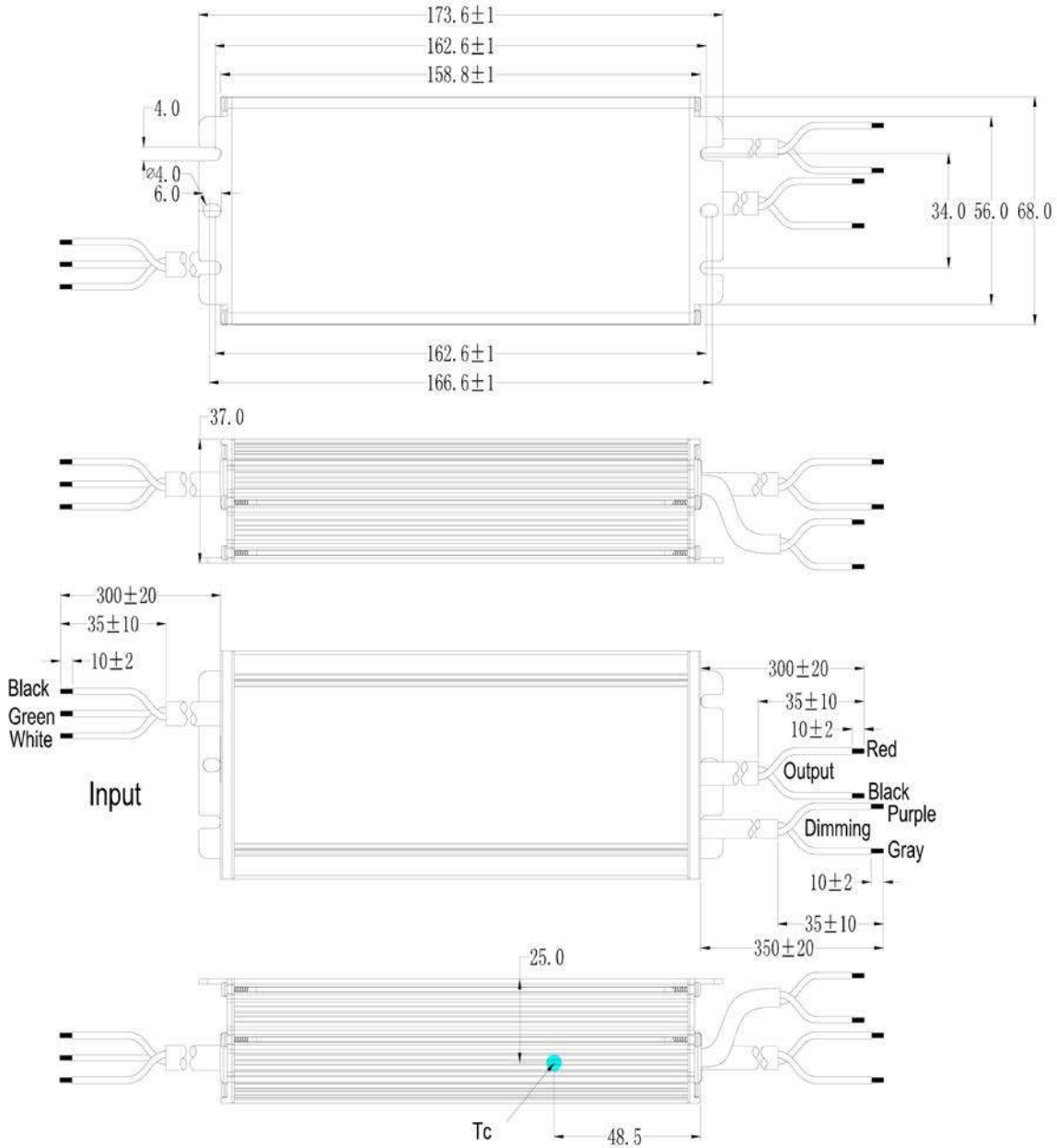


Figure 21: 0-10V/PWM Dimming Curve

Mechanical Drawing

LUB150V types (Unit: mm)



LUB150M types (Unit: mm)


Wire	Specification
Input	SJOW 18AWG*3C, 7.8mm external diameter
Output	SJOW 18AWG*2C, 7.3mm external diameter
Dimming (M types)	UL2733 22AWG*2C, 5.45mm external diameter