Product Features

- Input voltage range: 90~305Vac;
- Constant power design, outputs programmable;
- Built-in 3-in-1 dimming and auto-react: 0-10Vdc, PWM, timer control;
- DALI control is optional, can be dim-to-off;
- 12V/0.3A auxiliary power supply is optional;
- Output is isolated with dimming signal;
- Stand-by power consumption <0.5W;
- Multiple protection: SCP / OVP/OTP;
- Surge protection: line-line 5KV, line-earth 10KV;
- Ambient temperature: -40℃～+60℃;
- Degrees of protection: IP67;
- 5 years warranty.

Application

- Suitable for LED architecture lighting, industrial lighting, flood lighting, and roadway lighting, etc.

DESCRIPTION

The LUP-240 series is programmable outdoor LED driver that operates from 90-305Vac input with excellent power factor. Created for high bay, tunnel and roadway lights, it provides a dim-to-off mode with low standby power. The high efficiency of these drivers and compact metal case enables them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, output over voltage, short circuit, and over temperature.

MODELS

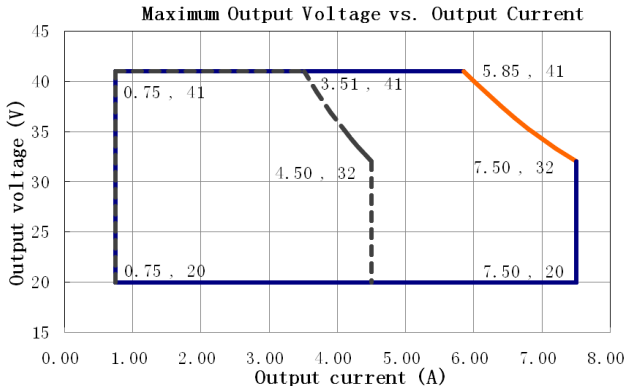
Model Number [1]	Max Output Power（W）	Output Voltage Range (Vdc)	Output Current Adjustable Range (A)	Full Power Current Adjustable Range (A) [2]	Default Output Setting	Typ. Effi. [3]	Typ. PF
LUP-240X041Z	240	20~41	0.75~7.50	5.86~7.50	20~36V/6.70A	91%	0.96
LUP-240X062Z	240	20~62	0.52~5.20	3.87~5.20	20~48V/5.00A	92%	0.96
LUP-240X180Z	240	80～180	0.21~2.10	1.33~2.10	80~170V/1.40A	92%	0.96
LUP-240X368Z	240	190~368	0.11~1.10	0.65~1.10	190~228V/1.05A	93%	0.96

Notes:

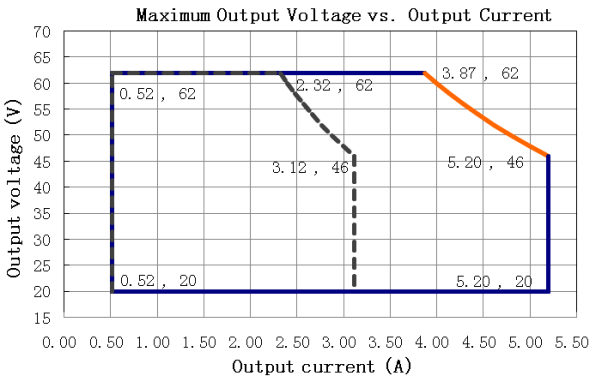
[1]. X=M, programmable output with 0-10V/PWM/Timing dimming；X=R, programmable output with timing dimming；X=D, dali dimming; Z=A12, output with 12V/0.3A auxiliary power supply;
[2]. Output current adjustable range with constant power at max output power;
[3]. All specifications are measured at 25℃ ambient temperature, if no specific note.

OPERATING AREA I-V

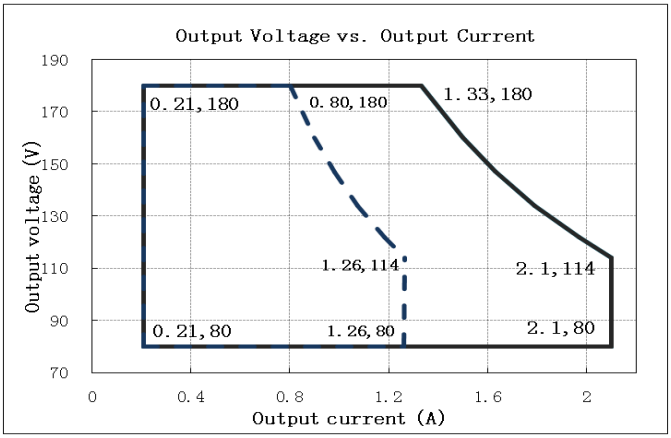
LUP-240X041Z



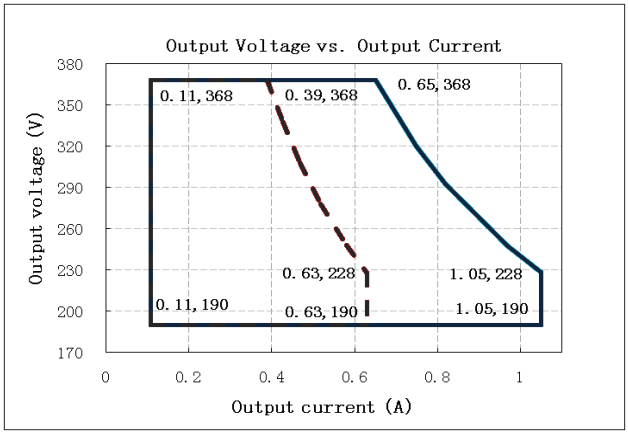
LUP-240X062Z



LUP-240X180Z



LUP-240X368Z



Note: 144W is suitable for the dotted line on the left side area; 240W is suitable for the solid line contain area.

INPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90Vac	100-277Vac	305Vac	
Input Frequency	47Hz	50/60	63Hz	
Leakage Current	-	-	0.75mA	277Vac/50Hz
Input AC Current	-	-	2.0A max	100-277Vac &full load
Inrush Current(A)	-	-	75A	Cold start, 230Vac & full load
Power Factor	0.95	0.96	-	230Vac & full load
THD	-	-	15%	230Vac, 70%-100% load
	-	-	20%	277Vac, 70%-100% load

OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Rated Power	-	-	240W	200-277Vac
	-	-	144W	100-200Vac
Output Current Tolerance	-5%Iset	-	5%Iset	Full load
Output Current Setting Range (Iset) LUP-240X041Z LUP-240X062Z LUP-240X180Z LUP-240X368Z	 0.75A 0.52A 0.21A 0.11A	-	 7.50A 5.20A 2.10A 1.10A	200-277Vac
Output Current Setting Range with Constant Power LUP-240X041Z LUP-240X062Z LUP-240X180Z LUP-240X368Z	 5.86A 3.87A 1.33A 0.65A	-	 7.50A 5.20A 2.10A 1.10A	200-277Vac
Total Output Current Ripple (pk-pk)	-	-	10%	Load is LED, ripple is different with difference LED load. 20MHz BW.
Startup Overshoot Current		-	10%	230Vac & 100% Load, load is LED
No Load Output Voltage LUP-240X041Z LUP-240X062Z LUP-240X180Z LUP-240X368Z	-	-	 60V 80V 200V 390V	
Line Regulation	-	-	1%	25℃±10℃ ambient temperature, input voltage changes from 115Vac to 305Vac.
Load Regulation	-	-	3%	25℃±10℃ambient temperature, 230Vacinput, load changes from 50% to 100%.
Turn-on Delay Time	-	-	3S	115Vac,60% load
	-	0.5S	1S	230Vac,100% load
12V auxiliary output voltage	11.4V	12V	12.6V	
12V auxiliary output source current	0mA		300mA	

