

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°C ~ +60°C;
- Degrees of protection: IP67;
- 5 years warranty.



Class P

Application

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

DESCRIPTION

The LUP-200 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.

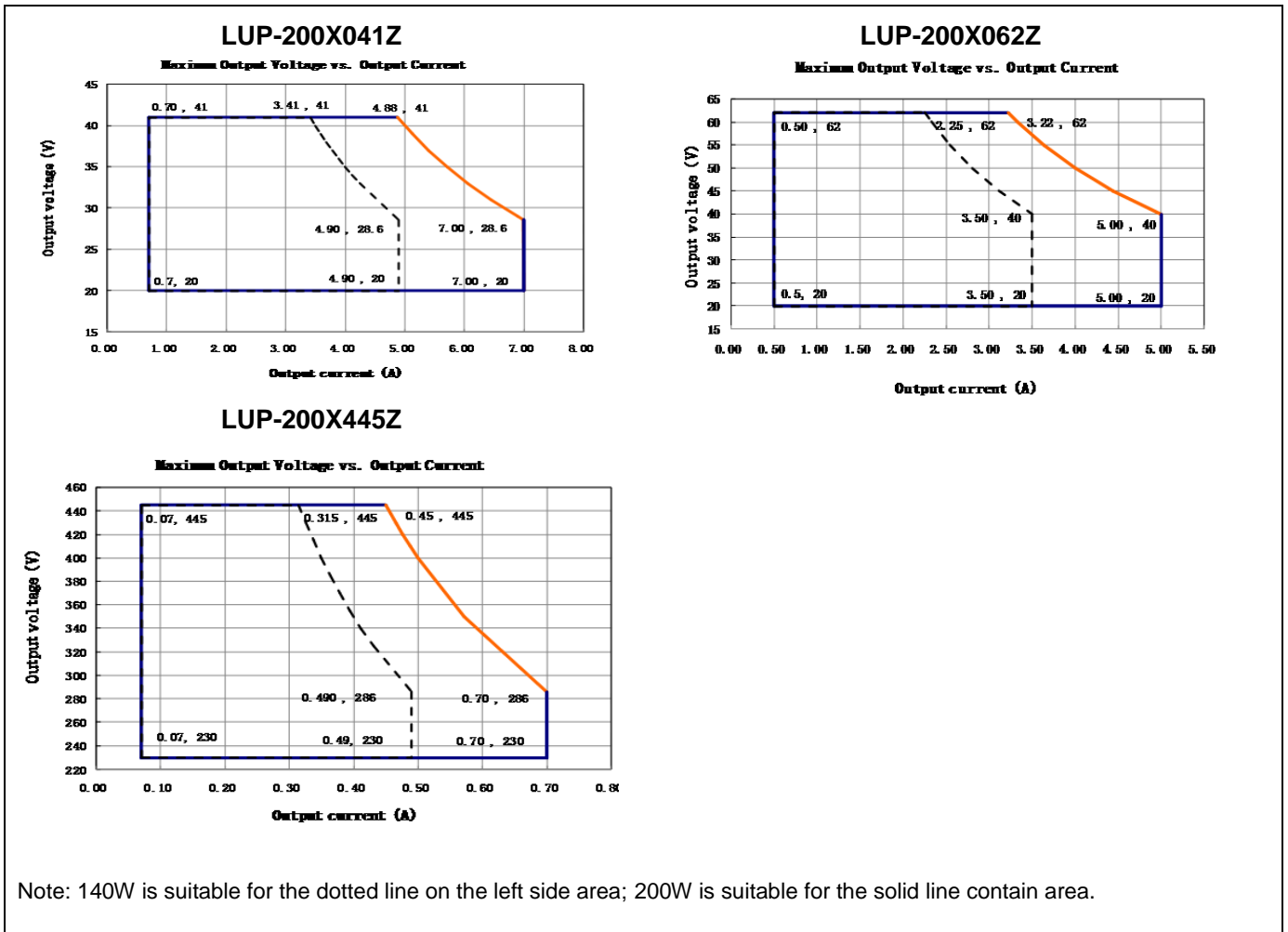
MODELS

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-200X041Z	200	20~41	0.70~7.00	4.88~7.00	20~36V/5.56A	90%	0.96
LUP-200X062Z	200	20~62	0.50~5.00	3.23~5.00	20~48V/4.17A	92%	0.96
LUP-200X445Z	200	230~445	0.07~0.70	0.45~0.70	230~286V/0.70A	92%	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°C ambient temperature, if no specific note.

OPERATING AREA I-V



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	-	-	200W	200-277Vac
	-	-	140W	100-200Vac
Output Current Tolerance	-5%Iset	-	5%Iset	Full load
Output Current Setting Range (Iset) LUP-200X041Z LUP-200X062Z LUP-200X445Z	0.70A 0.50A 0.07A	-	7.00A 5.00A 0.70A	200-277Vac
Output Current Setting Range with Constant Power LUP-200X041Z LUP-200X062Z LUP-200X445Z	4.88A 3.23A 0.45A	-	7.00A 5.00A 0.70A	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-200X041Z LUP-200X062Z LUP-200X445Z	-	-	52V 77V 490V	
Line Regulation	-	-	1%	25°C±10°C ambient temperature, input voltage changes from 115Vac to 305Vac.
Load Regulation	-	-	3%	25°C±10°C ambient temperature, 230Vac input, load changes from 50% to 100%.
Turn-on Delay Time	-	-	3S	115Vac, 100% load
	-	-	0.5S	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-200X041Z Io=4.90A LUP-200X062Z Io=3.50A LUP-200X445Z Io=0.49A	87%	89%		Measured at full load and 25°C ambient temperature	
Efficiency @230Vac LUP-200X041Z Io=4.88A Io=7.00A LUP-200X062Z Io=3.23A Io=5.00A LUP-200X445Z Io=0.45A Io=0.70A	89% 88%	91% 90%			Measured at full load and 25°C ambient temperature
Efficiency @277Vac LUP-200X041Z Io=4.88A Io=7.00A LUP-200X062Z Io=3.23A Io=5.00A LUP-200X445Z Io=0.45A Io=0.70A	89% 88%	91% 90%			
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°C/70%RH	
MTBF	-	200000 Hours	-	230Vac,80% load (MIL-HDBK-217F)	
Lifetime	-	50000 Hours	-	230Vac&100% load,70°C case temperature, refer to lifetime VS Tc curve for details	
Operating Case Temperature for Safety Tc_s	-40°C	-	+85°C		
Operating Case Temperature for Warranty Tc_w	-40°C	-	+70°C		
Storage Temperature	-40°C	-	+85°C	Humidity: 10% to 95% RH	
Dimensions (LxWxH)mm	247*68*43.5				
Net Weight	1300±100g/PCS				
Package	L500xW390xH170mm; 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-200X041Z LUP-200X062Z LUP-200X445Z	10%Imax	-	100%Imax	Imax=7.00A Imax=5.00A Imax=0.70A
	LUP-200X041Z LUP-200X062Z LUP-200X445Z	0.70A 0.50A 0.07A	-	7.00A 5.00A 0.70A	
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

