

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): 1~10Vdc / 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-150W series is 150W 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-150X054	150	20~54	0.42~4.20	2.80~4.20	20~36V/4.20A	90%	0.99	0.96
LDP-150X120	150	60~120	0.21~2.10	1.25~2.10	60~107V/1.40A	91%	0.99	0.96
LDP-150X214-A	150	80~160	0.11~1.10	0.94~1.10	80~143V/1.05A	91%	0.99	0.96
LDP-150X214-B	150	140~214	0.09~0.94	0.70~0.94	140~214V/0.70A	91%	0.99	0.96
LDP-150X335	150	176~335	0.07~0.70	0.45~0.70	176~214/0.70A	92%	0.99	0.96

Notes: [1]. X can be M or R, means dimmable or non-dimmable. Take LDP-150X054 for example, LDP-150M054

is programmable and 3-in-1 dimmable; LDP-150R054 is programmable and timer dimmable;

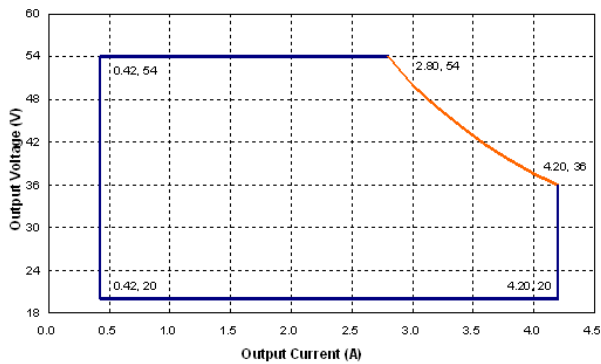
[2]. Output current adjustable range with constant power at max output power;

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

OPERATING AREA I-V

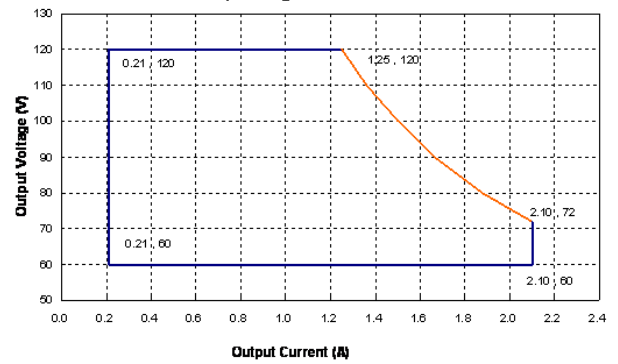
LDP-150X054

Output Voltage vs. Output Current Curve



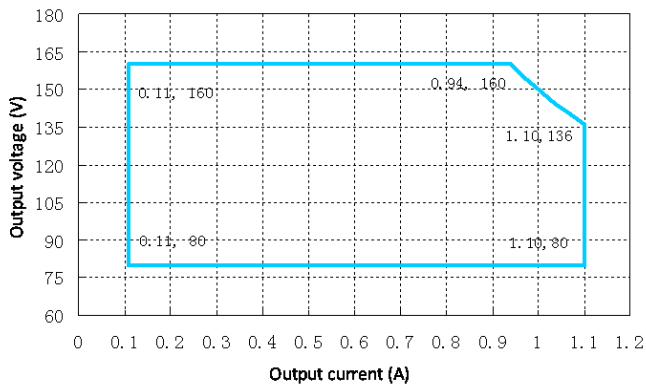
LDP-150X120

Output Voltage vs. Current Curve



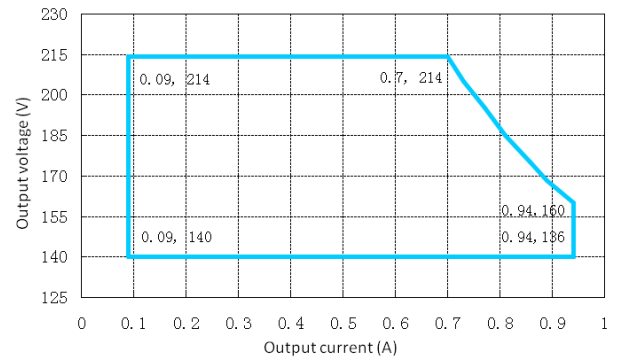
LDP-150X214-A

Output Voltage vs. Output Current Curve



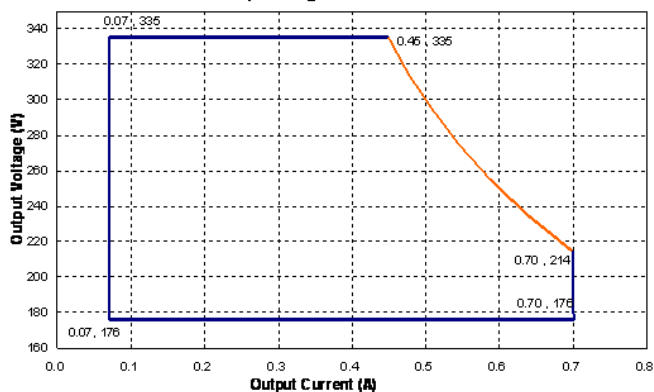
LDP-150X214-B

Output Voltage vs. Output Current Curve



LDP-150X335

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	277Vac/50Hz
Input AC Current	-	-	2.0Amax	100-277Vac & full load
Inrush Current	-	-	75A	230Vac & full load
Power Factor	0.95	0.96	-	230Vac & full load
THD	-	15%	20%	115-230Vac, 70%-100% load, applicable to CE version
THD	-	10%	20%	115-277Vac, 70%-100% load, applicable to UL version

OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%Iset	-	5%Iset	Full load
Output Current Setting Range (Iset) LDP-150X054 LDP-150X120 LDP-150X214-A LDP-150X214-B LDP-150X335	0.42A 0.21A 0.11A 0.09A 0.07A	-	4.2A 2.10A 1.10A 0.94A 0.70A	
Output Current Setting Range with Constant Power LDP-150X054 LDP-150X120 LDP-150X214-A LDP-150X214-B LDP-150X335	2.8A 1.25A 0.94A 0.70A 0.45A	-	4.20A 2.10A 1.10A 0.94A 0.70A	
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-150X054 LDP-150X120 LDP-150X214-A LDP-150X214-B LDP-150X335	-	-	60V 140V 240V 240V 370V	
Line Regulation	-	-	1%	25°C±10°C ambient temperature, input voltage changes from 115Vac to 277Vac.
Load Regulation	-	-	3%	25°C±10°C ambient temperature, 230Vac input, load changes from 60% to 100%.
Turn-on Delay Time	-	-	3S	115Vac, 100% load
	-	-	0.5S	230Vac, 100% load

GENERAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Efficiency @115Vac				
LDP-150X054				
I _o =2.8A	87%	89%		
I _o =4.2A	86%	88%		
LDP-150X120				
I _o =1.25A	87%	89%		
I _o =2.10A	87%	89%		
LDP-150X214 -A				Measured at full load and 25°C ambient temperature
I _o =0.94A	88%	89%		
I _o =1.10A	88%	89%		
LDP-150X214 -B				
I _o =0.70A	88%	89%		
I _o =0.94A	88%	89%		
LDP-150X335				
I _o =0.45A	88%	90%		
I _o =0.70A	87%	89%		
Efficiency @230Vac				
LDP-150X054				
I _o =2.8A	89%	91%		
I _o =4.2A	88%	90%		
LDP-150X120				
I _o =1.25A	89%	91%		
I _o =2.10A	89%	91%		
LDP-150X214 -A				Measured at full load and 25°C ambient temperature
I _o =0.94A	89%	91%		
I _o =1.10A	89%	91%		
LDP-150X214 -B				
I _o =0.70A	89%	91%		
I _o =0.94A	89%	91%		
LDP-150X335				
I _o =0.45A	90%	92%		
I _o =0.70A	89%	91%		
Efficiency @277Vac				
LDP-150X054				Measured at full load and 25°C ambient temperature
I _o =2.8A	89%	91%		

$I_o = 4.2A$ LDP-150X120		88%	90%		
$I_o = 1.25A$ $I_o = 2.10A$ LDP-150X214 -A		89%	91%		
$I_o = 0.94A$ $I_o = 1.10A$ LDP-150X214 -B		89%	91%		
$I_o = 0.70A$ $I_o = 0.94A$ LDP-150X335		89%	91%		
$I_o = 0.45A$ $I_o = 0.70A$		90%	92%		
		89%	91%		
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: 5% to 100% RH
Dimensions (L×W×H)mm		207*68*39			
Net Weight		900±50g/PCS			
Package		L500×W370×H160mm; Gross Weight: about 9.84Kg;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-150X054 LDP-150X120 LDP-150X214-A LDP-150X214-B LDP-150X335	10%Imax	-	100%Imax	Imax=4.20A Imax=2.10A Imax=1.10A Imax=0.94A Imax=0.70A
	LDP-150X054 LDP-150X120 LDP-150X214-A LDP-150X214-B LDP-150X335	0.42A 0.21A 0.11A 0.09A 0.07A	-	4.2A 2.10A 1.10A 0.94A 0.70A	
Recommended Dimming Range for 0-5V		0V	-	5V	
Recommended Dimming Range for 0-10V		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

