



Product Features

- Universal input voltage / Full range: 90~305Vac;
- Constant power design, outputs programmable;
- Output current reconfigurable by infrared controller;
- 3-in-1 dimmable (M types): 0~10Vdc / PWM signal / Timer dimming;
- Surge protection: 5KV line-line, 10KV line-earth;
- Protections: SCP / OVP / OTP;
- IP67 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty



Application

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

DESCRIPTION

The LDP-320W series is 320W outdoor programmable LED driver that operates in constant current model. Monitored by an infrared based programming device, the fully programmed drivers offer all dimming options and a wide range of output current in a single driver, which deliver maximum flexibility with customized operating settings and intelligent control options for lighting manufacturers, as one driver can be programmed for many different luminaire designs. LDP provides built-in timer dimming schedules further increasing the energy savings and CO₂ reductions achieved with LED lighting. It also helps clients to improve the management of logistics and stock. The compact metal case and high efficiency enables the driver to operating with high reliability, and extending product lifetime. Overall protection is provided against lightening surge, output over voltage, short circuit, and over temperature, to ensure low failure rate.

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	Typical Efficiency [3]	Power Factor	
							115Vac	230Vac
LDP-320X041	320	20~41	1.00~10.00	7.80~10.00	20~36V/8.90A	92%	0.99	0.96
LDP-320X062	320	20~62	0.82~8.20	5.16~8.20	20~48V/6.70A	92%	0.99	0.96
LDP-320X230-A	320	120~180	0.21~2.10	1.78~2.10	120~152V/2.1A	93%	0.99	0.96
LDP-320X230-B	320	170~230	0.18~1.78	1.39~1.78	170~228V/1.4A	93%	0.99	0.96
LDP-320X457	320	235~457	0.11~1.10	0.70~1.10	230~457V/0.7A	93%	0.99	0.96

Notes:

[1]. X can be M or R, means dimmable or non-dimmable. Take LDP- LDP-320X041 for example, LDP-320M041 is programmable and 3-in-1 dimmable; LDP-320R041 is programmable and timer dimmable;

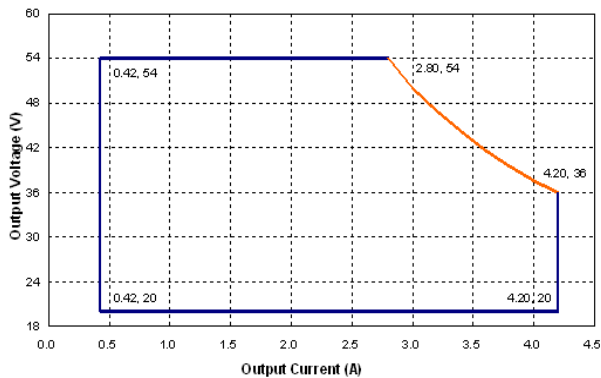
[2]. Output current adjustable range with constant power at max output power;

[3]. All specifications are measured at 25℃ ambient temperature, if no specific note.