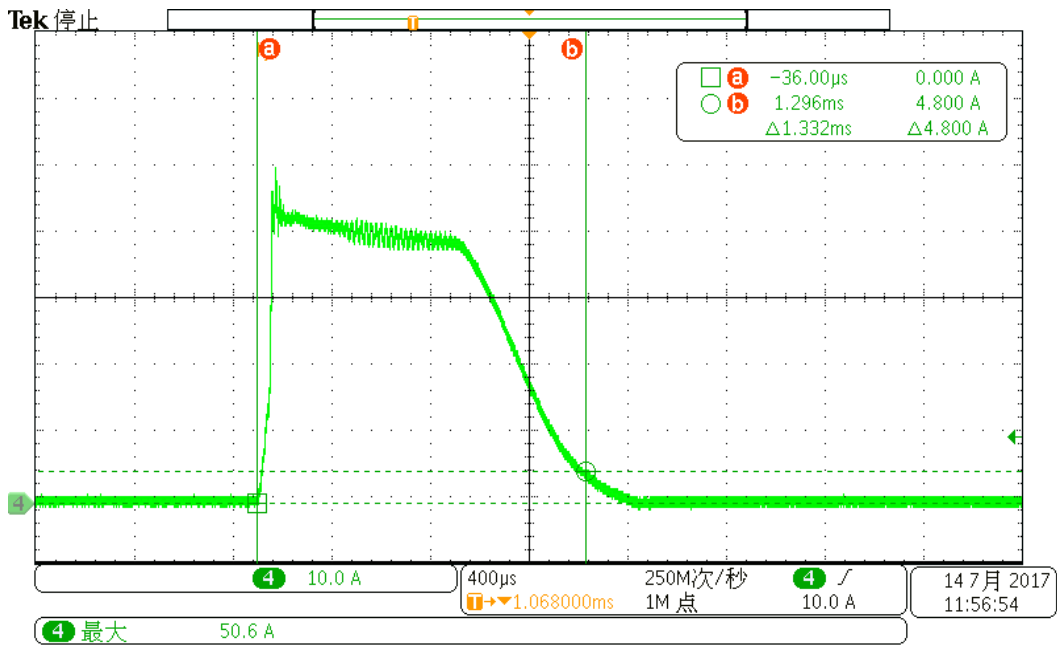
EMC Category	Country / Territory	Standards
CCC	China	GB 17743, GB 17625.1
CE	Europe	EN 55015, EN 61000-3-2, EN 61000-3-3
		EN61000-4-2,3,4,5,6,8,11
		EN 61547
KC	South Korea	K61547
		K00015
PSE	Japan	J55015
FCC	USA	FCC part 15

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

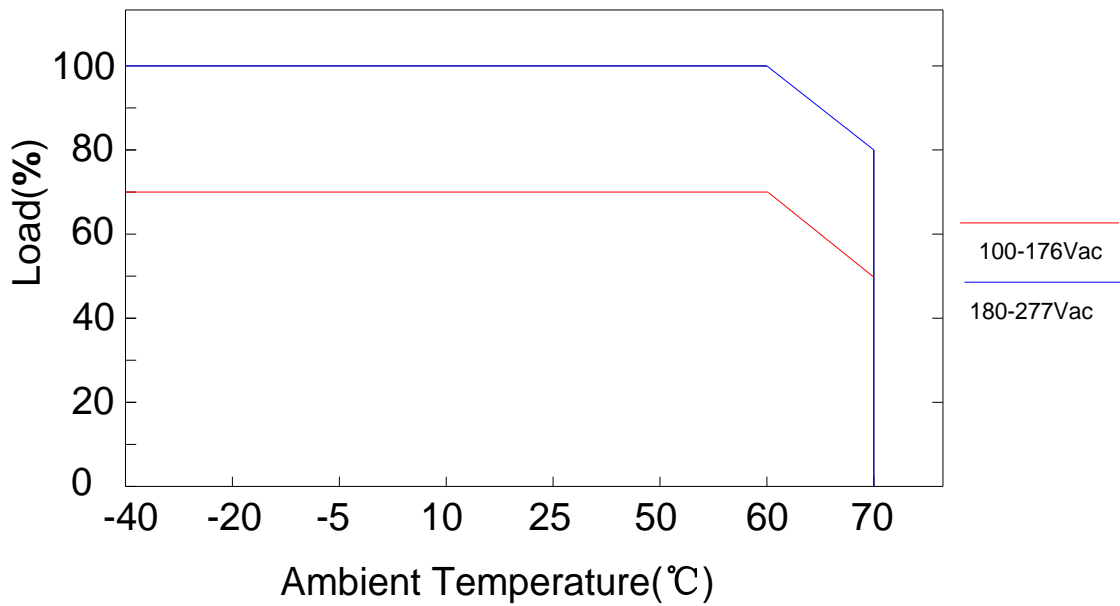
IEC 62386 -101, 102, 207.

