IADIY

300W Programmable Power Supplier LP15V20A01

■ Feature

➢ Programmable Power Supplier for laser processing
➢ Max. output 300W.
➢ Outline dimension：410*263*130(mm)
➢ 2 Independent 20A output with Voltage 5V/15V. Customize voltage is available.
➢ Output Control Connector DB-25 or RS232
➢ PWM Modulation with Baud Rate 115200
➢ High Frequency that suitable for both Scan Type and Motion Type Laser Processing.

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■ Introductions

LP15V20A is a 300W Power Supplier for laser processing. It is designed especially for scan-type laser processing, but also work well under motion-type because it could be modulated under very high frequency. Since it's programmable, it could also drive the light source in communication use.

There are 2 ports for output located on the front desk of equipment. The 1st mode, named EABA, would have the ports generate 5V/20A at most. The other mode named EABB would generate 15V/20A at most. These 2 ports could be easily controlled by connecting to the control PLC or PC via the RS232 port or DB-25 port located on the rear side. The Baud rate for LP15V20A is 115200.
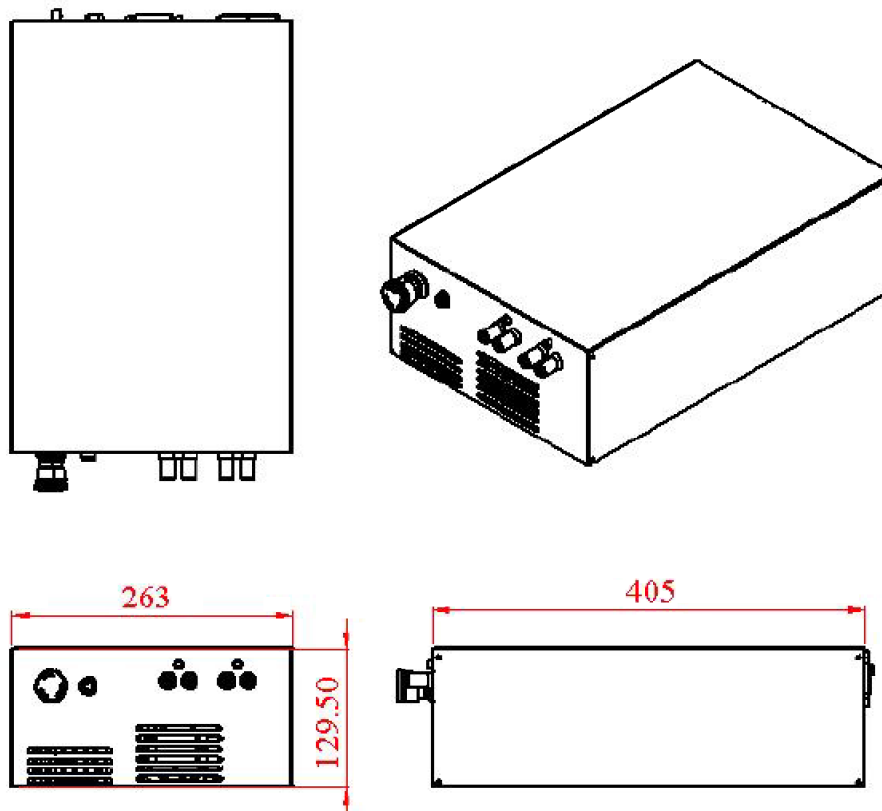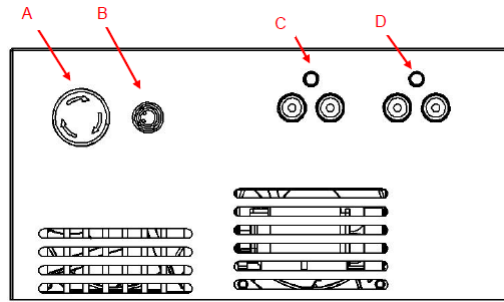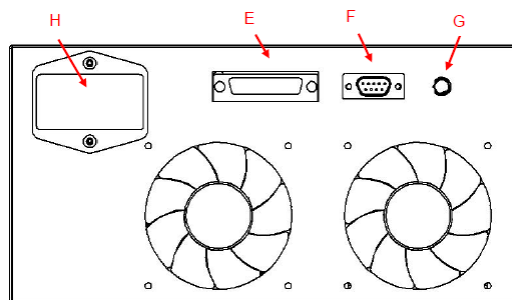