GENERAL SPECIFICATIONS

Parameter		Min.	Typ.	Max.	Notes
Efficiency @115Vac LUP-240X041Z Io=3.51A LUP-240X062Z Io=3.23A LUP-240X180Z Io=0.80A LUP-240X368Z Io=0.39A		 87% 88% 88% 89%	 89% 90% 90% 91%		Measured at 60% load and 25℃ambient temperature
Efficiency @230Vac LUP-240X041Z Io=5.86A Io=7.50A LUP-240X062Z Io=3.87A Io=5.20A LUP-240X180Z Io=1.33A Io=2.10A LUP-240X368Z Io=0.65A Io=1.10A		 89% 89% 90% 90% 91% 90% 92% 91%	 91% 91% 92% 92% 93% 92% 94% 93%		Measured at full load and 25℃ambient temperature
Efficiency @277Vac LUP-240X041Z Io=5.86A Io=7.50A LUP-240X062Z Io=3.87A Io=5.20A LUP-240X180Z Io=1.33A Io=2.10A LUP-240X368Z Io=0.65A Io=1.10A		 89% 89% 90% 90% 91% 90% 92% 91%	 91% 91% 92% 92% 93% 92% 94% 93%		Measured at full load and 25℃ambient temperature
Standby power consumption		-	0.5W	-	230Vac/50Hz; Dimming off
Dielectric Strength	Input-Output	-	3750Vac	-	10mA/60S
	Input-PE	-	1600Vac	-	
	Output- PE	-	1600Vac	-	
Grounding Resistance		-	-	0.1Ω	25A/60S
Insulation Resistance		50MΩ	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60S/25℃/70%RH
MTBF			200000 Hours	-	230Vac,80% load (MIL-HDBK-217F)
Lifetime		-	50000 Hours	-	230Vac&100% load,70℃case temperature, refer to lifetime VS Tc curve for details

Operating Case Temperature for Safety Tc_s	-40℃	-	+85℃	
Operating Case Temperature for Warranty Tc_w	-40℃	-	+70℃	
Storage Temperature	-40℃	-	+85℃	Humidity: 10% to 95% RH
Dimensions (L×W×H)mm	247*68*43.5			
Net Weight	1300±100g/pcs			
Package	L500×W390×H170mm; 10pcs/Ctn.			

DIMMING

Parameter		Min.	Typ.	Max.	Notes
0~5V/0~10V Absolute Maximum Voltage on the Vdim (+) Pin		-	5V/10V	-	
0~5V/0~10V Source Current on Vdim(+)Pin		-	-	2mA	
Dimming Output Range	LUP-240X041Z LUP-240X062Z LUP-240X180Z LUP-240X368Z	10%Imax	-	100%Imax	Imax=7.50A Imax=5.20A Imax=2.10A Imax=1.10A
	LUP-240X041Z LUP-240X062Z LUP-240X180Z LUP-240X368Z	0.75A 0.52A 0.21A 0.11A	-	7.50A 5.20A 2.10A 1.10A	
DA, DA High Level		9.5 V	16 V	22.5 V	
DA, DA Low Level		-6.5 V	0 V	6.5 V	
Recommended Dimming Range for 0-5 V		0V	-	5V	
Recommended Dimming Range for 0-10 V		0V	-	10V	Default 0-10V/10V PWM Dimming
PWM_in High Level		9.7V	-	10.3V	
PWM_in Low Level		0V	-	0.3V	
PWM_in Frequency Range		250Hz		1000Hz	
PWM_in Duty Cycle		1%	-	99%	

SAFTY STANDARDS

Safety Category	Country / Territory	Standards
CCC	China	GB19510.1, GB19510.14
CE	China	EN61347-1, EN61347-2-13
CB	CB Countries	IEC61347-1, IEC61347-2-13
BIS	India	IS 15885(PART 2/SEC 13)
UL	USA	UL 8750
CUL	Canada	CSA C22.2 No.250.13
KC	South Korea	K61347-1, K61347-2-13, K62384
PSE	Japan	J61347-1, J61347-2-13
SAA	Australia	AS/NZS IEC 61347-2-13
		AS/NZS 61347.1

EMC COMPLIANCE

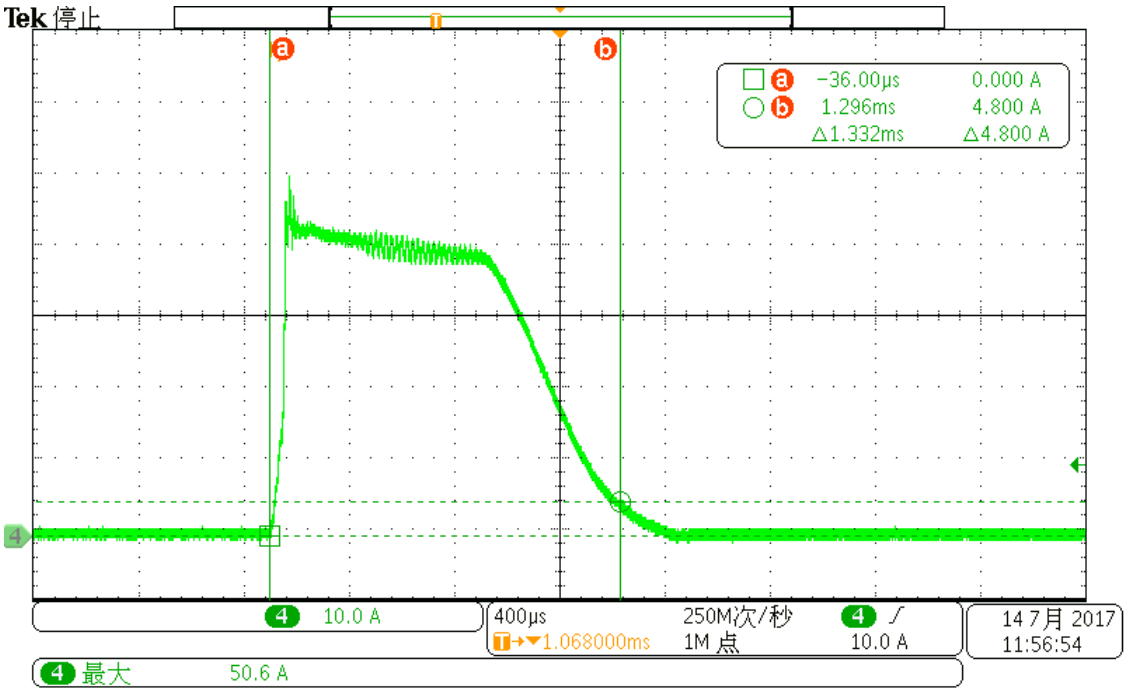
EMC Category	Country / Territory	Standards
CCC	China	GB 17743, GB 17625.1
CE	Europe	EN 55015, EN 61000-3-2, EN 61000-3-3
		EN61000-4-2,3,4,5,6,8,11
		EN 61547
KC	South Korea	K61547
		K00015
PSE	Japan	J55015
FCC	USA	FCC part 15