INRUSH CURRENT WAVEFORM

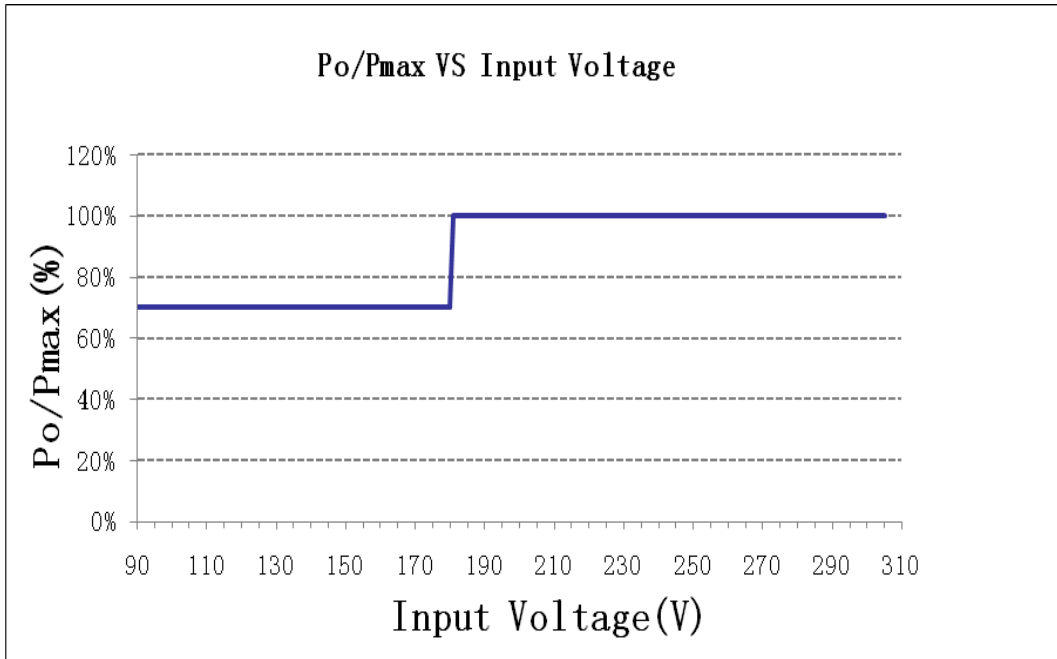


DERATING CURVE

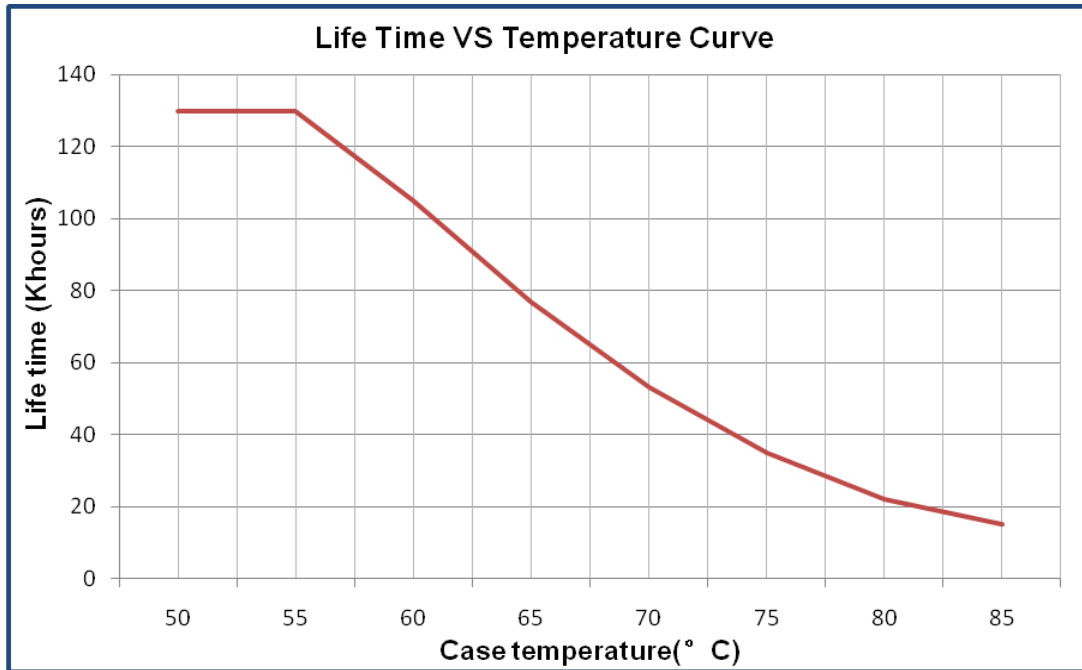
Derating Curve



OUTPUT POWER VS INPUT VOLTAGE

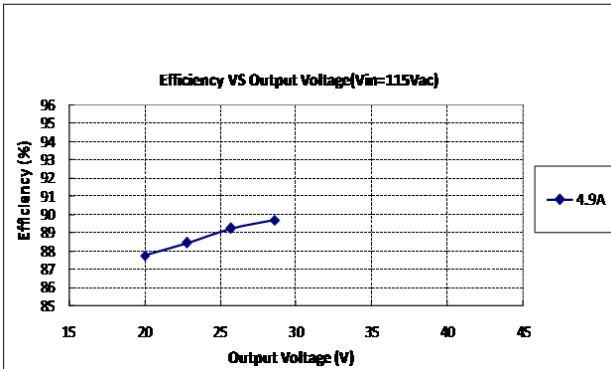


LIFETIME VS CASE TEMPERATURE

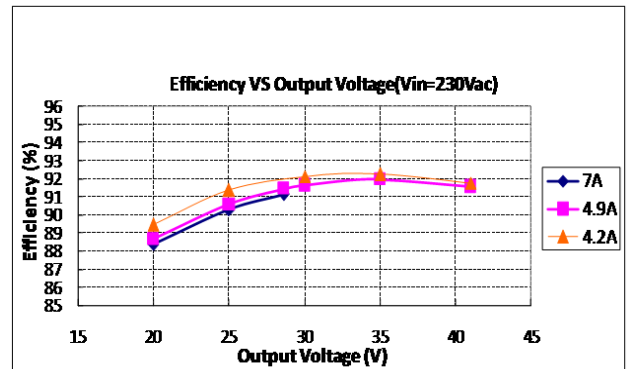


EFFICIENCY VS LOAD

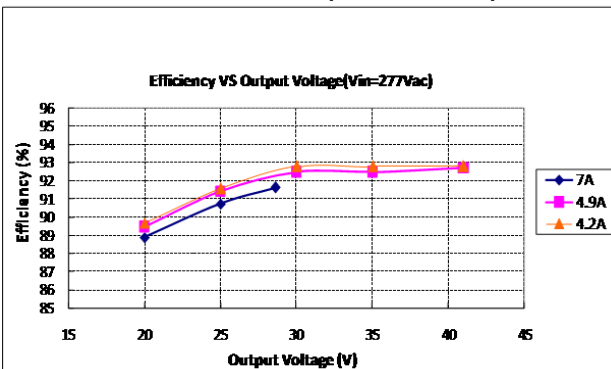
LUP-200X041Z (Vin=115Vac)