OPERATING AREA I-V

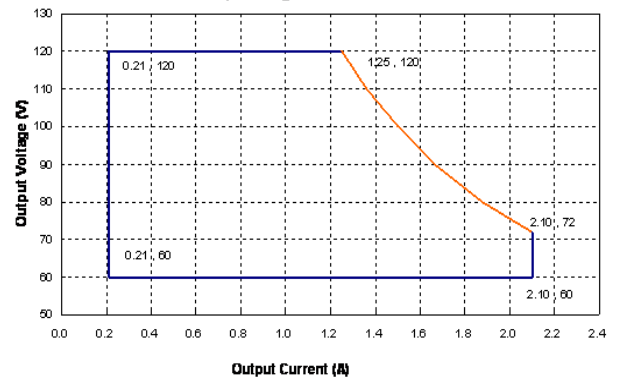
LDP-320X041

Output Voltage vs. Output Current Curve



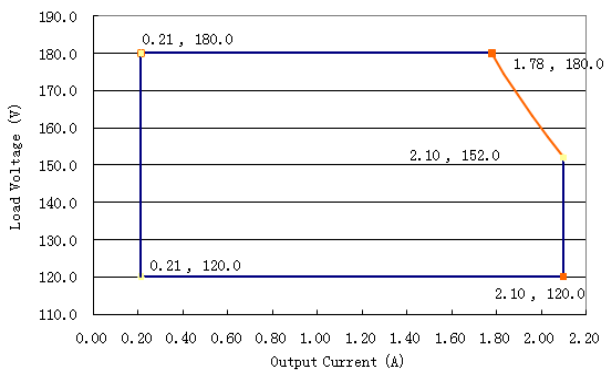
LDP-320X062

Output Voltage vs. Current Curve



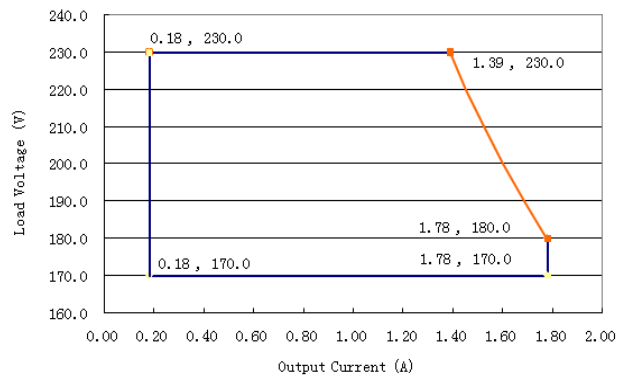
LDP-320X230-A

Output Current Vs Load Voltage Curve



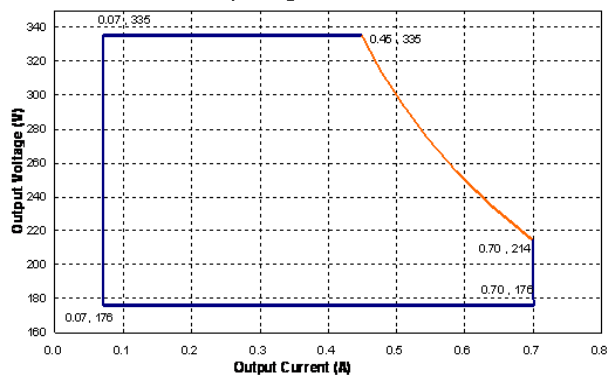
LDP-320X230-B

Output Current Vs Load Voltage Curve



LDP-320X457

Output Voltage vs. Current Curve



INPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90Vac	100-277Vac	305Vac	
Input Frequency	47Hz	50/60	63Hz	
Leakage Current	-	-	0.75mA	277V/50Hz
Input AC Current	-	-	4.0Amax	100-277Vac & full load
Inrush Current(A)	-	-	120A	230Vac & full load
Power Factor	0.95	0.96	-	230Vac & full load
THD	-	-	18%	115-230Vac, 80%-100% load
THD	-	-	20%	277Vac, 80-100% load

OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%Iset	-	5%Iset	Full load
Output Current Setting Range (Iset) LDP-320X041 LDP-320X062 LDP-320X230-A LDP-320X230-B LDP-320X457	1.00A 0.82A 0.21A 0.17A 0.11A	-	10.0A 8.20A 2.10A 1.78A 1.10A	
Output Current Setting Range with Constant Power LDP-320X041 LDP-320X062 LDP-320X230-A LDP-320X230-B LDP-320X457	7.80A 5.16A 1.78A 1.39A 0.70A	-	0.0A 8.20A 2.10A 1.78A 1.10A	
Total Output Current Ripple (pk-pk)		10%	16%	230Vac & full Load , load is LED, ripple is different with difference LED load.
Startup Overshoot Current		-	10%	115~277Vac & 100% Load , load is LED
No Load Output Voltage LDP-320X041 LDP-320X062 LDP-320X230-A LDP-320X230-B LDP-320X457	-	-	44V 68V 260V 260V 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
	-	-	2S	230Vac,100% load

GENERAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Efficiency @115Vac LDP-320X041 Io=7.80A Io=10.00A LDP-320X062 Io=5.16A Io=8.20A LDP-320X230-A Io=1.78A Io=2.10A LDP-320X230-B Io=1.39A Io=1.78A LDP-320X457 Io=0.70A Io=1.10A	 89% 88% 89% 88% 89% 89% 89% 89% 89% 89%	 91% 90% 91% 90% 91% 91% 91% 91% 91% 91%	 	 Measured at full load and 25°C ambient temperature
Efficiency @230Vac LDP-320X041 Io=7.80A Io=10.00A LDP-320X062 Io=5.16A Io=8.20A LDP-320X230-A Io=1.78A Io=2.10A LDP-320X230-B Io=1.39A Io=1.78A LDP-320X457 Io=0.70A Io=1.10A	 91% 90% 91% 90% 91% 91% 91% 91% 91% 91%	 93% 92% 93% 92% 93% 93% 93% 93% 93% 93%	 	 Measured at full load and 25°C ambient temperature
Efficiency @277Vac LDP-320X041 Io=7.80A Io=10.00A LDP-320X062 Io=5.16A Io=8.20A LDP-320X230-A Io=1.78A Io=2.10A LDP-320X230-B Io=1.39A Io=1.78A LDP-320X457 Io=0.70A Io=1.10A	 91% 90% 91% 90% 91% 91% 91% 91% 91% 91%	 93% 92% 93% 92% 93% 93% 93% 93% 93% 93%	 	 Measured at full load and 25°C ambient temperature

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	234*98*40			
Net Weight	1550±100g /PCS			
Package	L610×W370×H160mm; Gross Weight: about 16.8Kg;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	LDP-320X041 LDP-320X062 LDP-320X230-A LDP-320X230-B LDP-320X457	10%Imax	-	100%Imax	Imax=10.0A Imax=8.20A Imax=2.10A Imax=1.78A Imax=1.10A
	LDP-320X041 LDP-320X062 LDP-320X230-A LDP-320X230-B LDP-320X457	1.00A 0.82A 0.21A 0.17A 0.11A	-	10.0A 8.20A 2.10A 1.78A 1.10A	
	Recommended Dimming Range for 0-5 V				
	Recommended Dimming Range for 0-10 V				
	PWM_in High Level				
	PWM_in Low Level				
PWM_in Frequency Range		250Hz		1000Hz	Default 0-10V/10V PWM Dimming
PWM_in Duty Cycle		1%	-	99%	

SAFTY STANDARDS

Safety Category	Country / Territory	Standards
CCC	China	GB19510.1
		GB19510.14
CE	Europe	EN61347-1
		EN61347-2-13
CB	CB Countries	IEC61347-1
		IEC61347-2-13
UL	USA	UL 8750
		UL 1310 (Class 2 Power Units)
		UL 1012
cUL	Canada	CSA C22.2 No.250.13-12
		CSA C22.2 No.223-M91 (Power Supplies With Extra-Low-Voltage Class 2 Outputs)
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