The Front View of LP15V20A

The Rear View of LP15V20A

■ Outline Dimension and Connecting Ports

Front View

Rear View

	Name	Description	On Working	Idling
A	Emergency Stop	Press to stop. Rotate clockwise to release.	Release	--
B	Power Key	On: Power on Off: Power off	--	--
C	5V/20A Indicator	Indicator on: Work on 5V/20A Mode	--	Indicator off
D	15V/20A Indicator	Indicator on: Work on 15V/20A Mode	--	Indicator off
E	DB-25 Port	Connecting DB-25	Interlock: Pin 1-4 Short Pin 2-3 Short	
F	RS-232 Port	Connecting RS-232	Computer Control	
G	BNC Port	Modulation		
H	Power Core	100-120V, 20A, 50-60Hz		

■ DB-25 Remote Control

DB-25 Pin Definition

DB25

PIN	Definition	Description
1	Interlock CH1A	Pin 1-4 Short: Operation Normally Pin 1-4 Open: Emergency Stop
2	NA	
3	NA	
4	Interlock CH1B	Pin 1-4 Short: Operation Normally Pin 1-4 Open: Emergency Stop
5	NA	
6	NA	
7	NA	
8	NA	
9	NA	
10	NA	
11	NA	
12	Analog Input	Set the output current(I) by Voltage difference between pin 12 and pin 14: $I = (V12-V14)/5 *20$
13	Analog Output Monitor	Monitor the real current (I) output and response by Voltage of pin 13: $V13 = V14 + I/20 *5$
14	Analog Com	Voltage common vs. pin 12 and pin 13
15	Modulation +	Voltage between Pin 15-16 = 5V : Laser on
16	Modulation -	Voltage between Pin 15-16 = 0V : Laser off
17	NA	
18	NA	
19	Error/Ready	Operation Normally: Voltage difference between Pin 19-20 = 3.3V Operation Abnormal: Voltage difference between Pin 19-20 = 0V
20	Digital Com	Common Voltage for Pin 19, 21, 22, 23, 25
21	External PWM	Voltage Difference between Pin 20-21 = 5V: PWM Control
22	Power On	Voltage Difference between Pin 20-22 = 3.3V Laser Power Control On
23	5V/20A Mode	Voltage Difference between Pin 20-23 = 3.3V: 5V/20A Mode On
24	NA	
25	15V/20A Mode	Voltage Difference between Pin 20-23 = 3.3V: 15V/20A Mode On

■ RS-232 Programming Control

1　RS-232 Parameter Setting:

Parameter Setting	Value
Baud Rate	115200
Data Bits	8
Stop Bits	1
Parity	None
Flow Control	None

2　Command List:

Command	Description	Comment
EABA	Switch to 5V/20A mode	Indicator 5V/20A lits
EABB	Switch to 15V/20A mode	Indicator 15V/20A lits
DMOD	Turn off External Modulation	Default be external modulation
EMOD	Activate External Modulation	
DEP	Turn off Remote PWM	Default be Remote PWM
EEP	Activate Remote PWM	
PWMON	Turn on PWM modulation	Default be 10KHz, 10% duty
PWMOFF	Turn off PWM modulation	
SFREQ(XXXXX)	Set PWM frequency to be XX Hz	
SDUTY(XX)	Set Duty be XX%	
DEC	Turn off remote power control	Default be remote control
EEC	Activate remote power control	
SDC	Output power setup	

3   Programming Procedure:
   3.1   Check if both pins 1-4 and pins 2-3 of DB-25 port are short circuit before operation. If the pins 1-4 and pins 2-3 are short to one another, then the equipment is ready to be use.
   3.2   Command "EABA" to activate 5V/20A mode or "EABB" to activate 15V/20A mode/
   3.3   Turn the control power on. It is default External Control.

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PWM DAC 2 channel Firmware Version=0.85
Default: External Control
Interlock_state=1
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   3.4   Turn off the external control by command "DMOD".
   3.5   Turn on the internal PWM by command "DEP".
   3.6   Turn the PWM modulation on by the command "PWMON"
   3.7   Turn on the internal power control by command "DEC".
   3.8   Set the Laser power by using function SDC(X). For example, SDC10 : output 10A
   3.9   Turn off the laser power by command SDC or SDC0.