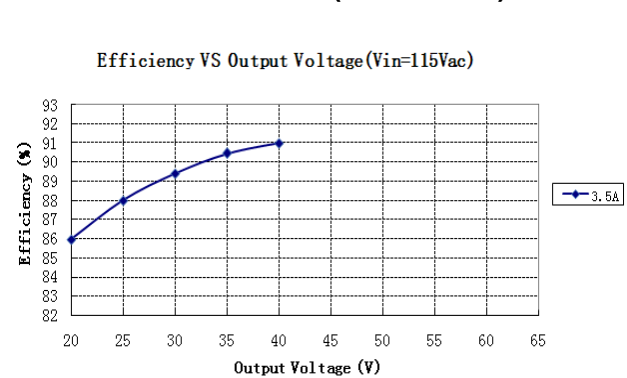
LUP-200X041Z (Vin=230Vac)



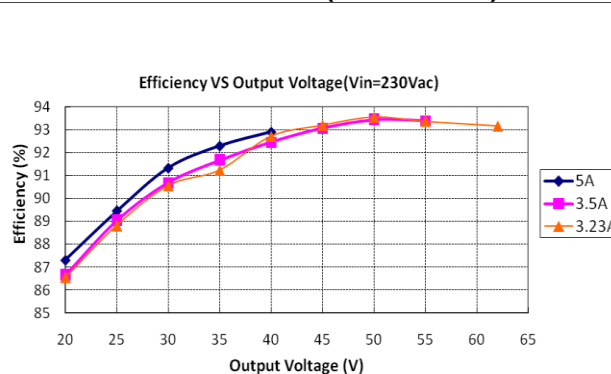
LUP-200X041Z (Vin=277Vac)



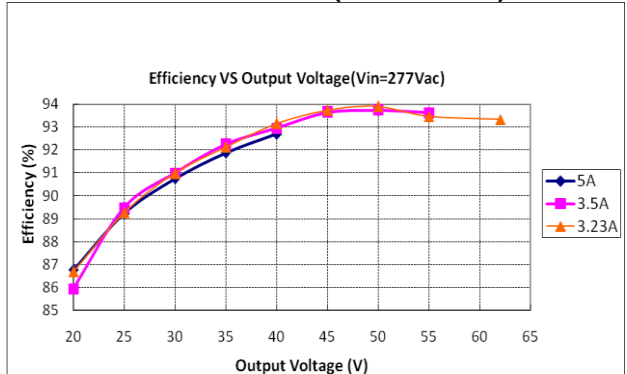
LUP-200X062Z (Vin=115Vac)



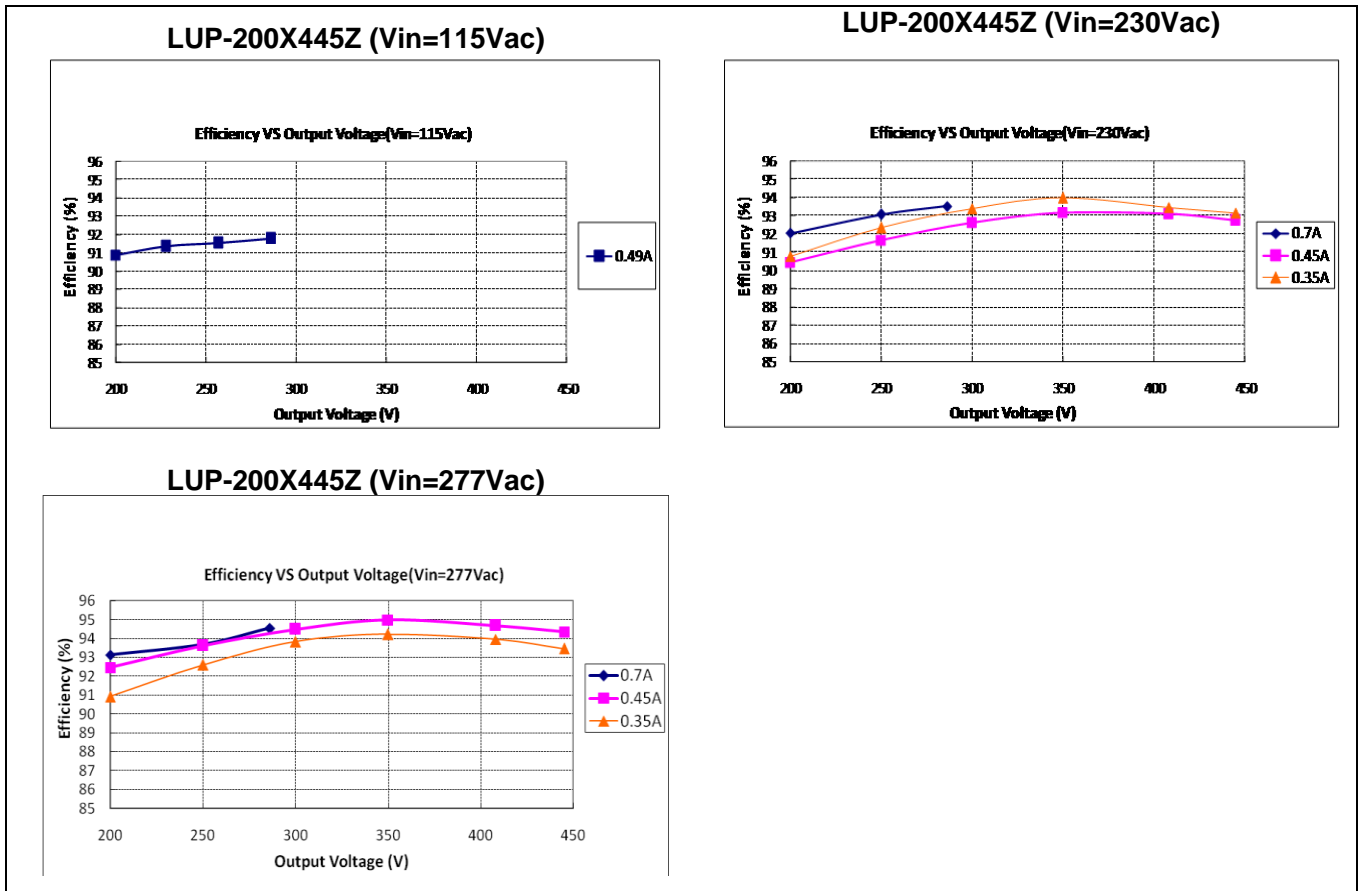
LUP-200X062Z (Vin=230Vac)