NOTE: This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

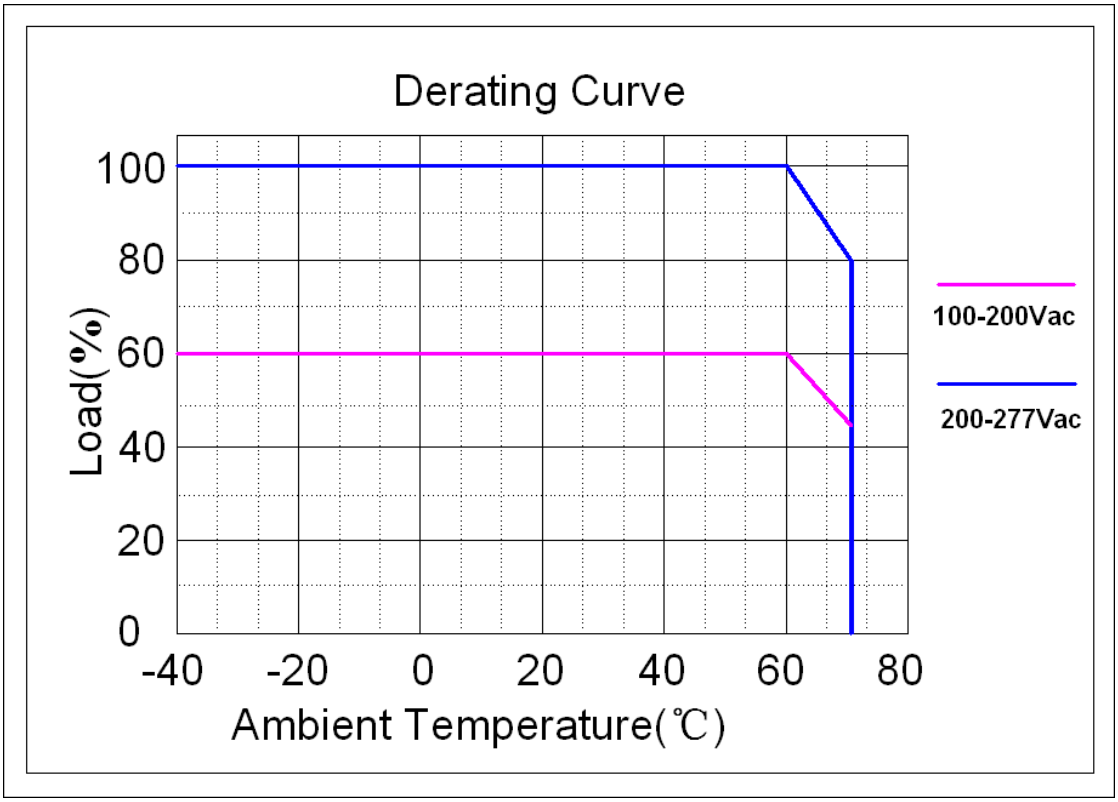
DALI STANDARDS

IEC 62386 -101, 102, 207.