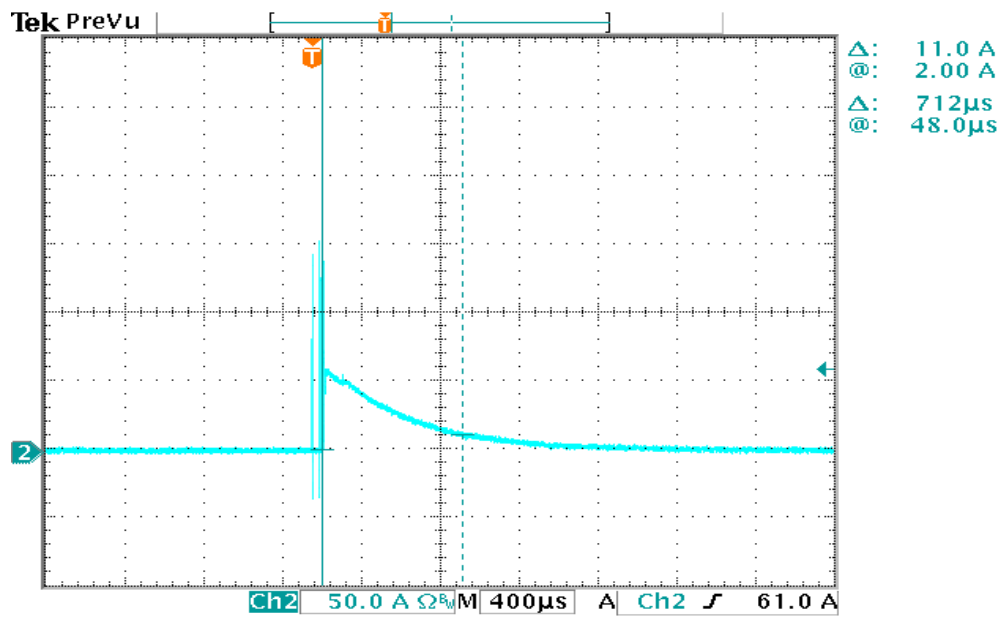
EMC COMPLIANCE

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:

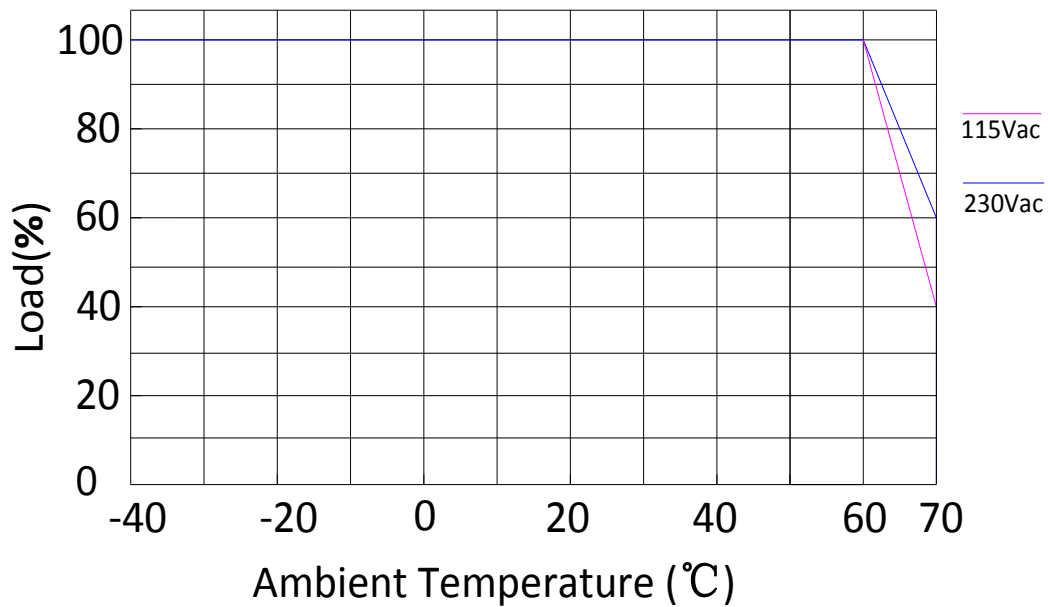
This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

