



## ■ Features

- Output current up to 50A
- Input voltage 12~60V
- Compliance voltage up to 55V
- 2.75KW maximum output power
- High efficiency up to 96%
- <2us rise/fall time for pulse mode
- Low current ripple <1Arms
- Repetition frequency 5KHz
- 5 years warranty

## ■ Applications

- Laser engraving machine
- Laser cutting machine
- Electroplating device
- UV coating and curing machine
- UV sterilizer

## ■ Description

LDPC-50A is a laser diode driver designed as high power pulsed current source. It delivers current pulses variable from 0A to 50A with up to 2.75KW of total output power. Pulse widths can vary from 40μs to CW, with rise time less than 2μs. LDPC-50A can be externally triggered and synchronize for applications requiring special triggering and synchronization.

## ■ Model Encoding

**LDPC-50A**

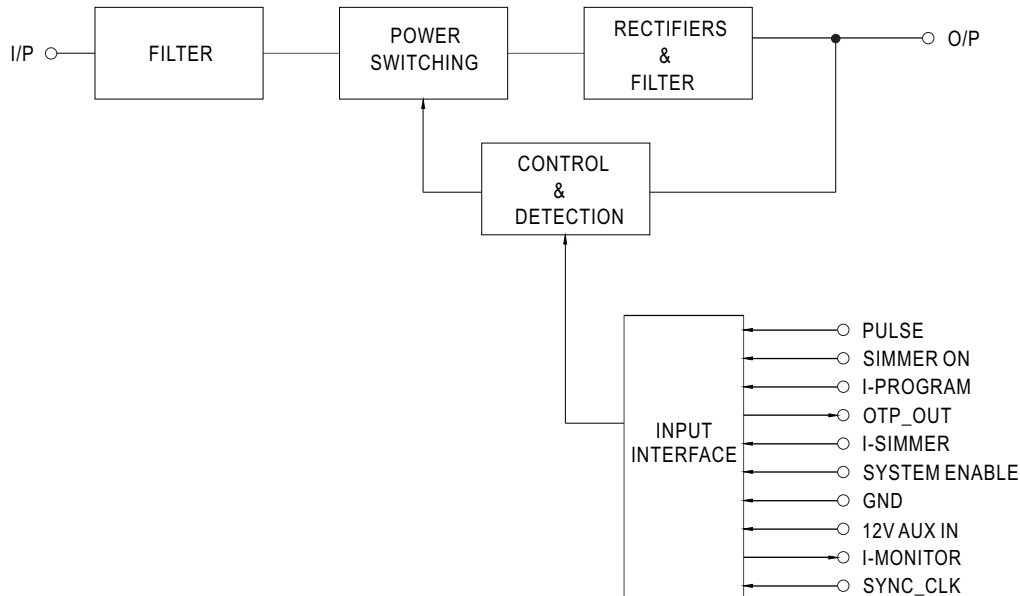


**SPECIFICATION**

MODEL		LDPC-50A
OUTPUT	COMPLIANCE VOLTAGE	Input Voltage -5~10V
	PROGRAM CURRENT RANGE	0 ~ 50A
	SIMMER CURRENT RANGE	0 ~ 50A
	RATED POWER	2750W
	CURRENT RIPPLE	1Arms at full load 2Ap-p at full load
	CURRENT OVERSHOOT	5% at full load
	PROGRAM CURRENT RISE TIME	400us
	MIN. PULSE WIDTH FOR PROGRAM CURRENT	1000us
	PULSE MODE RISE TIME	2us
	MIN. PULSE WIDTH FOR PULSE MODE	40us
PWM FREQUENCY (Typ.)	5KHz	
INPUT	VOLTAGE RANGE	12 ~ 60V
	EFFICIENCY (Typ.)	96% (@ Vin: 57V, Vo:52, Io: 50A)
PROTECTION	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover
ENVIRONMENT	WORKING TEMP.	0 ~ +50°C (Refer to "Derating Curve")
	WORKING HUMIDITY	20 ~ 90% RH non-condensing
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes
OTHERS	MTBF	K hrs min. MIL-HDBK-217F (25°C)
	DIMENSION	250*100*41mm (L*W*H)
	PACKING	Kg
NOTE	1. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).	