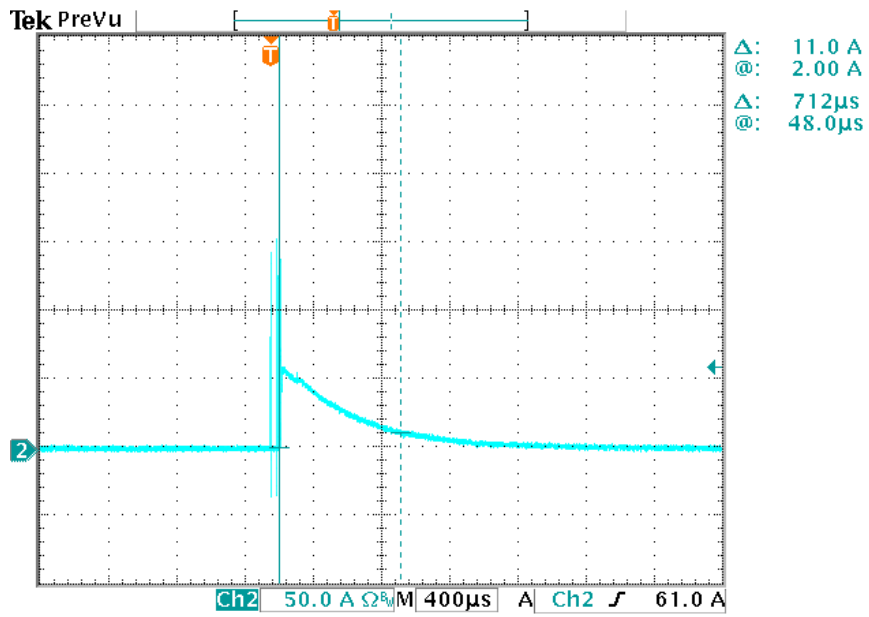
EMC COMPLIANCE

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

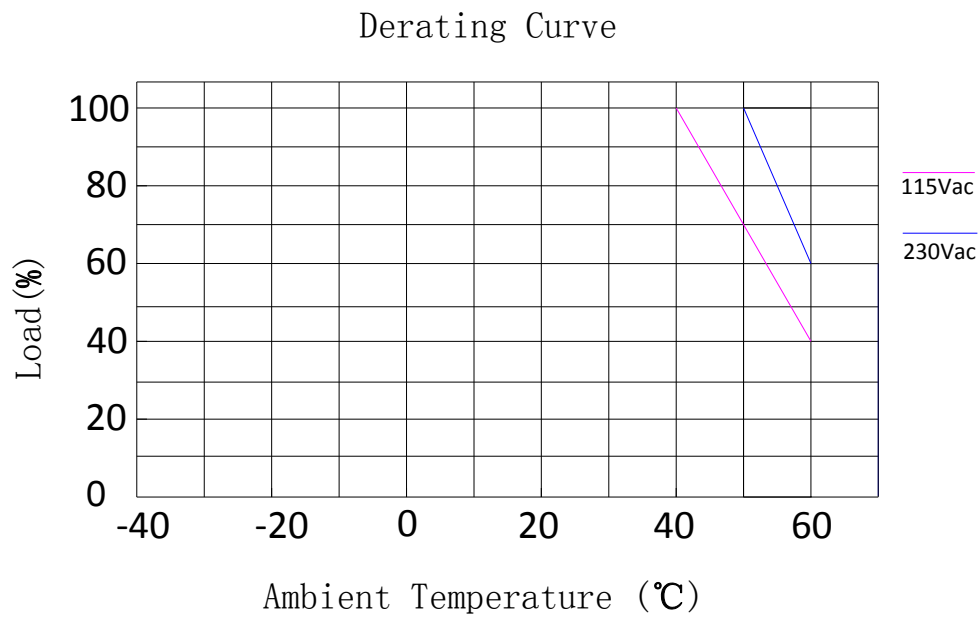
NOTE:

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.