INRUSH CURRENT WAVEFORM

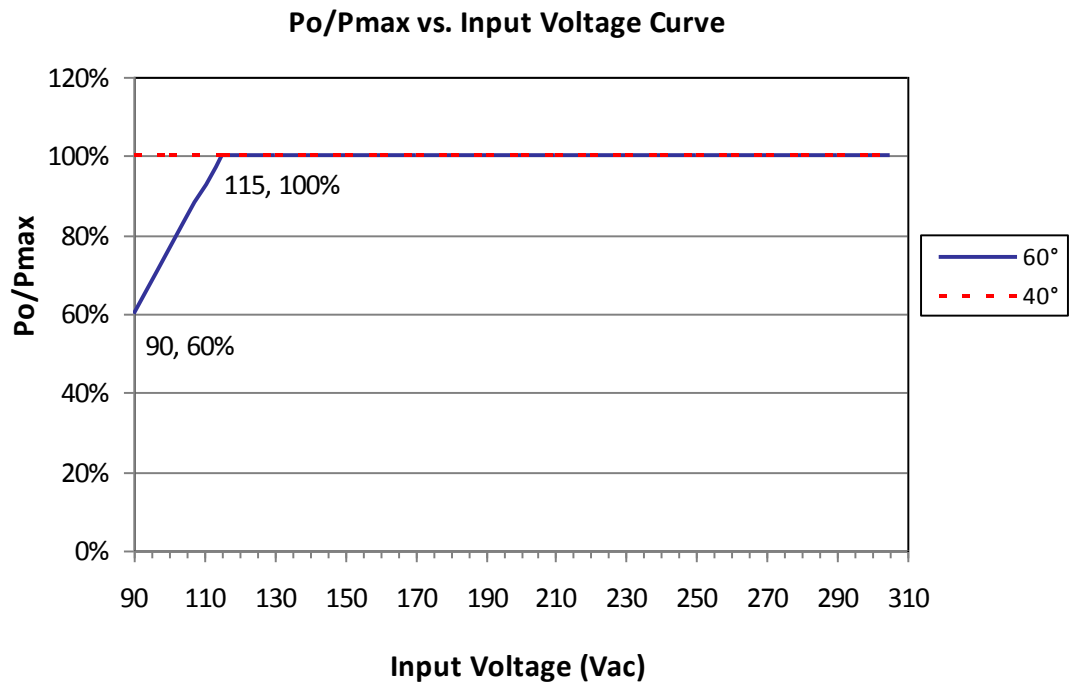


DERATING CURVE

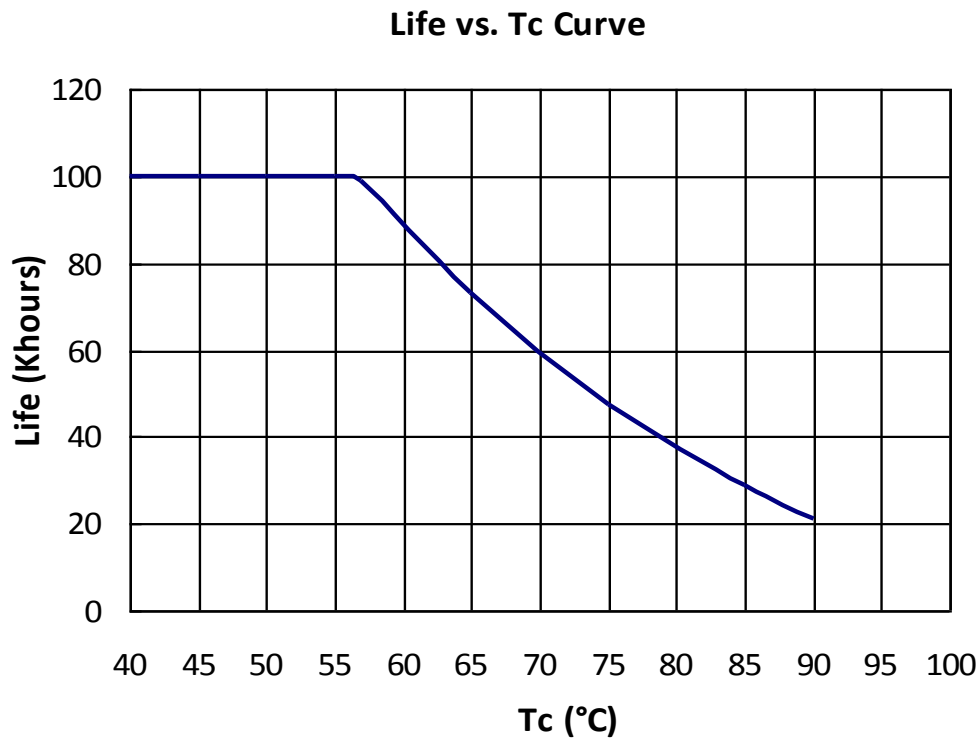
Derating Curve



OUTPUT POWER VS INPUT VOLTAGE



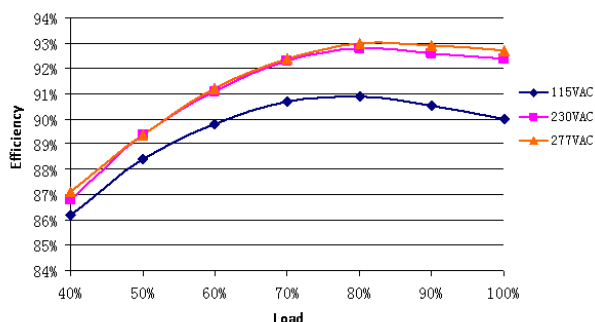
LIFETIME VS CASE TEMPERATURE



EFFICIENCY VS LOAD

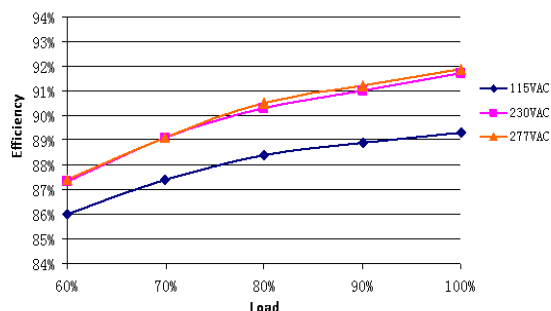
LDP-150X054(I=2.78A)

Efficiency vs. Load Curve



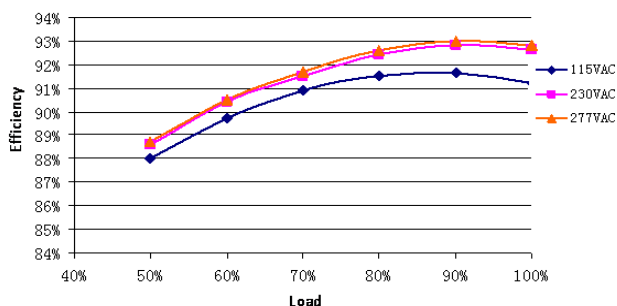
LDP-150X054(I=4.20A)

Efficiency vs. Load Curve



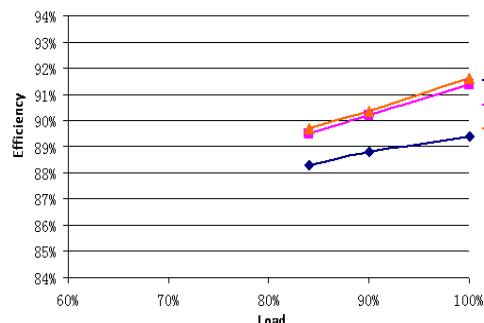
LDP-150X120(I=1.25A)