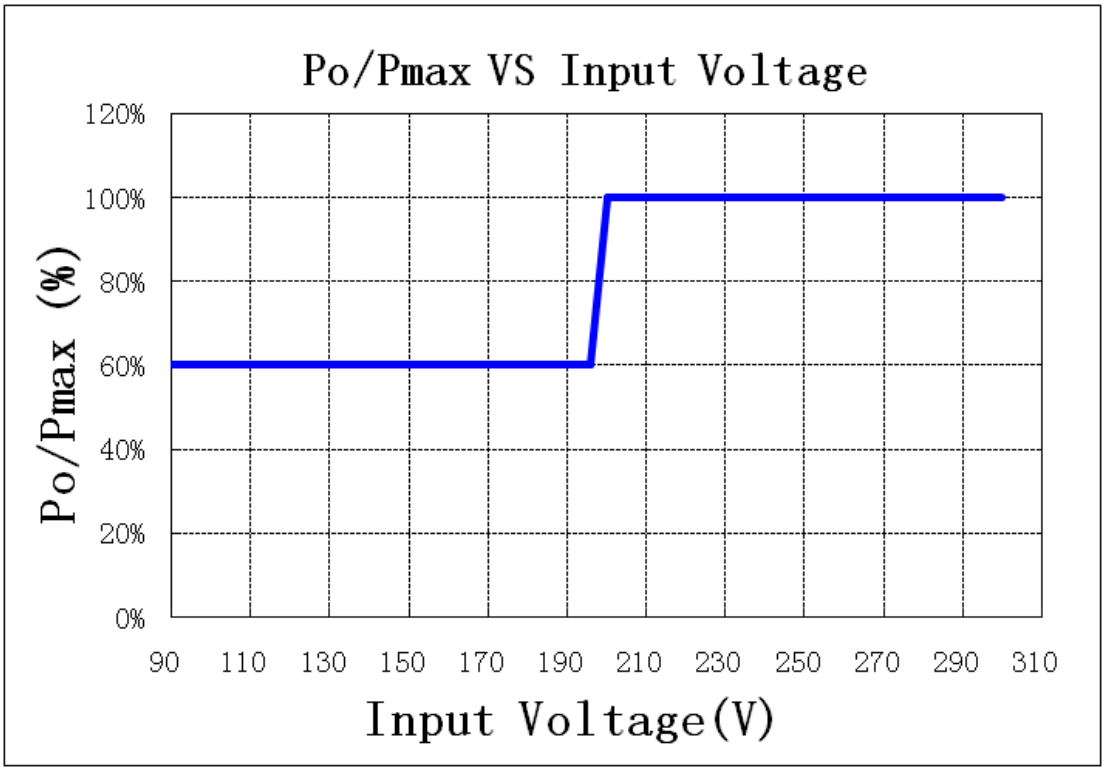
INRUSH CURRENT WAVEFORM



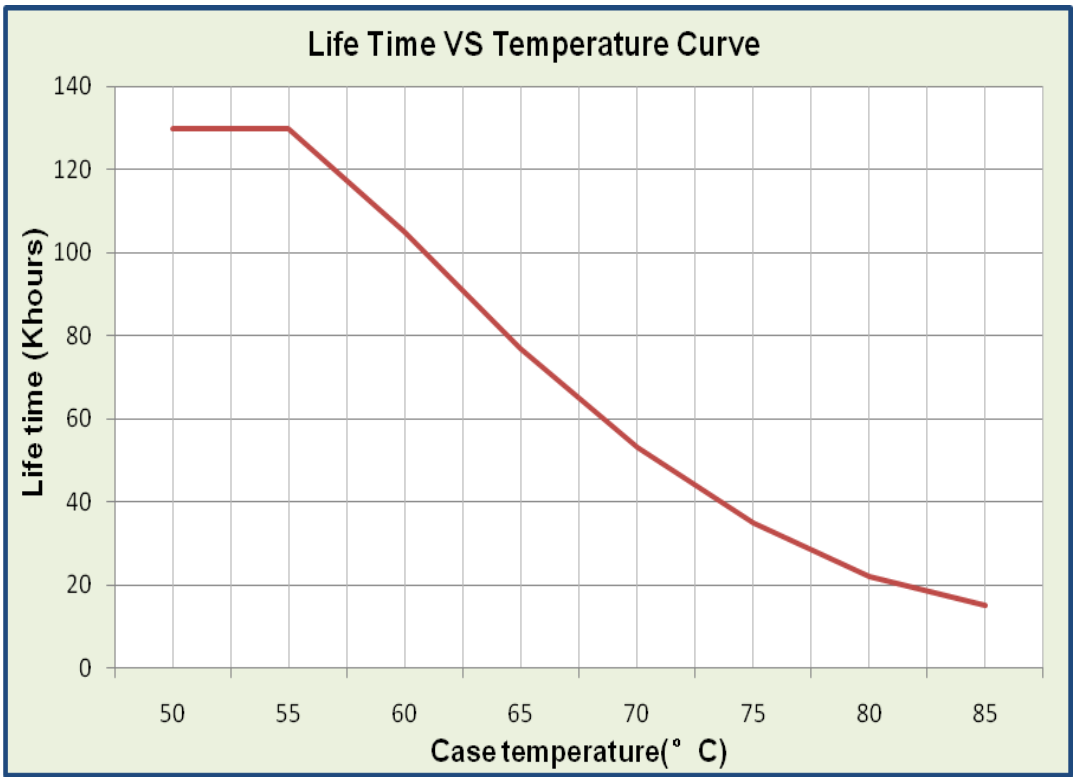
DERATING CURVE



OUTPUT POWER VS INPUT VOLTAGE

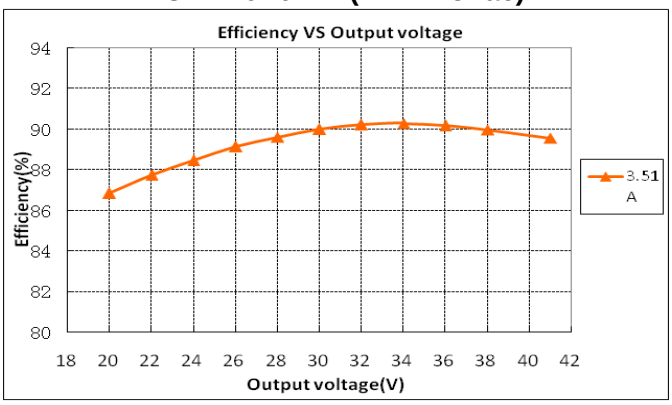


LIFETIME VS CASE TEMPERATURE

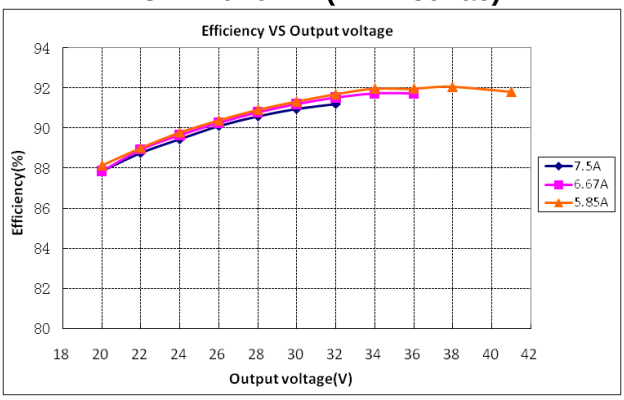


EFFICIENCY VS LOAD

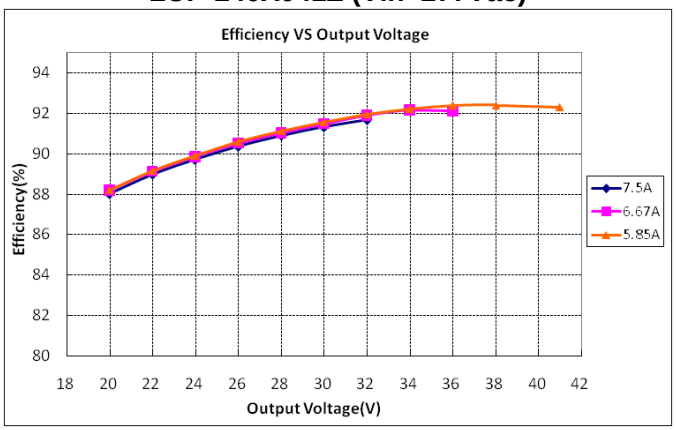
LUP-240X041Z (Vin=115Vac)



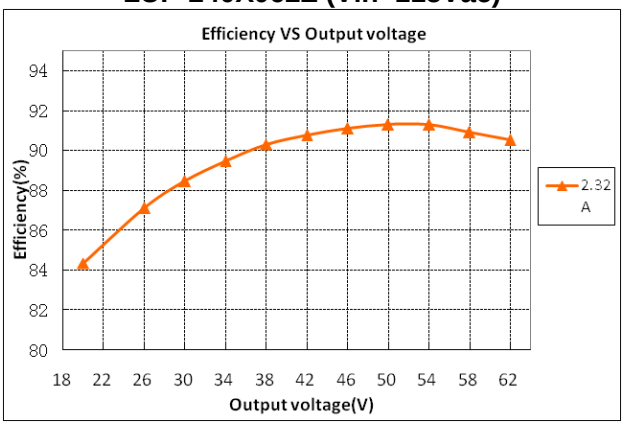
LUP-240X041Z (Vin=230Vac)



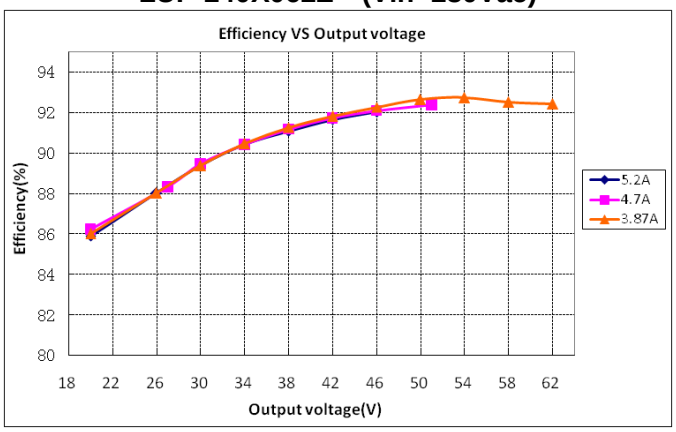
LUP-240X041Z (Vin=277Vac)



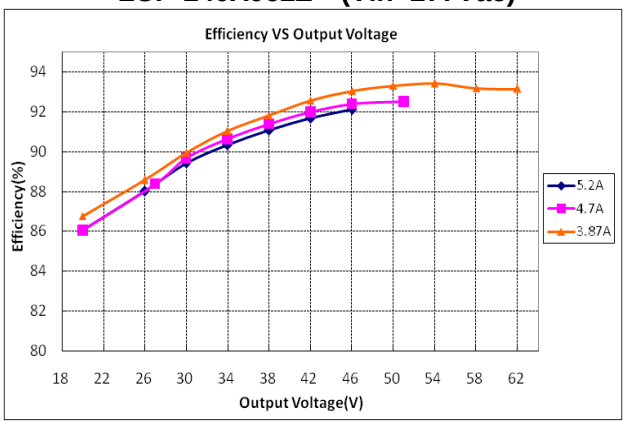
LUP-240X062Z (Vin=115Vac)



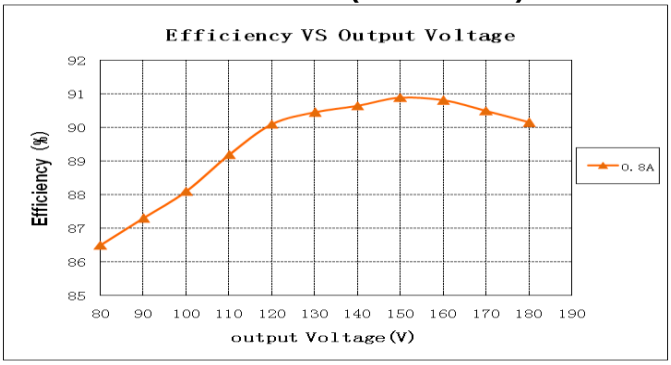
LUP-240X062Z (Vin=230Vac)



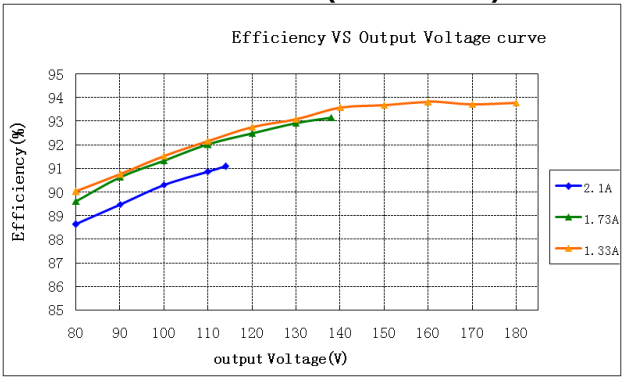
LUP-240X062Z (Vin=277Vac)



LUP-240X180Z (Vin=115Vac)

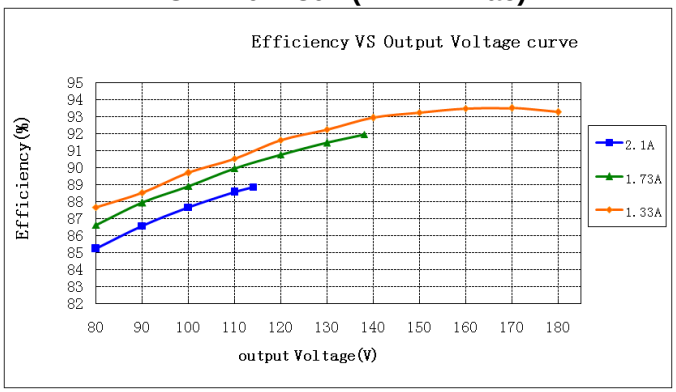


LUP-240X180Z (Vin=230Vac)