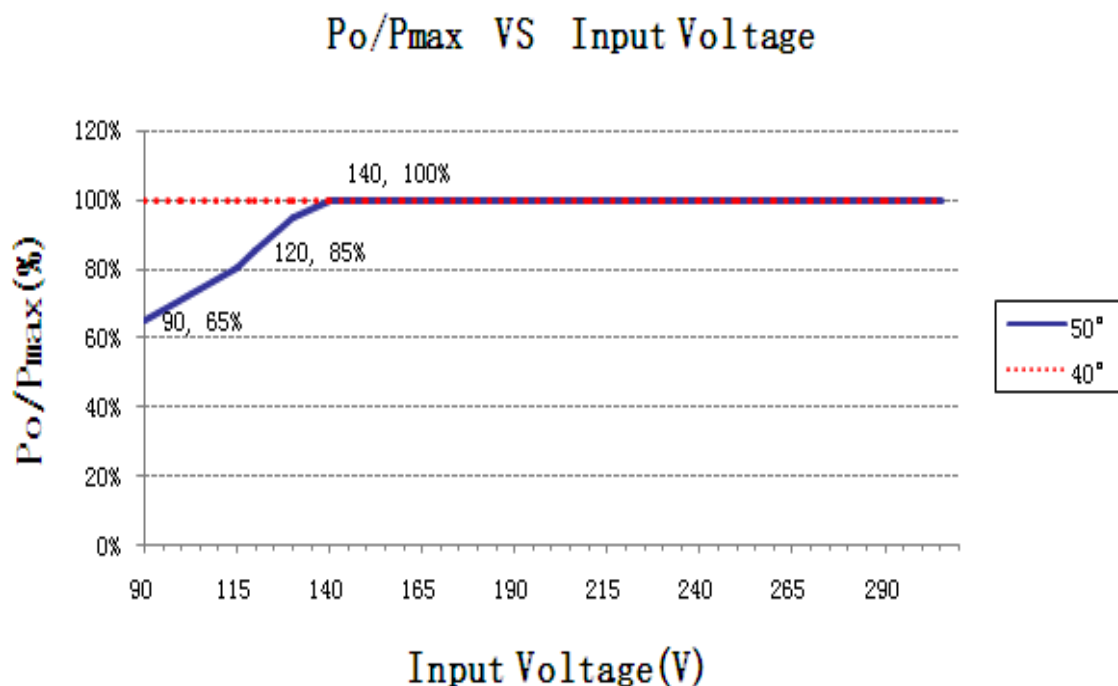
INRUSH CURRENT WAVEFORM



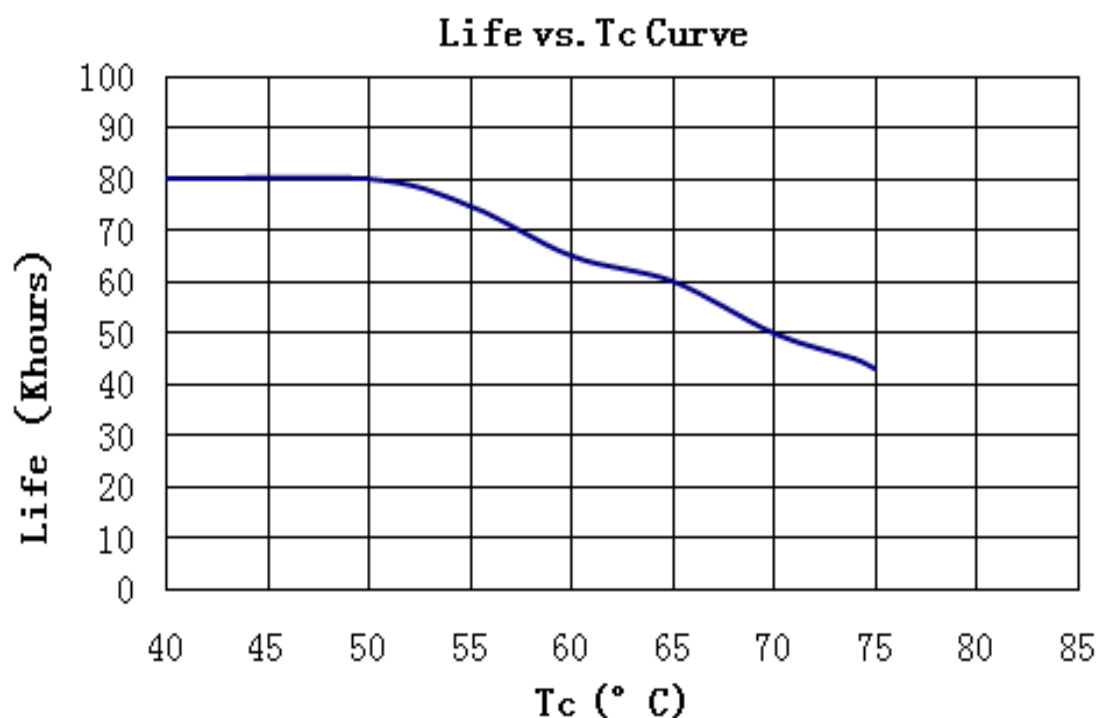
Derating Curve



OUTPUT POWER VS INPUT VOLTAGE

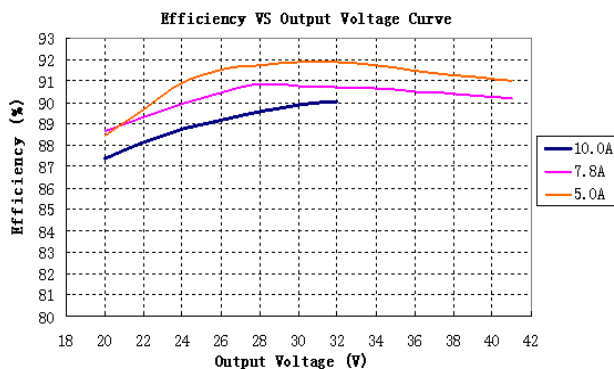


LIFETIME VS CASE TEMPERATURE

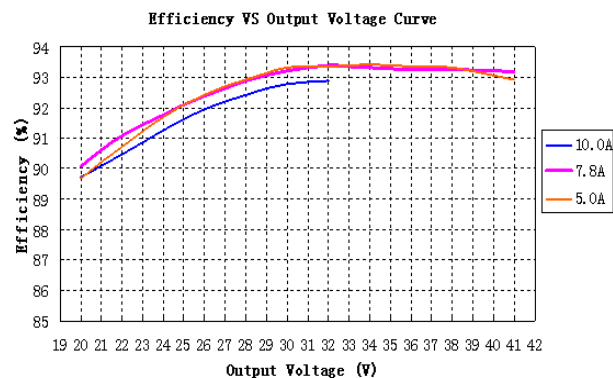


EFFICIENCY VS LOAD

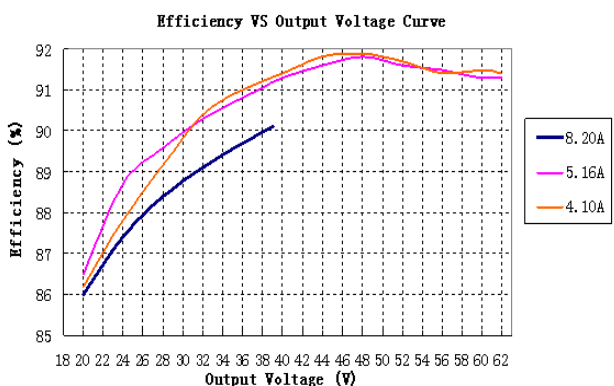
LDP-320X041 (Vin=115Vac)