Efficiency vs. Load Curve



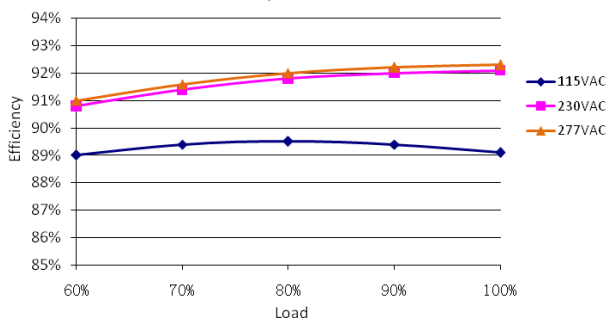
LDP-150X120(I=2.10A)

Efficiency vs. Load Curve



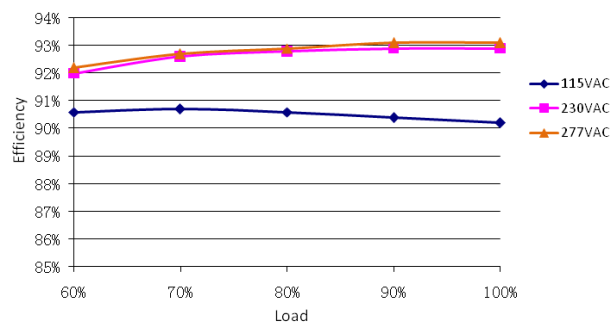
LDP-150X214-A (U=214V)

Efficiency vs. Load Curve



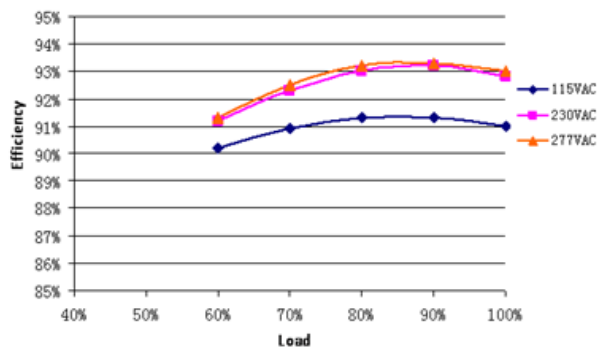
LDP-150X214-A (U=143V)

Efficiency vs. Load Curve



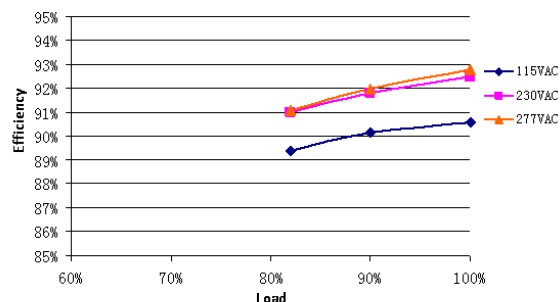
LDP-150X335(I=0.45A)

Efficiency vs. Load Curve

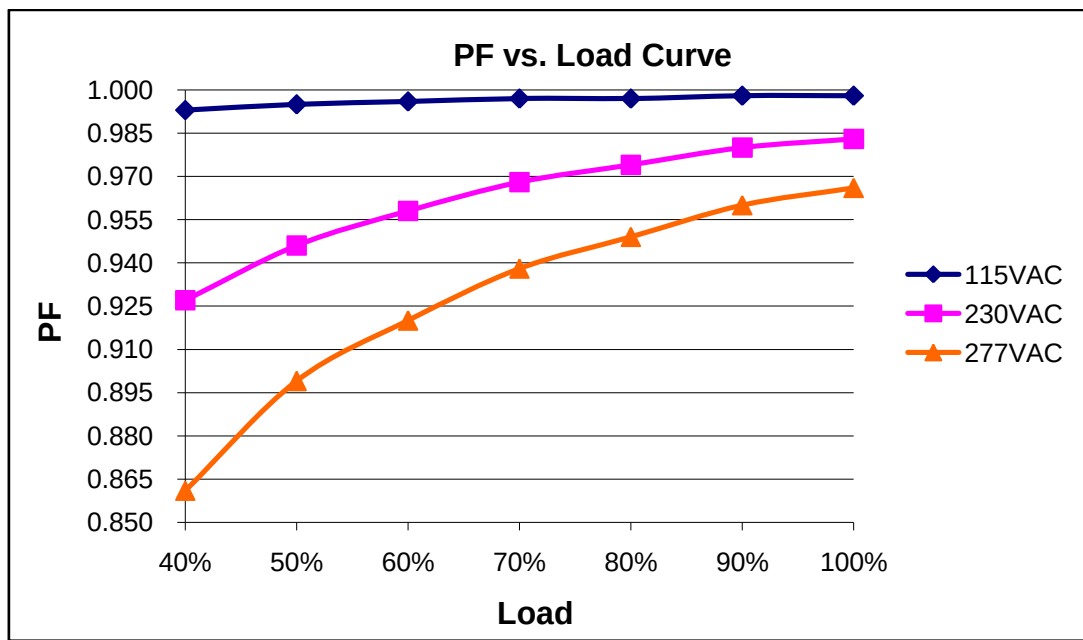


LDP-150X335(I=0.70A)