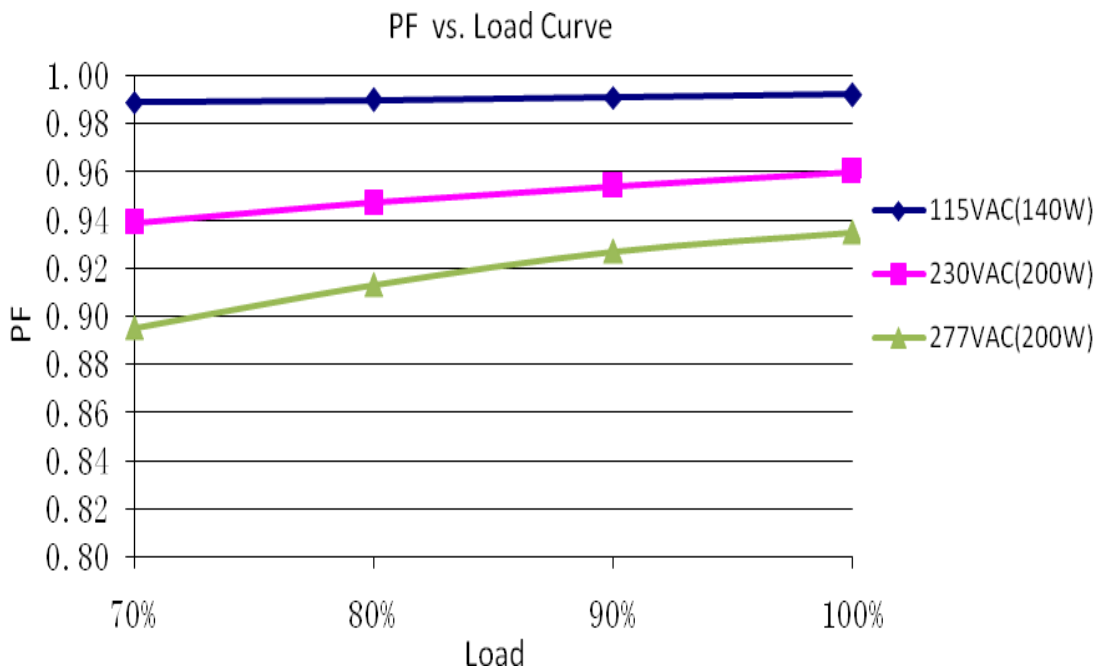
LUP-200X062Z (Vin=277Vac)