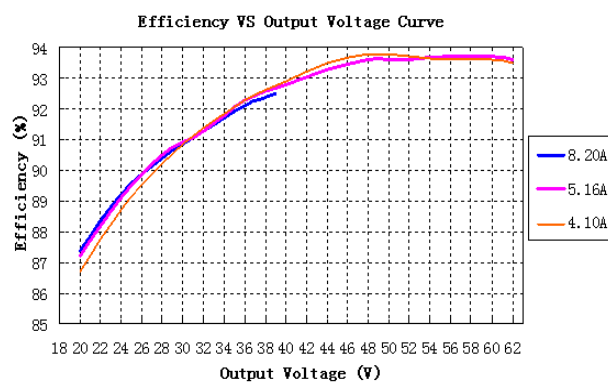
LDP-320X041 (Vin=230Vac)



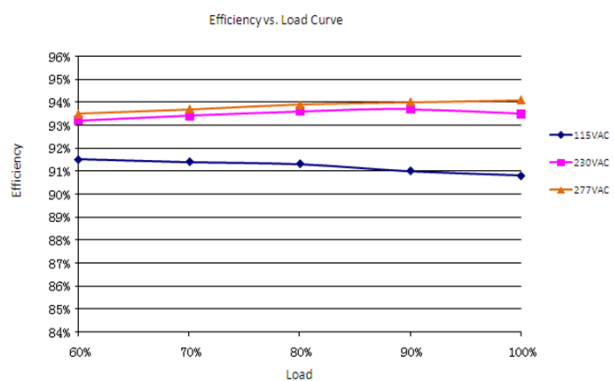
LDP-320X062 (Vin=115Vac)



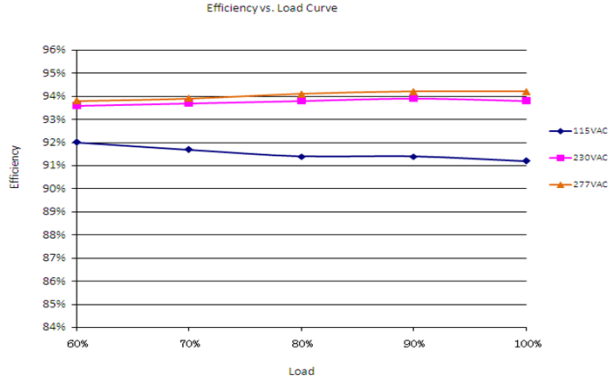
LDP-320X062 (Vin=230Vac)



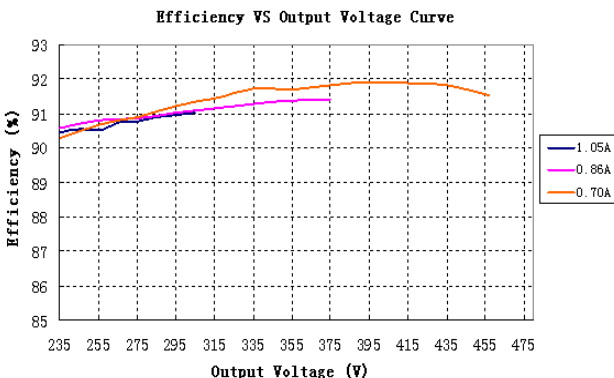
LDP-320X230 -A(U=152V)



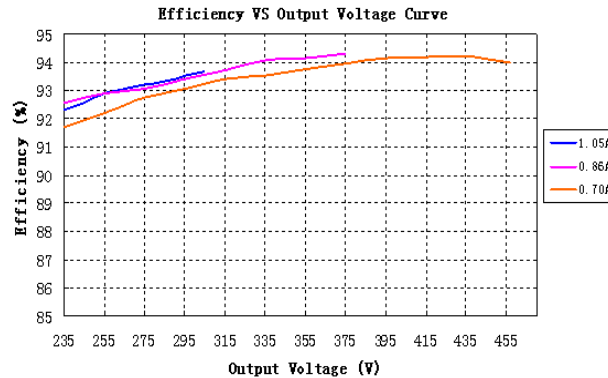
LDP-320X230 -B(U=228V)