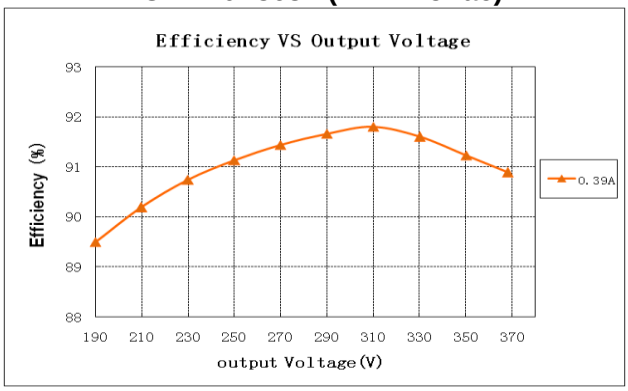


EFFICIENCY VS LOAD

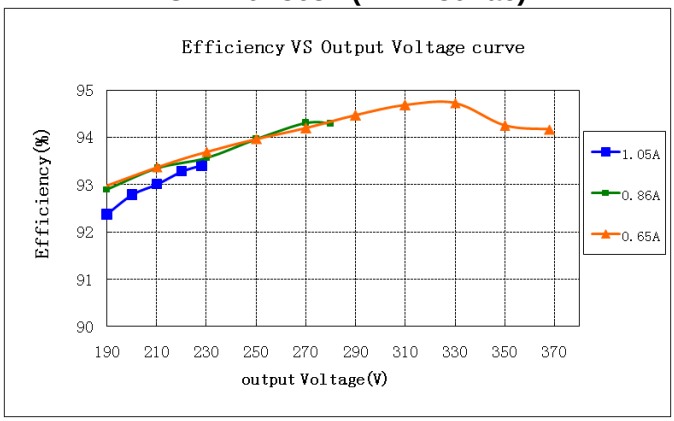
LUP-240X180Z (Vin=277Vac)



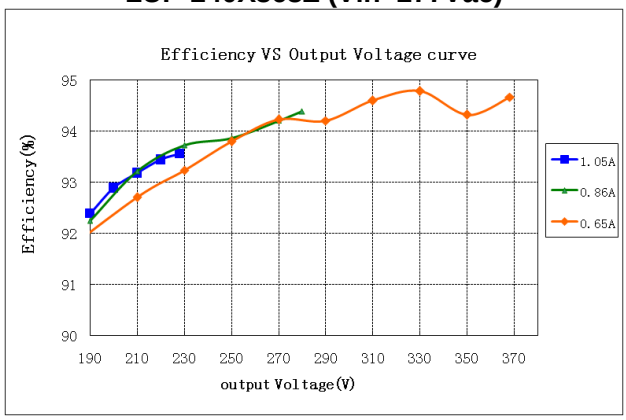
LUP-240X368Z (Vin=115Vac)



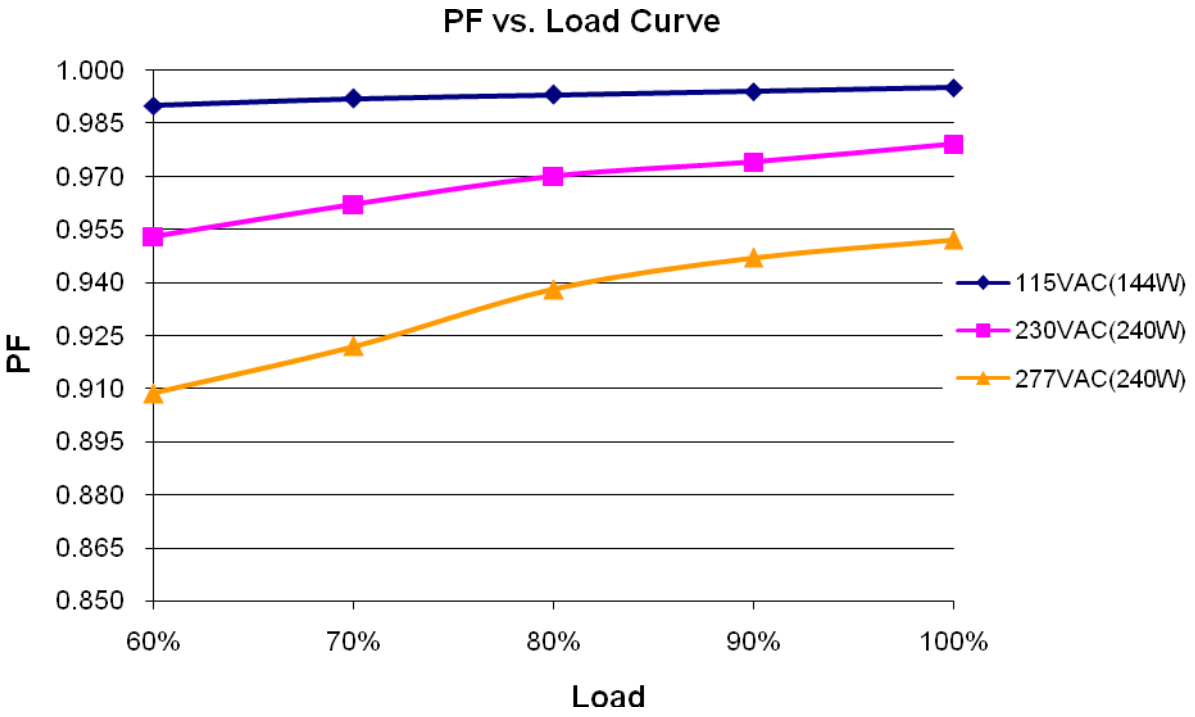
LUP-240X368Z (Vin=230Vac)



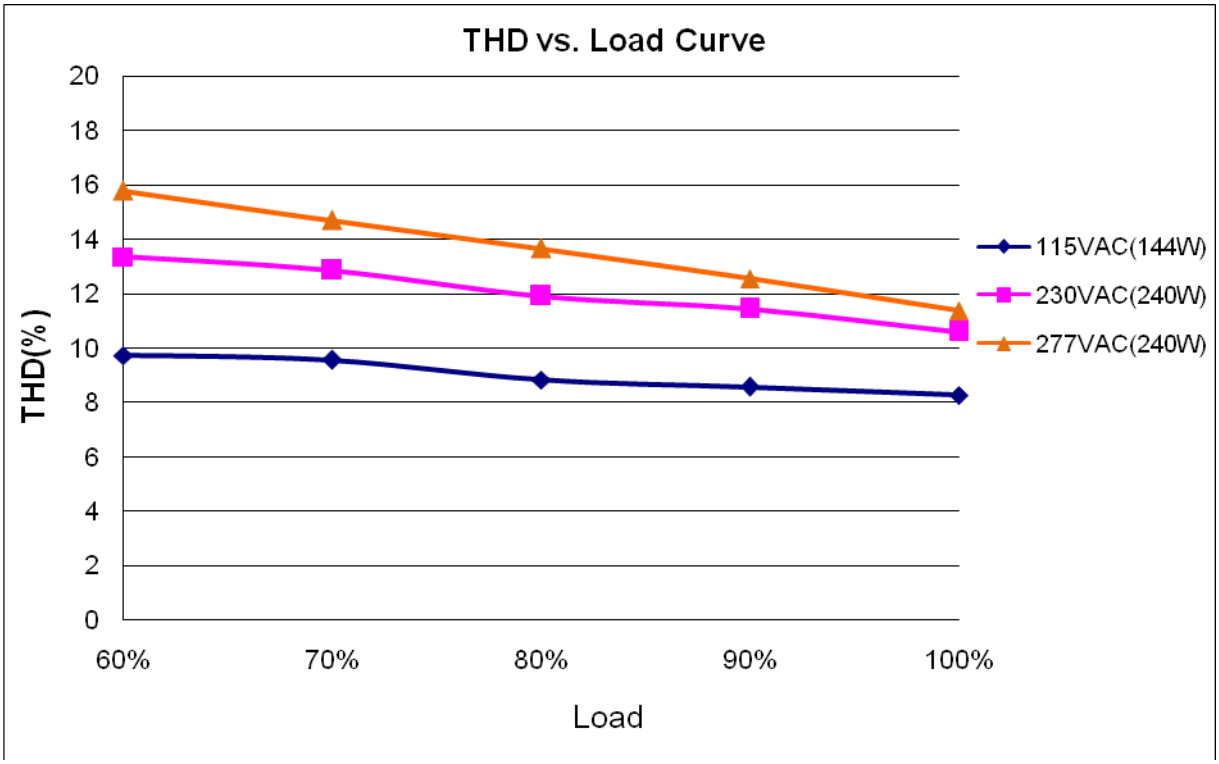
LUP-240X368Z (Vin=277Vac)