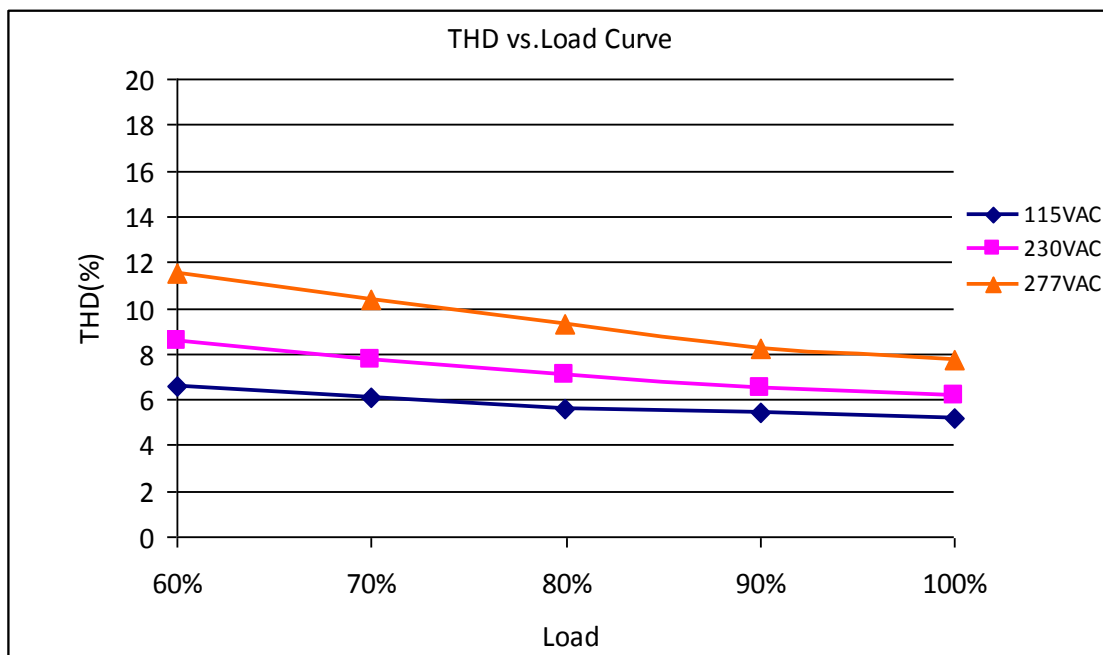
Efficiency vs. Load Curve



POWER FACTOR VS LOAD



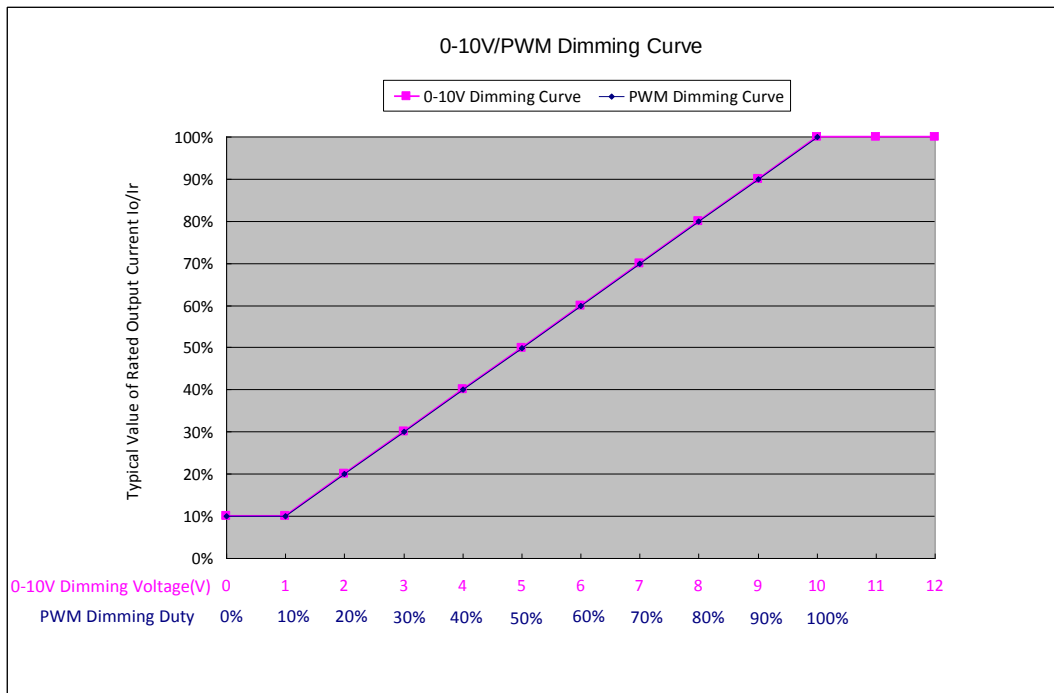
TOTAL HARMONIC DISTORTION



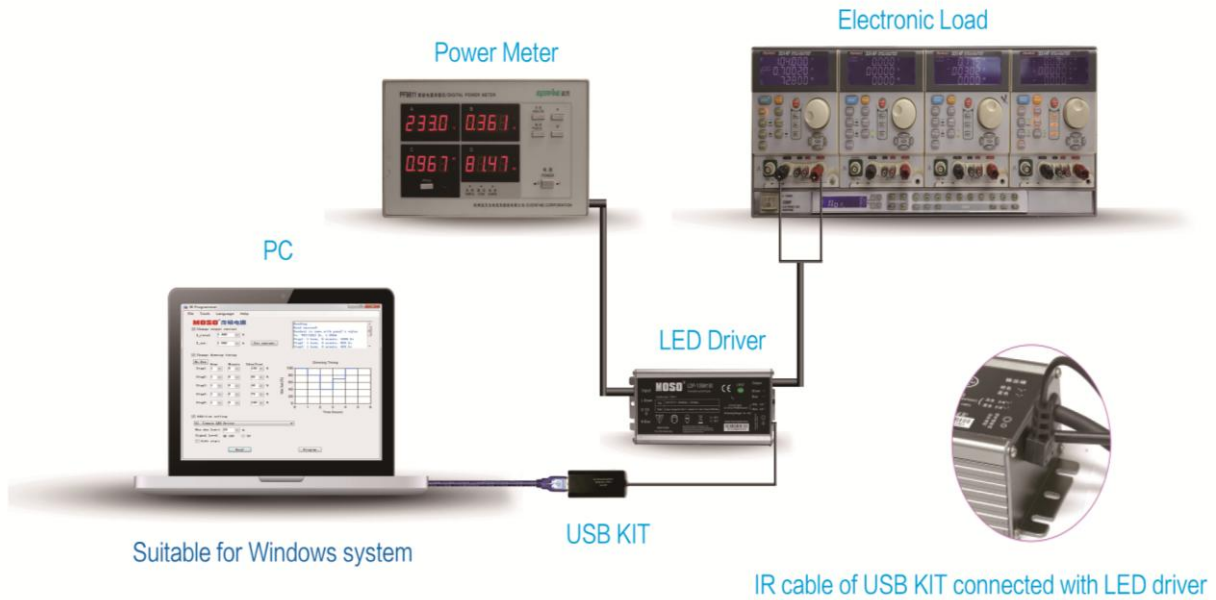