## ■ Block Diagram

### ◎ Module



## ■ Function Description of CN51

Pin No.	Function	I/O	Description
1	PULSE	I	Pulse control signal. High: Output current is controlled by I-program(11.5~12V). Low:Output OFF(0~0.5V).
2	SIMMER ON	I	High(11.5~12V) : Simmer function is enable for slow rise mode. Low(0~0.5V) : Simmer function is disable for fast rise mode.
3	I-PROGRAM	I	0~10V ; Output amplitude current control signal. Full scale is 10V to 50A(max.).
4	I-MONITOR	O	Current monitoring.
5	I-SIMMER	I	0~10V ; Simmer current control signal. Full scale is 10V.
6	SYSTEM ENABLE	I	High(11.5~12V) : System turn on. Low(0~0.5V): System turn off.
7	GND	I	Signal Ground.
8	12V_AUX_IN	I	12V AUX input.
9	None	----	None
10	OTP_OUT	O	Low(0~0.5V) : When the internal temperature under the limit temperature. High(11.5~12V) : When the internal temperature exceeds the limit of temperature alarm.

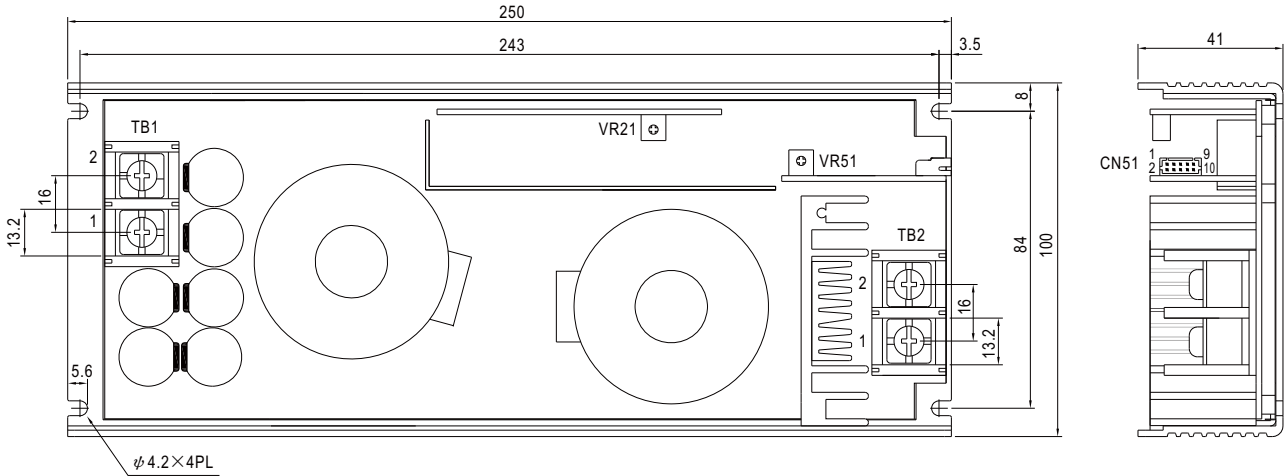
\*Note: Each input pin should have a specific level. Input pin can not be floated.