POWER FACTOR VS LOAD



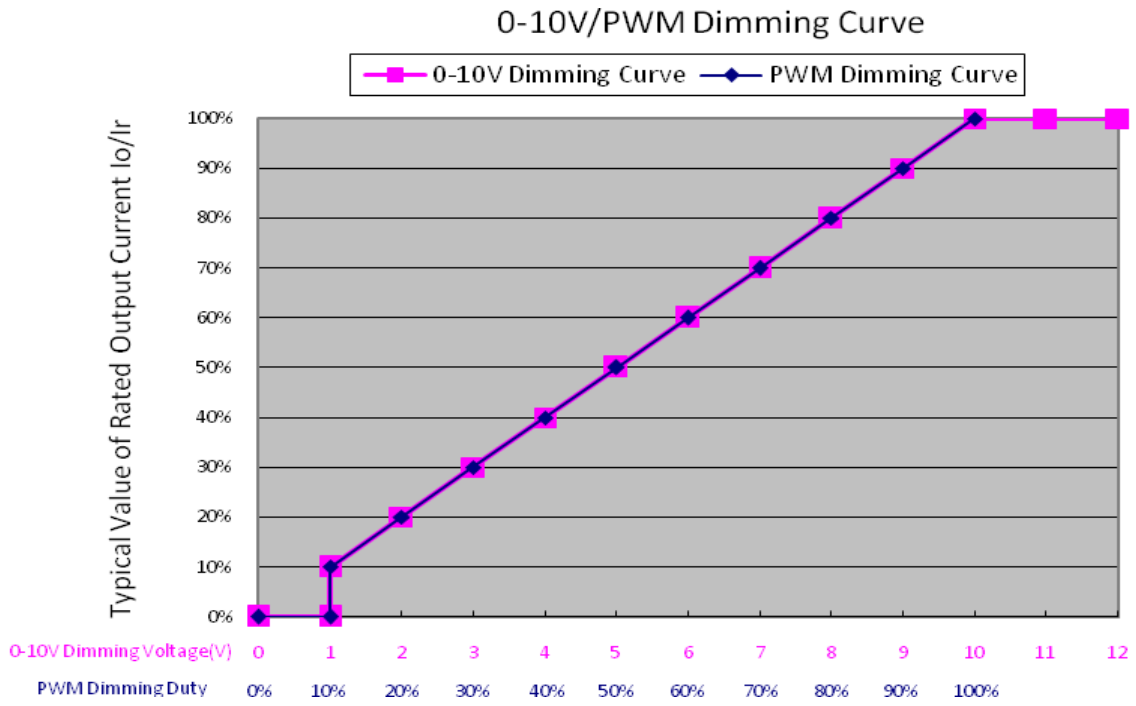
TOTAL HARMONIC DISTORTION



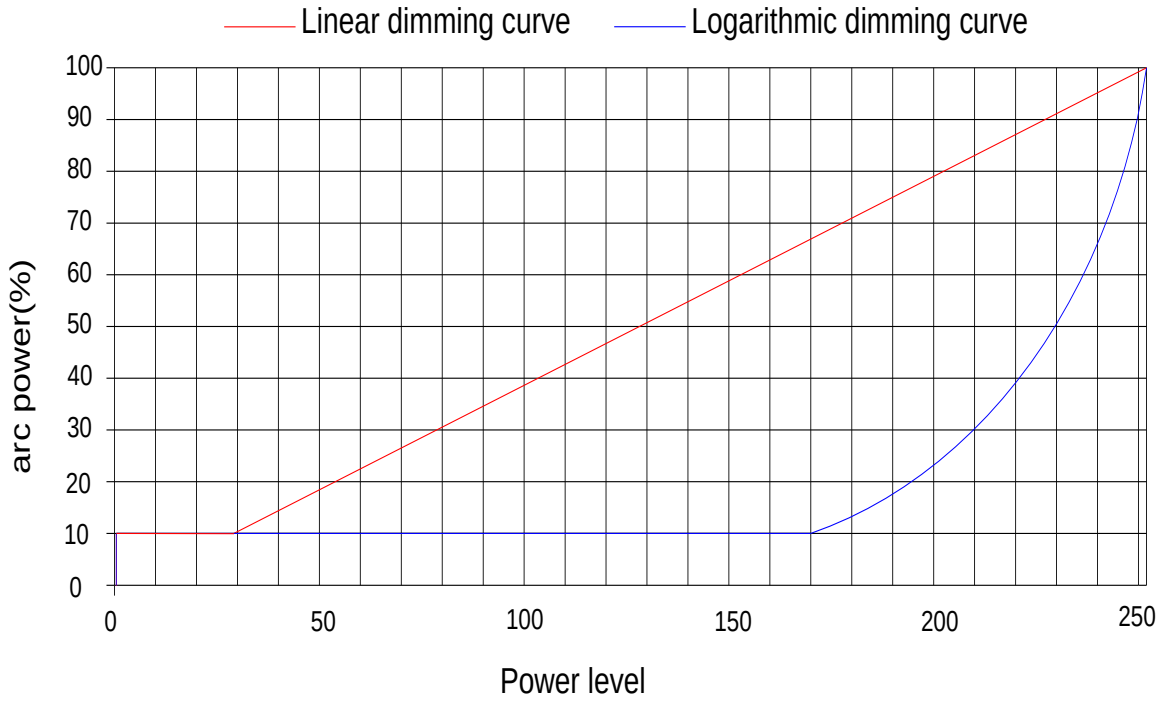
PROTECTIONS

Parameter	Notes
Over Temperature Protection	Decreases output current, returning to normal after over temperature is removed. The max derating could be 30% (typ.).
Short Circuit Protection	The input power shall decrease when the output rail short, the power supply shall not be damaged.
Over Voltage Protection	Run into protection model when output voltage exceeds limit, and return to normal when the fault.