PROTECTIONS

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

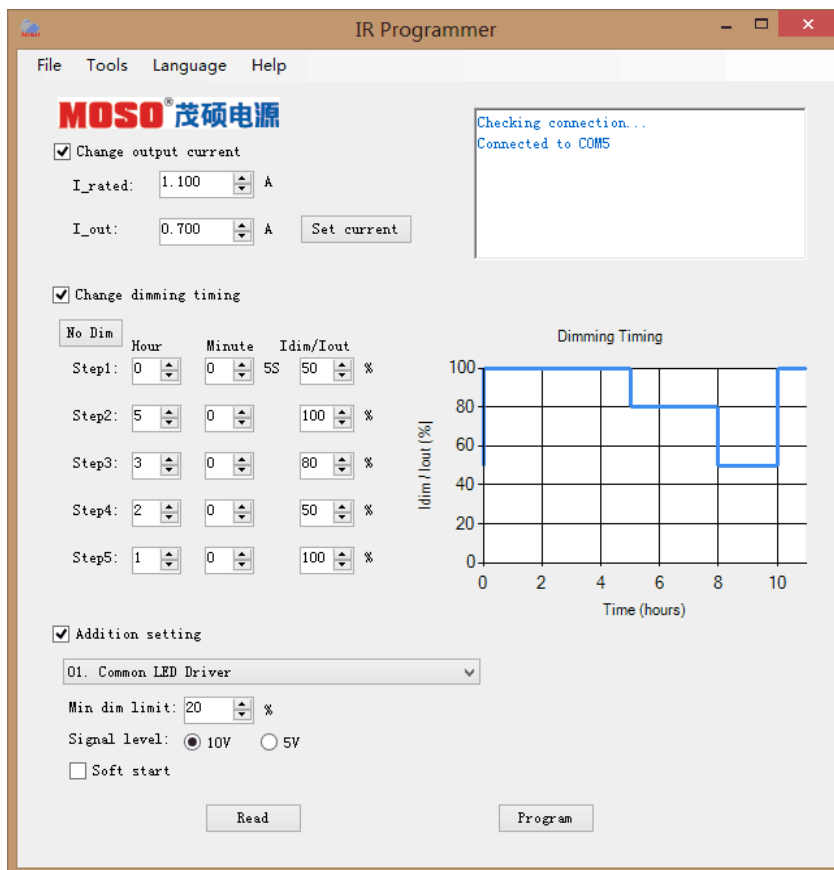
0-10V/PWM DIMMING



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:

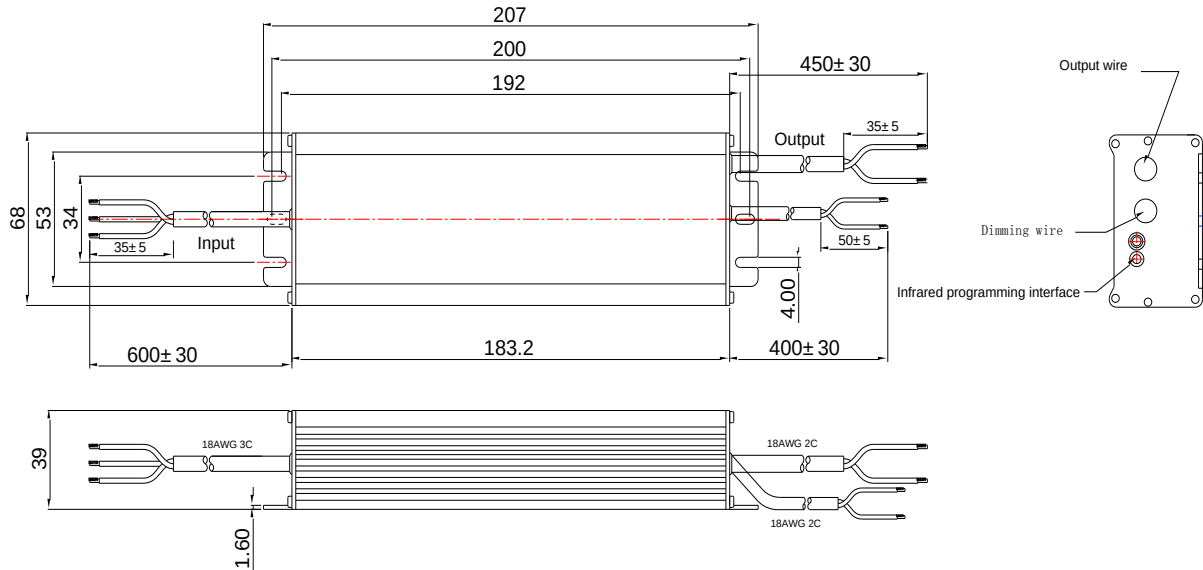
- 1) Insert cable terminal of the infrared controller into the infrared communication port, which is at the DC output side of the LED driver.
- 2) Press "ON" key to power on the controller;
- 3) Within 10S interval, press a function key to adjust output current to the percentage of max delivered current;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

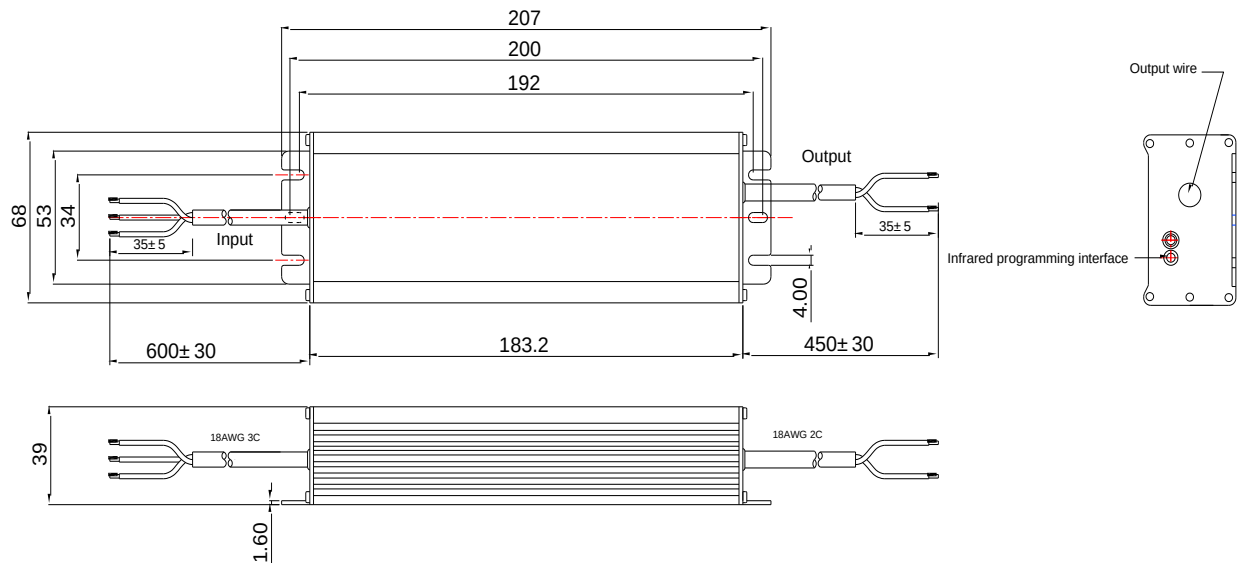
- Please do not hold "+"key, to avoid the over power protection and unstable output.
- Each step of operation should be done within 10S interval, otherwise the controller is power off automatically.

MECHANICAL OUTLINE

LDP-150M types



LDP-150M R types



Wire	Specification	Note
Input	CCC+VDE H05RN-F 3*1.0mm ² L=600mm	for CE
	18AWG*3C SJOW L=600mm	for UL
Output	CCC+VDE H05RN-F 2*1.0mm ² L=450mm	for CE
	18AWG*2C SJOW L=450mm	for UL
Dimming	22AWG*2C UL1332 L=400mm	for CE
	18AWG*2C SJOW L=400mm	for UL

REVISION HISTORY

Version	Description of Change		Date	Notes
	Before	Now		
A.1	—	Datasheets Release	2018-03-05	