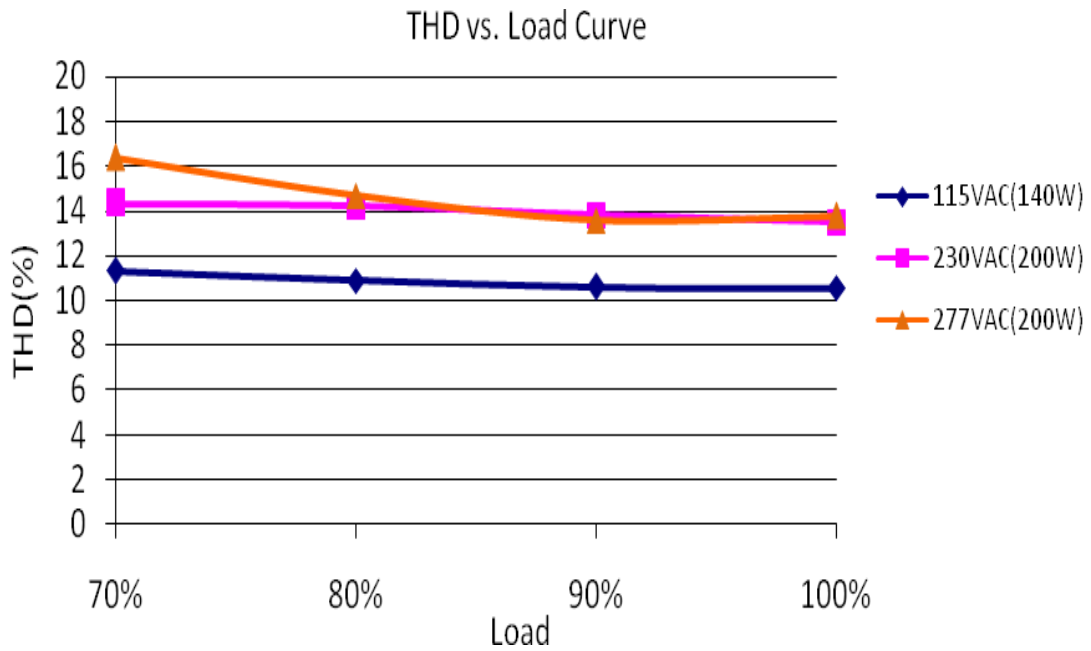
EFFICIENCY VS LOAD



POWER FACTOR VS LOAD



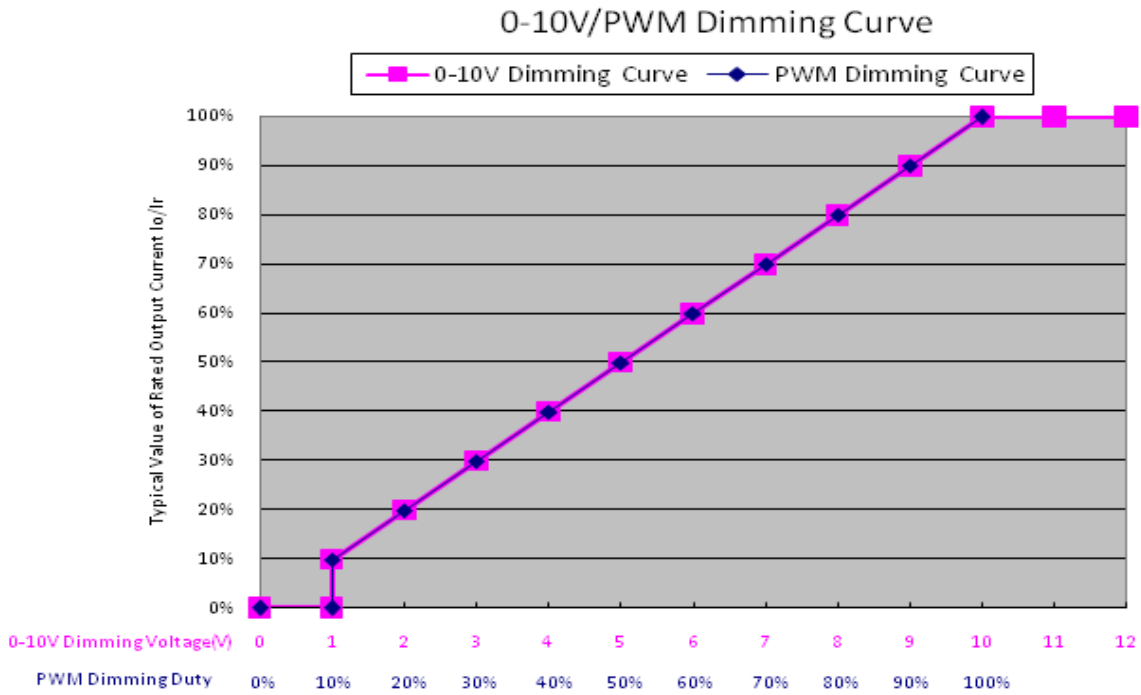
TOTAL HARMONIC DISTORTION



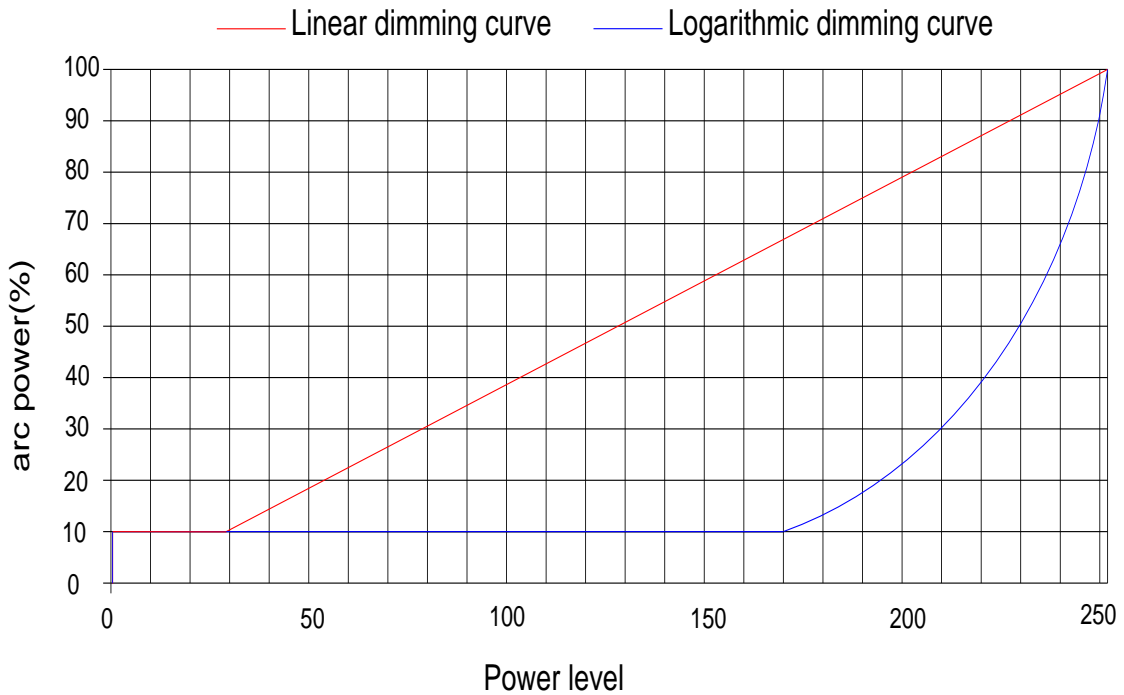
PROTECTIONS

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

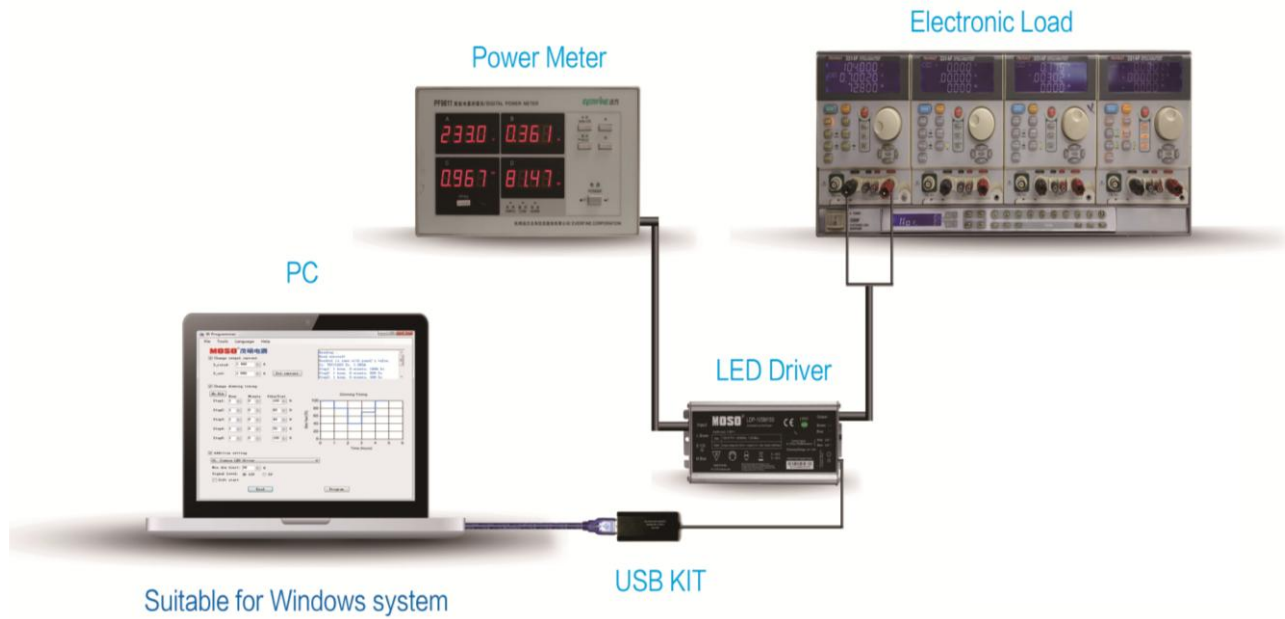


DALI DIMMING

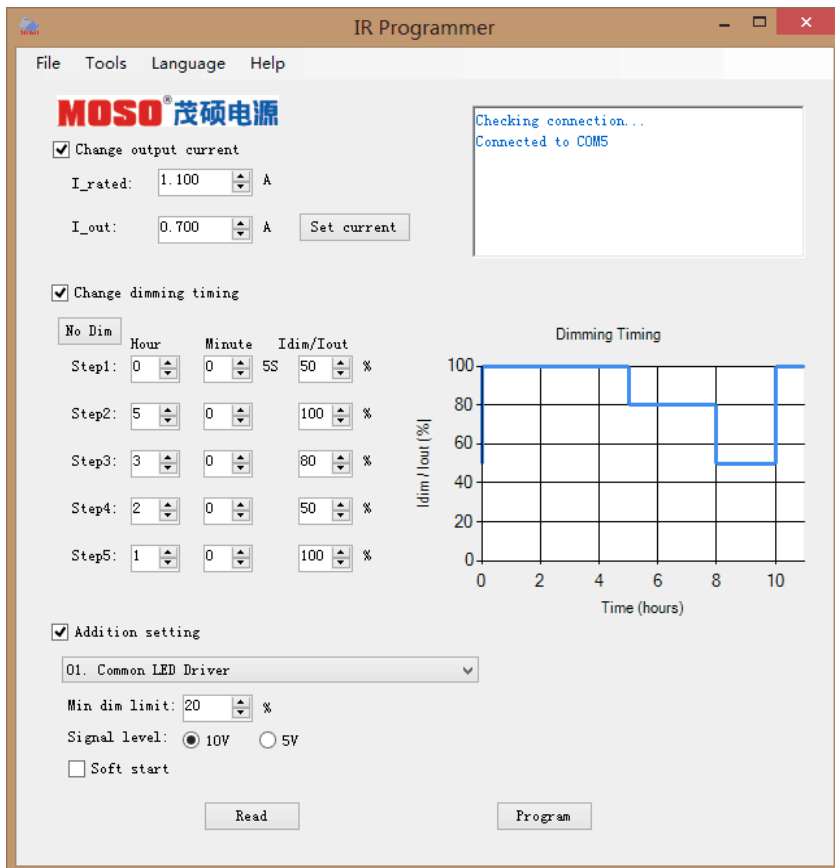


Note: Factory Default Output Logarithmic Curve

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