0-10V/PWM DIMMING

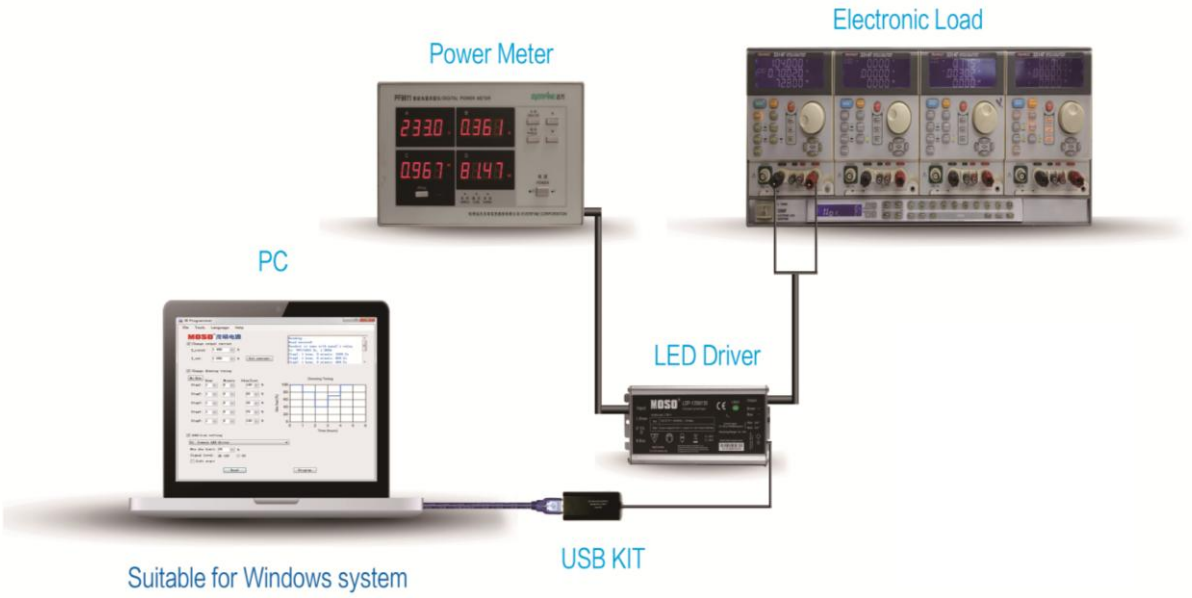


DALI DIMMING

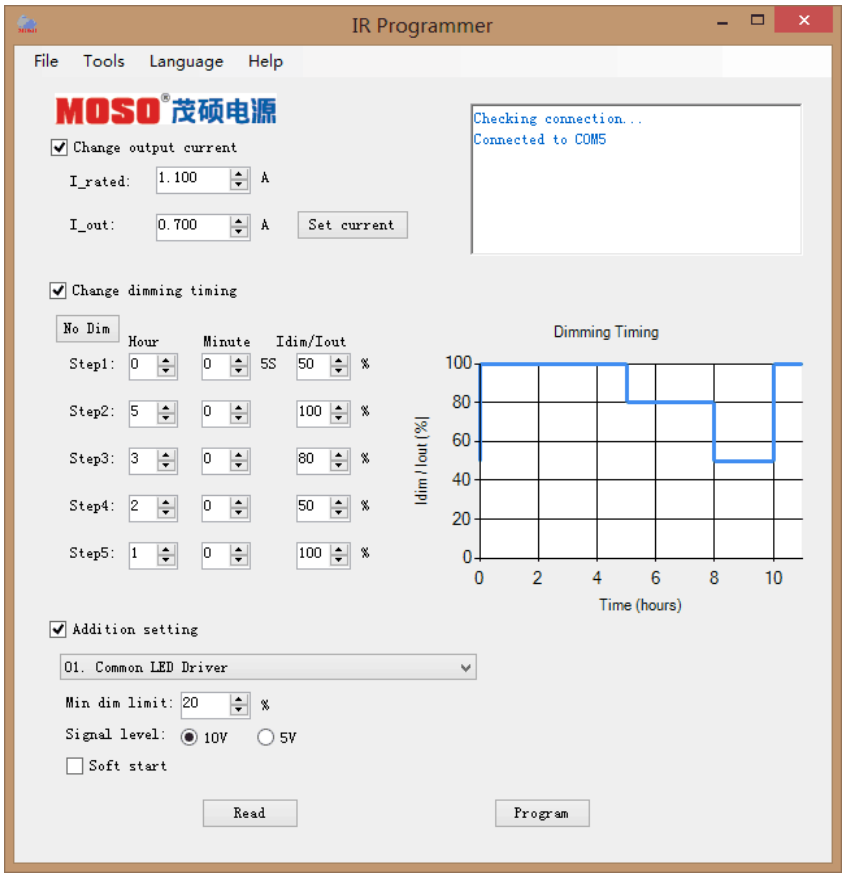


Note: Factory Default Output Logarithmic Curve

PROGRAMMING CONNECTION



PROGRAMMING GUIDE AND SOFTWARE INTERFACE (apply to M&R model)



Programming by Software:

1) Read existing setting of the driver
2) Change output current;
3) Set timer dimming schedules;
4) Addition setting
   - Set min. dim value;
   - Set signal level can be 5V or 10V;
   - Set soft start.

USING INFRERED CONTROLLER TO RESET OUTPUT CURRENT (apply to M&R model)

Operation Instruction:

1) Insert cable terminal of the infrared controller into the infrared communication port, which is at the DC output side of the LED driver.
2) Press “ON” key to power on the controller;
3) Within 10S interval, press a function key to adjust output current to the percentage of max delivered current;

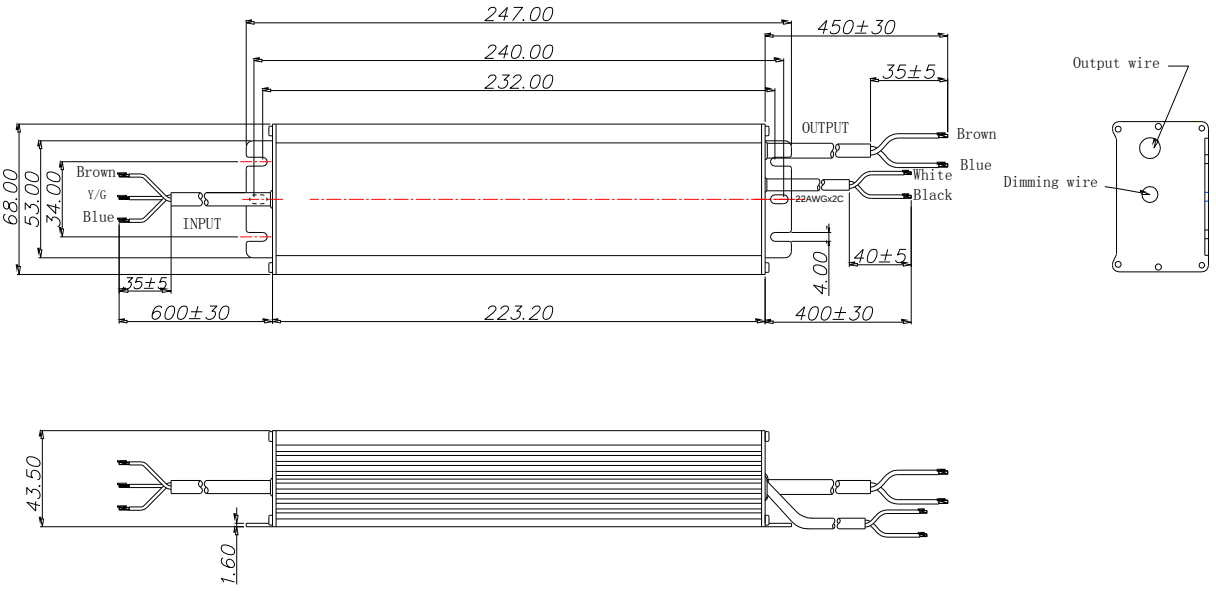
- 10%-100%: Percentage of maximum output current of such driver.
- + / - : Fine adjustment of output current, increase / decrease 1% each time.
- ON: Power on controller.
- OFF: Set min output current of such driver.
- SE: No function.

