

1064nm DPSSL

SKU: YAG1064



OVERVIEW

This LD-pumped 1064nm laser features a unique thermal compensation cavity design and advanced Q-switching technology, ensuring high beam quality and suitable pulse width. The main optical components inside the cavity adopt a lock-in mechanical design and are assembled and sealed in a class 1000 cleanroom, ensuring normal operation and long-term stability in various complex environments. It offers versatile expansion interfaces for convenient integration with attenuators and beam expander modules. Primary applications include laser ranging, scientific research, and laser cleaning.



TECHNICAL SPECIFICATIONS

Project	Parameter		
Laser wavelength	1064nm±1nm	1064nm±1nm	1064nm±1nm
Output power	≥200mj@20Hz	≥100mj@20Hz	≥50mj@20Hz
Pulse width	15ns±5ns	15ns±5ns	15ns±5ns
Beam divergence angle	≠0.3mrad	≠0.3mrad	≠0.5mrad
Pulse energy stability	>95%	>95%	>95%
Repetition rate	1~30Hz (Adjustable)	1~50Hz (Adjustable)	1~100Hz (Adjustable)
Power consumption	Peak power consumption less than 850W, and standby power consumption less than 160W.	Peak power consumption less than 600W, and standby power consumption less than 160W.	Peak power consumption less than 600W, and standby power consumption less than 160W.
Operating cycle	Water cooling: single working time per cycle is 180s with a 60s interval; can work continuously. Air cooling: single working time per cycle is 60s with a 60s interval; can work continuously for 8 cycles.	Air cooling: Maximum working time per cycle is 60s with a 60s interval; can work continuously for 8 cycles.	Air cooling: Maximum working time per cycle is 60s with a 60s interval; can work continuously for 8 cycles.
Power supply	AC 220V	DC 24V	DC 24V

Triggering method	internal and external triggers are acceptable	Both internal and external triggers are acceptable	Both internal and external triggers are acceptable
Encoding accuracy	$\leq 2\mu s$	$\leq 2\mu s$	$\leq 2\mu s$
Communication interface	RS422 serial port, external synchronous input 485 level	RS422 serial port, external synchronous input 485 level	RS422 serial port, external synchronous input 485 level
Dimension	$\leq 500 \times 240 \times 110 \text{mm}$	$\leq 480 \times 220 \times 120 \text{mm}$	$\leq 160 \times 100 \times 80 \text{mm}$
Weight	$\leq 8 \text{Kg}$	$\leq 8 \text{Kg}$	$\leq 1.5 \text{Kg}$
Cooling method	Water cooling/air cooling	Air cooling	Air cooling
Cooling water tank size	5Ux450mm	---	---
Water tank weight	$< 22 \text{kg}$	---	---
Operating temperature	$0^{\circ}\text{C} \sim +55^{\circ}\text{C}$	$-40^{\circ}\text{C} \sim +55^{\circ}\text{C}$	$-40^{\circ}\text{C} \sim +55^{\circ}\text{C}$
Storage temperature	$-10^{\circ}\text{C} \sim +70^{\circ}\text{C}$	$-50^{\circ}\text{C} \sim +70^{\circ}\text{C}$	$-50^{\circ}\text{C} \sim +70^{\circ}\text{C}$



ELECTRICAL INTERFACE

Electrical interface:

1. Requirements for connectors

J30JM-15ZK and J30JM-15ZJ are used as power supply and communication interfaces.

2. Definition of socket number of connector

The details are shown in Table 1 and 2.

Table 1 Definition of the DC28V Incoming interface

Pin	Signal definition	Remarks
1~8	24V+	
9~15	GND	

The "communication" interface is defined in the following table.

Table 2 "Communication" interface definition

Pin	Signal definition	Remarks
1	External trigger +	3.3V difference
2	External trigger -	
3	RS422 RX+	Serial port communication interface
4	RS422 RX-	
5	RS422 TX+	
6	RS422 TX-	
7	GND	Signally
8	External synchronization +	3.3V difference
9	External synchronization -	
10	NC	