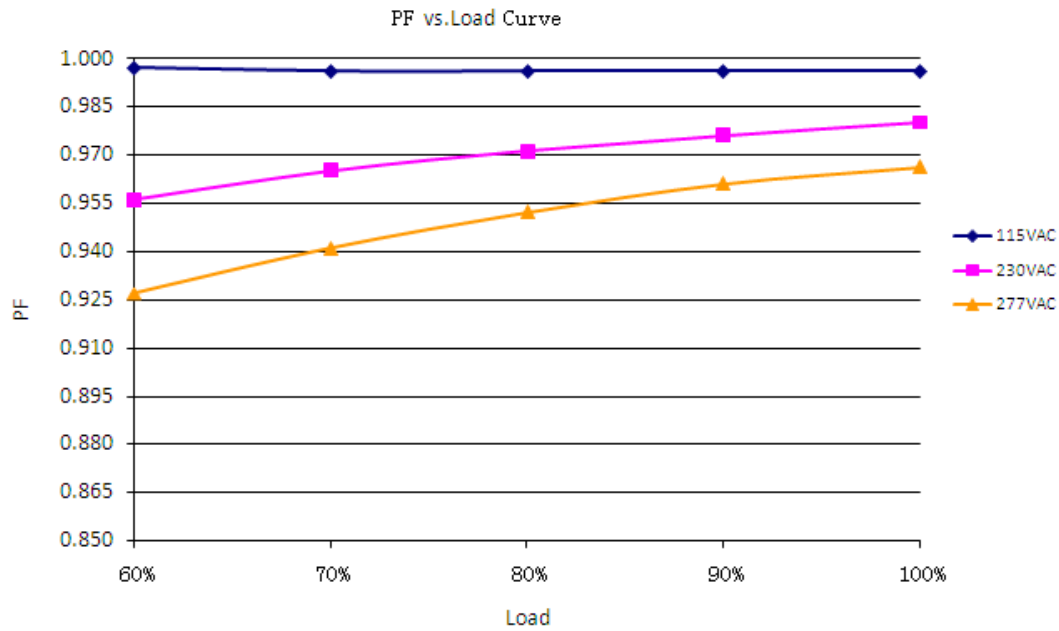
LDP-320X457(Vin=115Vac)



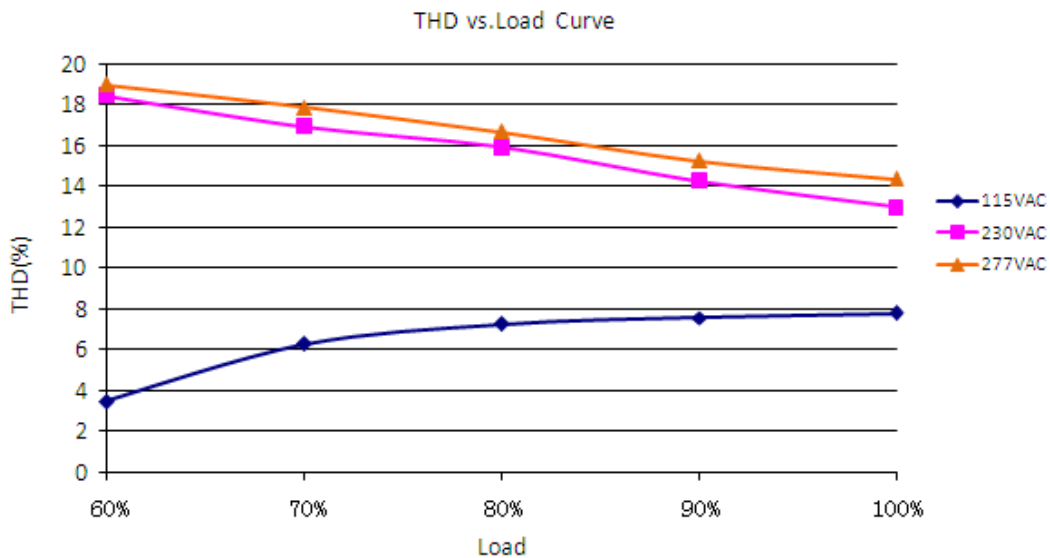
LDP-320X457(Vin=230Vac)