Warning:

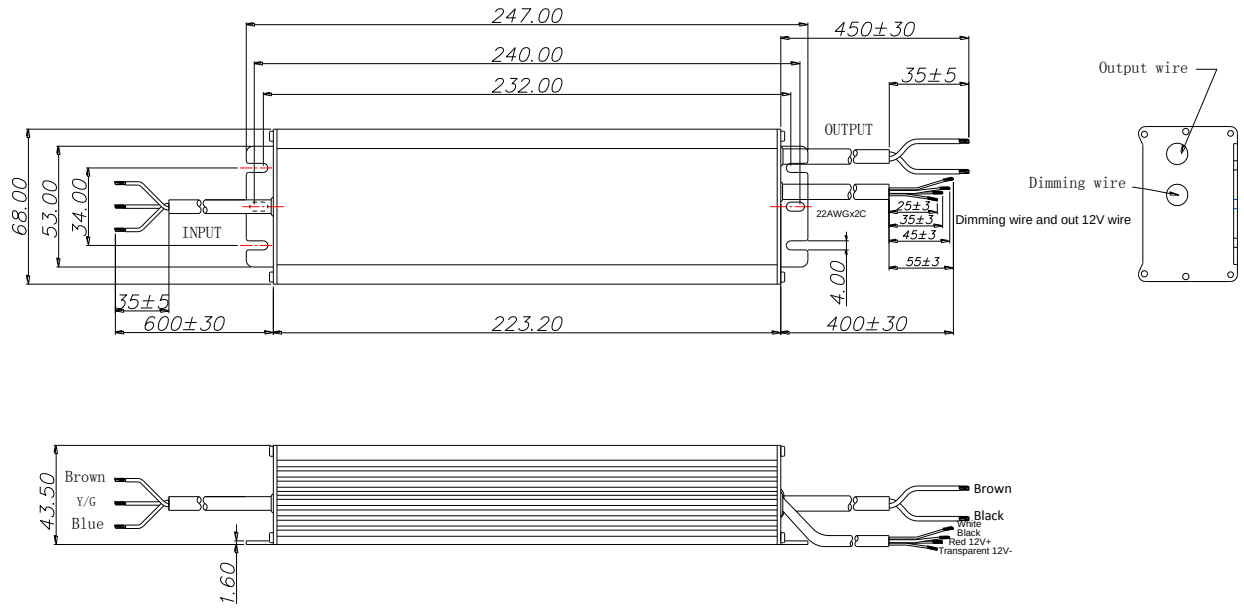
- Please do not hold "+"key, to avoid the over power protection and unstable output.
- Each step of operation should be done within 10S interval, otherwise the controller is power off automatically.

MECHANICAL OUTLINE

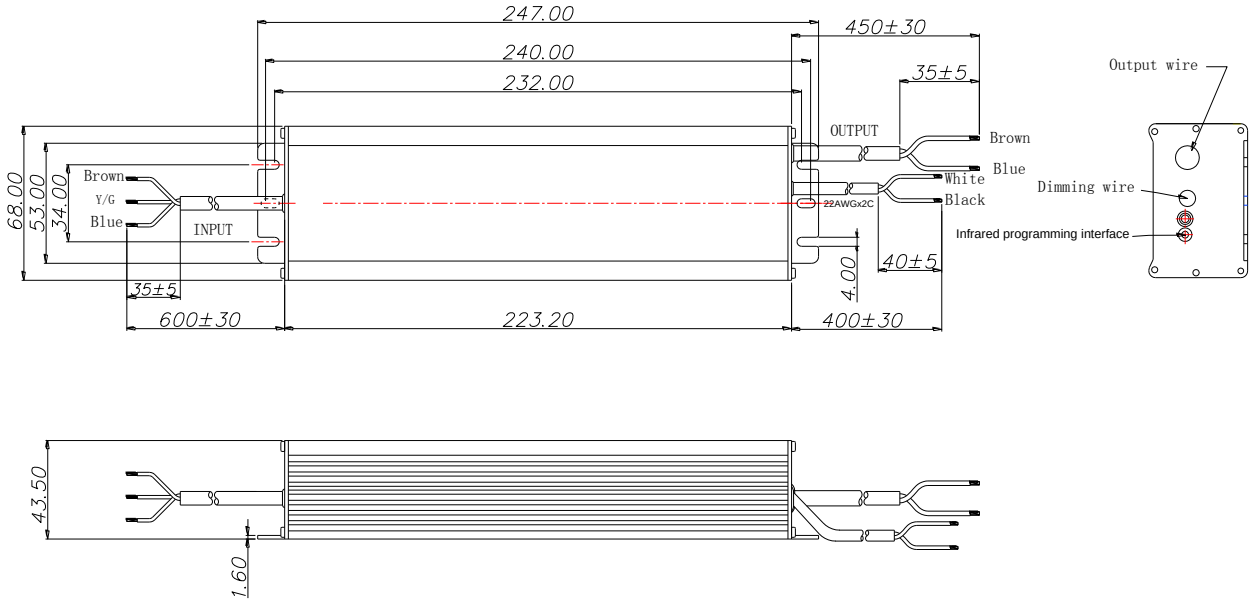
LUP-240D types



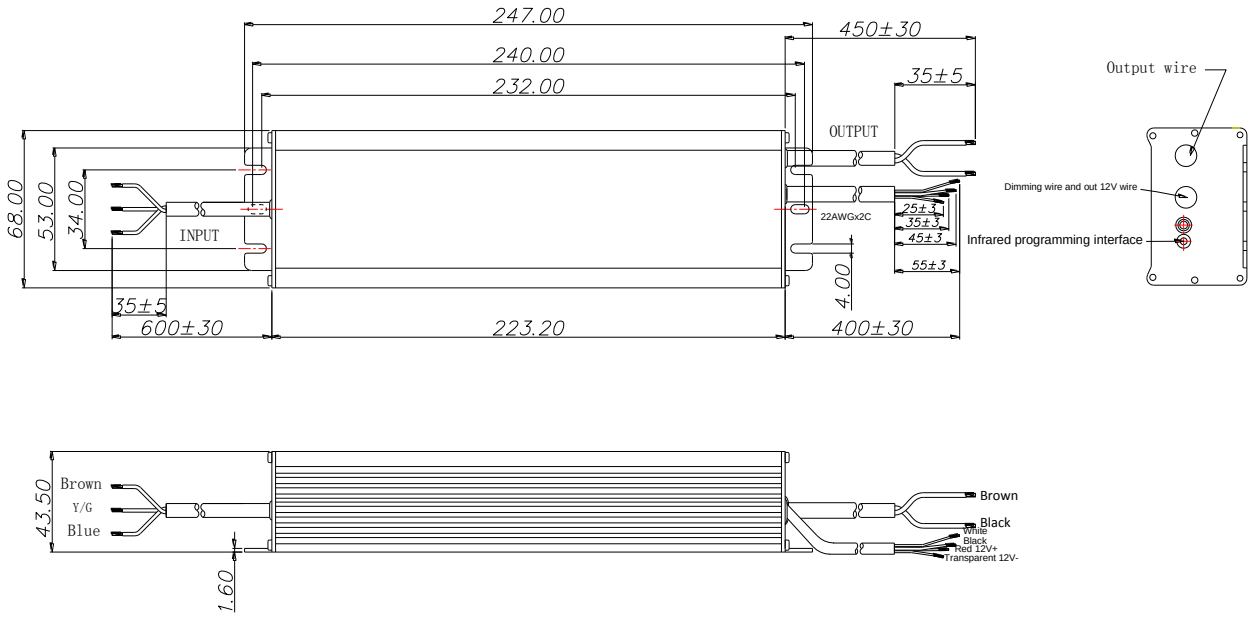
LUP-240D-A12 types



LUP-240M types



LUP-240M-A12 types



Wire	Specification	Note
AC Input	CCC+VDE 3x1.0mm2 L=600mm	
DC Output	CCC+VDE 2x1.0mm^2 L=450mm	
	CCC+VDE 2x1.5mm^2 L=450mm	For LUP-240X041Y
Dimming	22# 2C L=400mm	
	22# 4C L=400mm	

REVISION HISTORY

Version	Description of Change		Date	Notes
	Before	Now		
A.3	—	Datasheets Release	2019-03-15	