Operation Instruction:

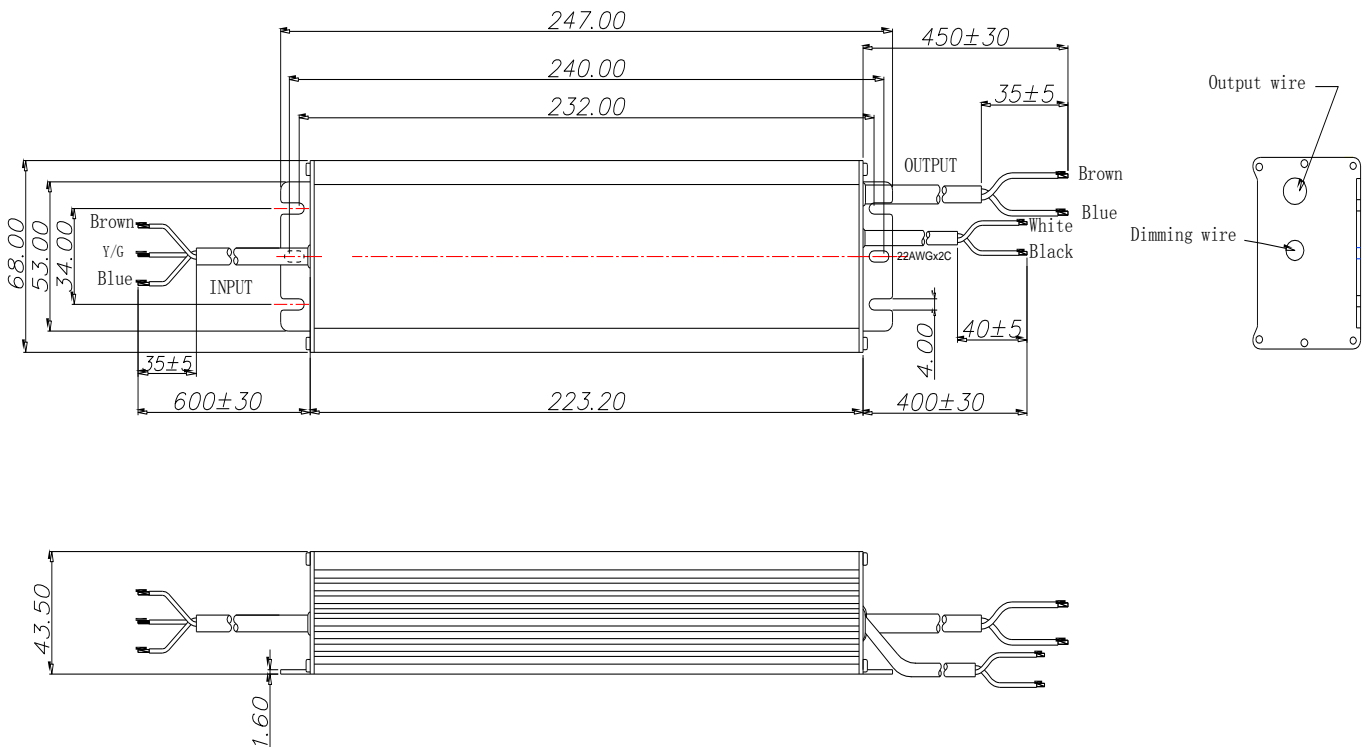
- 1) Insert cable terminal of the infrared controller into the infrared communication port, which is at the DC output side of the LED driver.
- 2) Press "ON" key to power on the controller;
- 3) Within 10S interval, press a function key to adjust output current to the percentage of max delivered current;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