POWER FACTOR VS LOAD



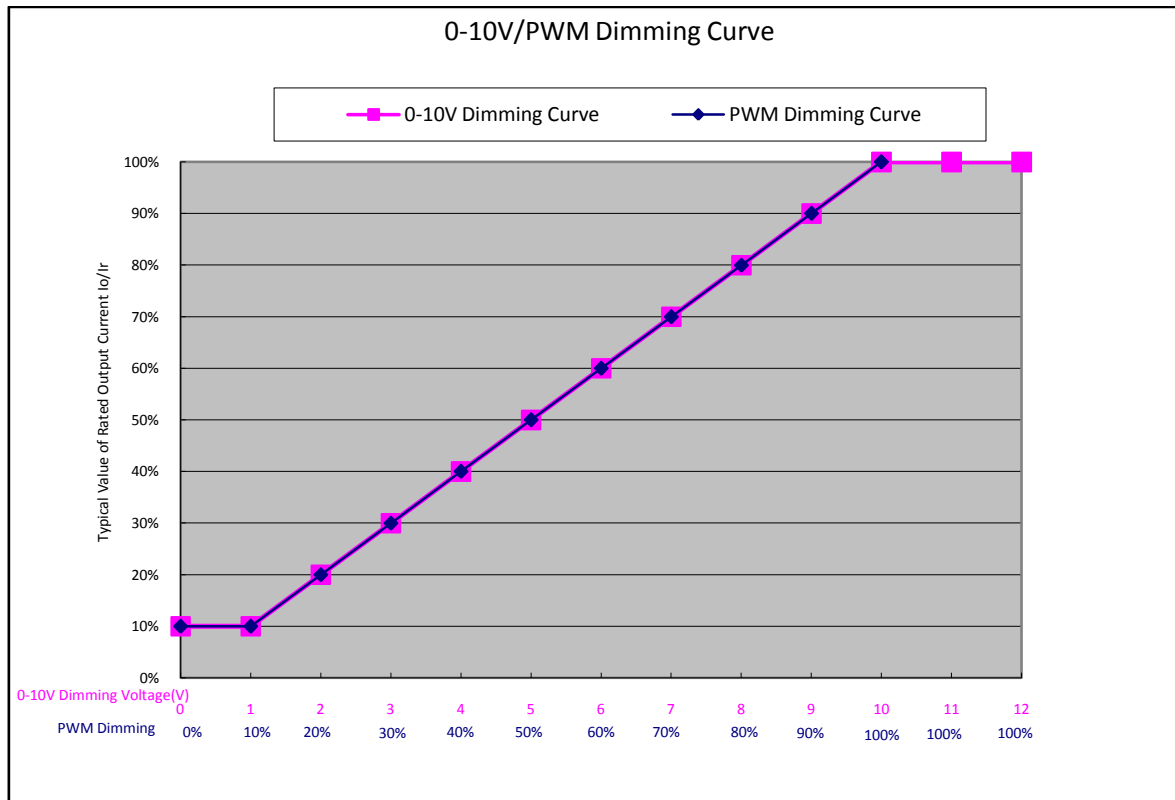
TOTAL HARMONIC DISTORTION



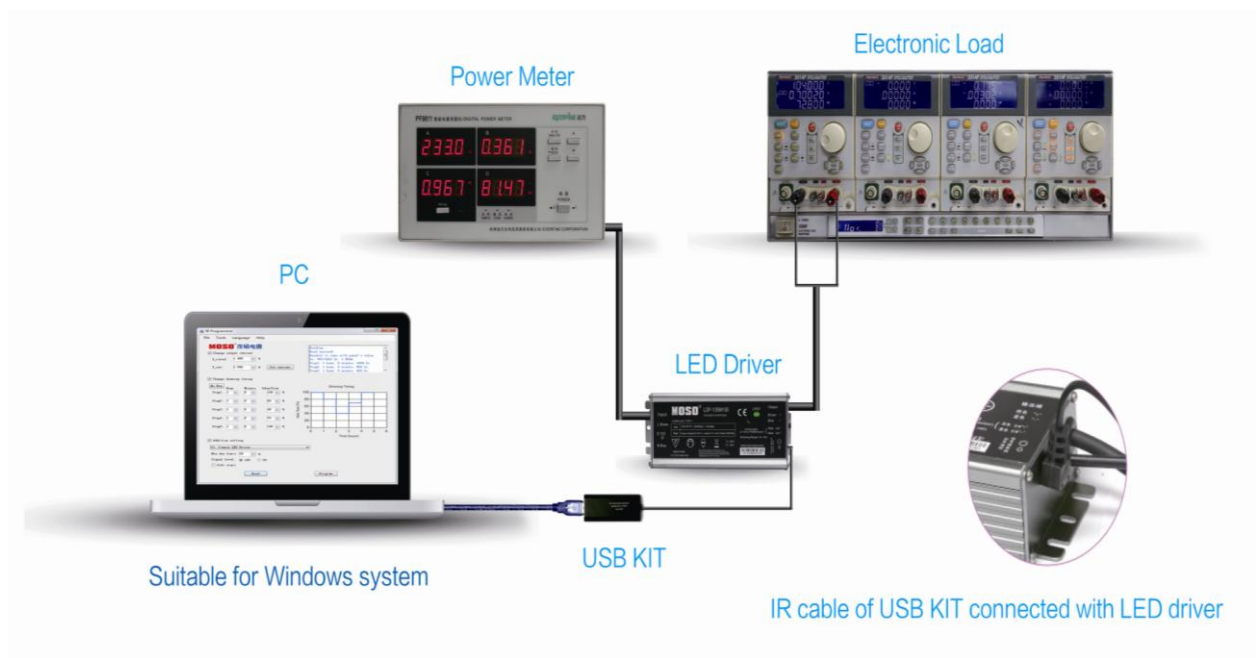
PROTECTIONS

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	Hiccup mode and auto recovery. No damage will occur when any output is short circuited. The output shall return to normal when the fault condition is removed.
Over Voltage Protection	Run into protection model when output voltage exceeds limit, and return to normal when the fault

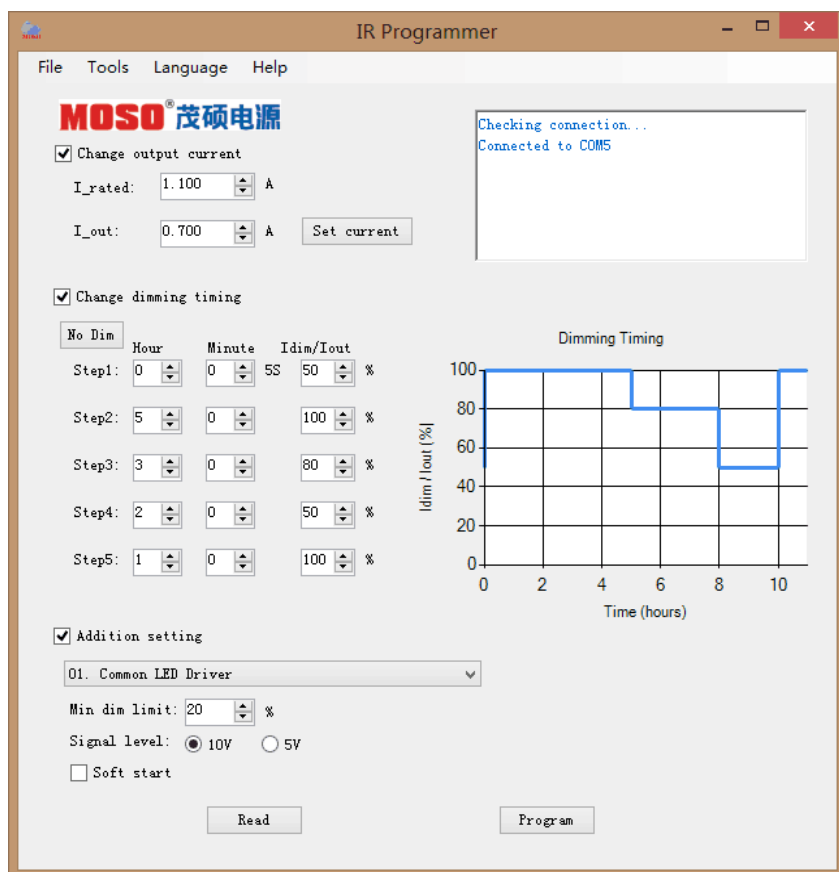
0-10V/PWM DIMMING



PROGRAMMING CONNECTION



PROGRAMMING GUIDE AND SOFTWARE INTERFACE



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



Operation Instruction:

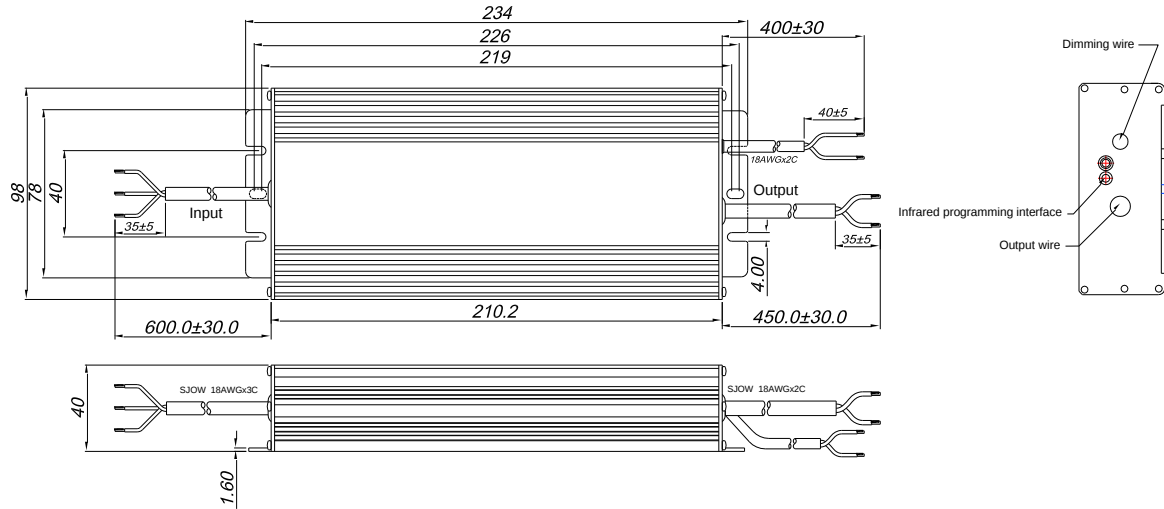
- 1) Insert cable terminal of the infrared controller into the infrared communication port, which is at the DC output side of the LED driver.
- 2) Press "ON" key to power on the controller;
- 3) Within 10S interval, press a function key to adjust output current to the percentage of max delivered current;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

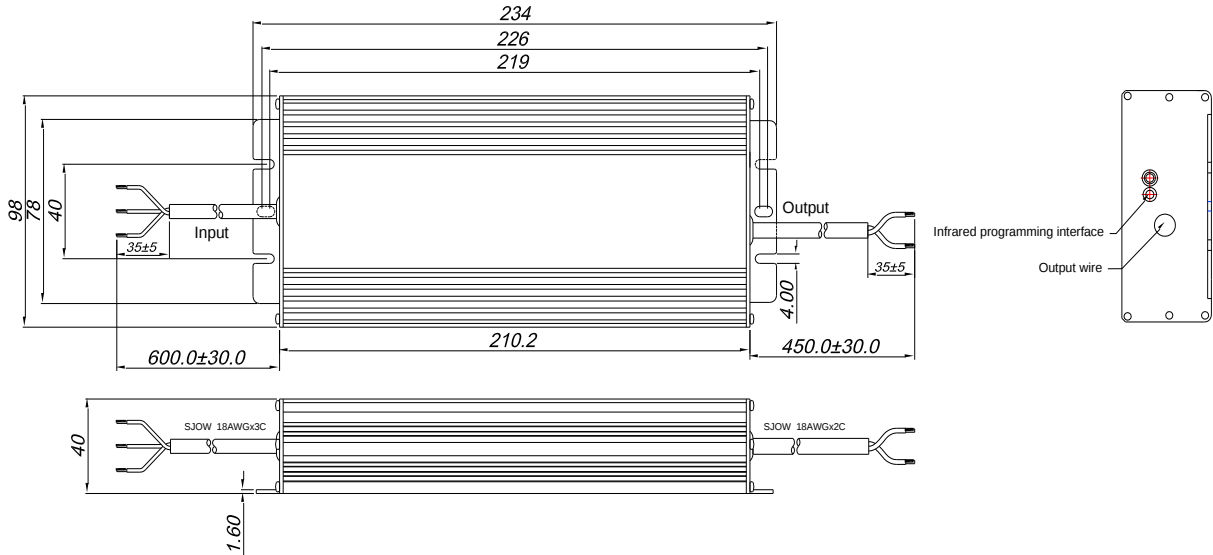
- Please do not hold "+"key, to avoid the over power protection and unstable output.
- Each step of operation should be done within 10S interval, otherwise the controller is power off automatically.

MECHANICAL OUTLINE

LDP-320M types



LDP-320R types



Note: LDP-320X041 and LDP-320X062 output wire 16AWG.

REVISION HISTORY

Version	Description of Change		Date	Notes
	Before	Now		
A.1	—	Datasheets Release	2017-11-08	