## ■ Control Mode

	SIMMER ON	SIMMER OFF
PULSE ON	I-PROGRAM	I-PROGRAM
PULSE OFF	I-SIMMER	OFF

## Mechanical Specification

Case No.270A Unit:mm



Input Terminal Pin No. Assignment(TB1) :

Pin No.	Assignment
1	+VIN
2	-VIN

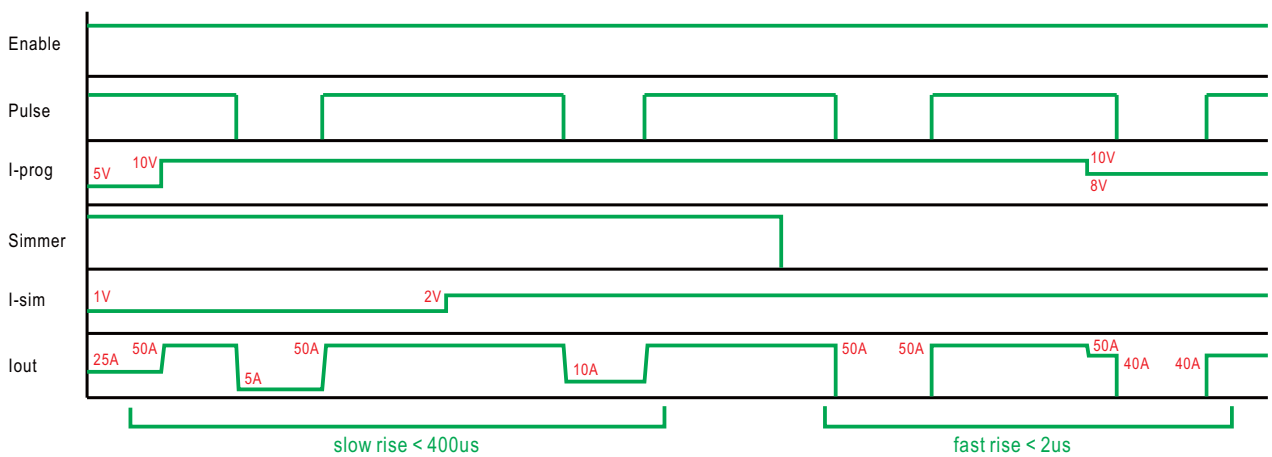
Output Terminal Pin No. Assignment(TB2) :

Pin No.	Assignment
1	+Vo
2	-Vo

Control Pin No. Assignment(CN51) : HRS DF11-10DP-2DS or equivalent

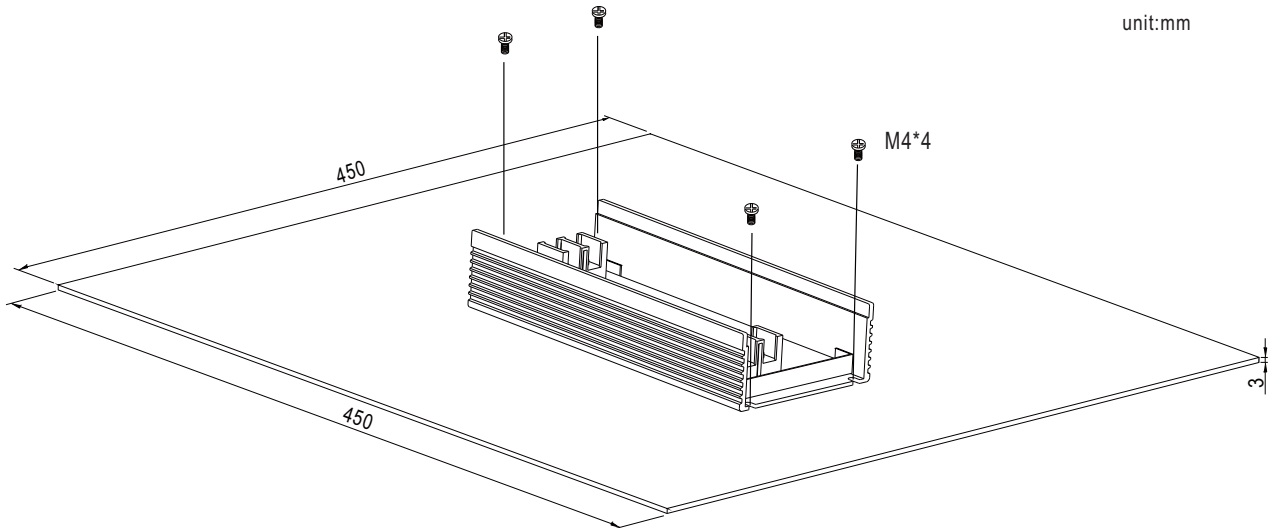
Pin No.	Assignment	Pin No.	Assignment	Mating Housing	Terminal
1	PULSE	6	SYSTEM ENABLE	HRS DF11-10DS or equivalent	HRS DF10-**SC or equivalent
2	SIMMER ON	7	GND		
3	I-PROGRAM	8	AUX_IN		
4	I-MONITOR	9	None		
5	I-SIMMER	10	OTP_OUT		