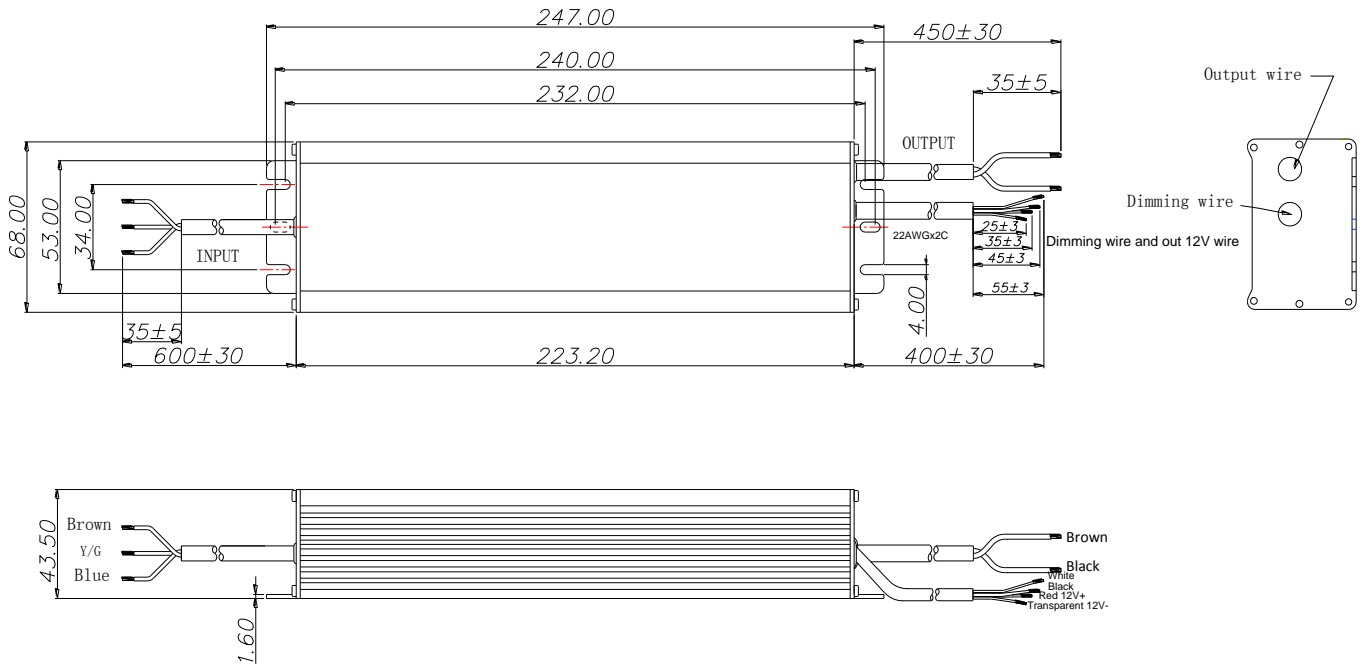
- Please do not hold "+"key, to avoid the over power protection and unstable output.
- Each step of operation should be done within 10S interval, otherwise the controller is power off automatically.

MECHANICAL OUTLINE

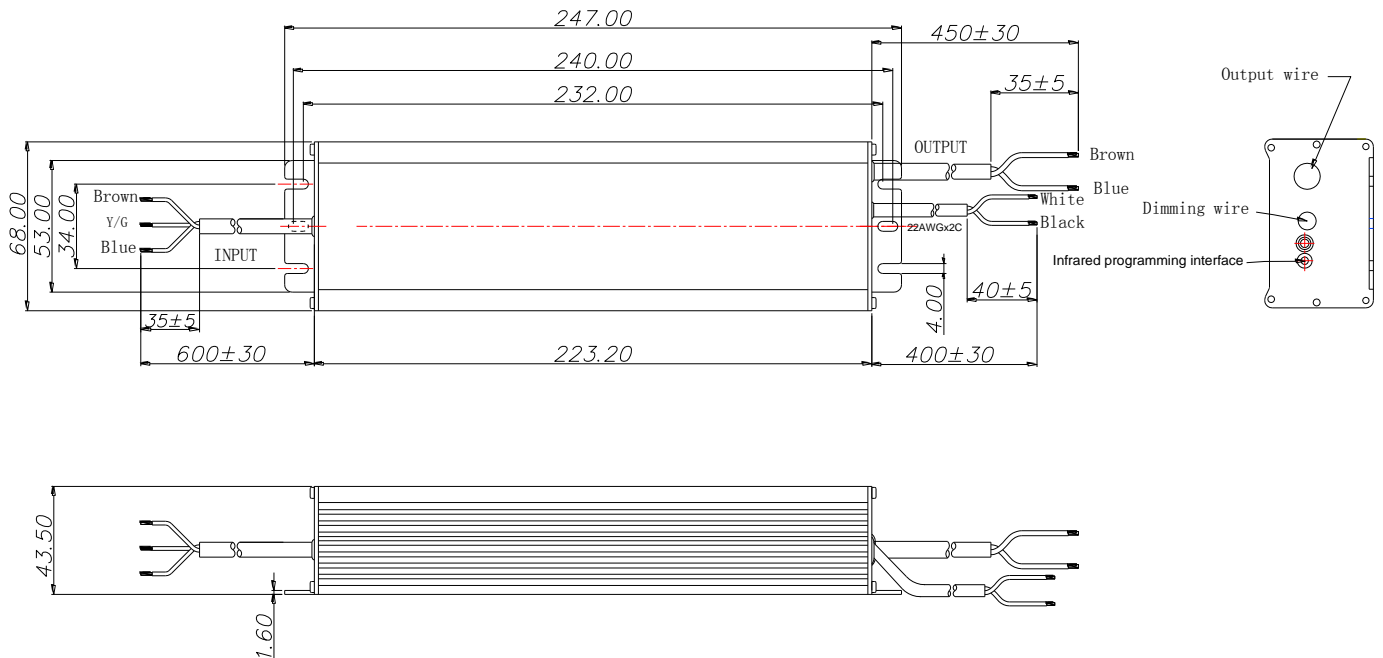
LUP-200D types



LUP-200D-A12 types



LUP-200M types



REVISION HISTORY

Version	Description of Change		Date	Notes
	Before	Now		
B.2	—	Datasheets Release	2018-03-14	