## Pulsed Operation Diagram

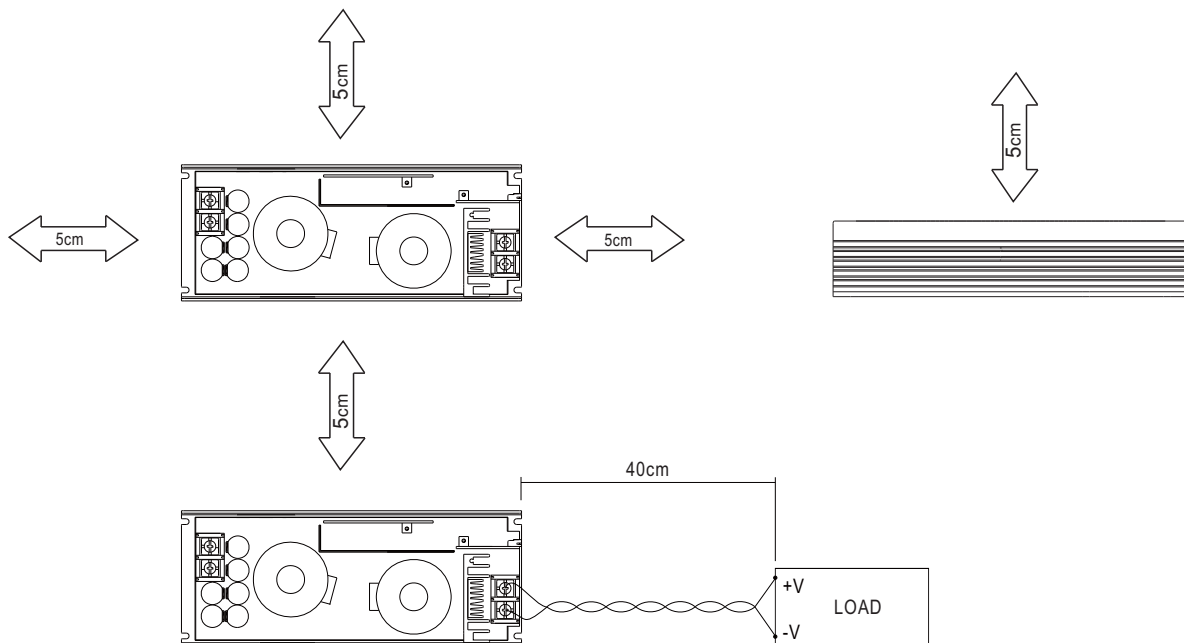


### 1. Operate with additional aluminum plate

In order to meet the "Derating Curve" and the "Static Characteristics", LDPC series must be installed onto an aluminum plate (or the cabinet of the same size) on the bottom. The size of the suggested aluminum plate is shown as below. And for optimizing thermal performance, the aluminum plate must have an even and smooth surface (or coated with thermal grease), and LDPC series must be firmly mounted at the center of the aluminum plate.



2. For heat dissipation, at least 5cm installation distance around the PSU should be kept, shown as below:



### ■ Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>



Sager Electronics and its specialized group Sager Power Systems is an authorized distributor of MEAN WELL and the LDPC-50A series of laser diode driver modules.

[Visit the LDPC-50A Series online.](#) Or contact a Sager Power Systems representative at 1.866.588.1750 or [power@sager.com](mailto:power@sager.com) for price and availability.