

Single-Lens Laser Ranging Target Designator 120mJ

Model:LDR120D

PRODUCT DESCRIPTION

This irradiator adopts a unique light source design, in a very small structure size to achieve up to 120mJ laser output, and the pulse width is larger than 10ns, the initial laser divergence angle is 50% smaller than conventional products. The irradiator adopts the transmitter-receiver integrated common aperture design, compact structure, can be applied to optoelectronic pods, vehicle-mounted irradiation ranging and other application scenarios.

Irradiator main function:

- Target irradiation guidance
- Target distance test
- Coded laser output
- Over-voltage over-current over-temperature protection, power supply anti-reverse function
- Differential signal external trigger function



TECHNICAL DATA

1.The main parameters of the laser light source

- laser wavelength: 1064nm \pm 1nm
- pumping mode: semiconductor pumping
- Repetition frequency: 1~25Hz
- Output energy: 80~120mj@20Hz(Customizable)
- Irradiation distance: \leq 7km
- Q adjustment mode: electro-optical Q adjustment
- Pulse width: 10ns~20ns
- Beam divergence angle: \geq 0.2mrad (Customizable)
- Optical axis stability: $<$ 0.1mrad
- Pulse energy stability: $<$ 5% (RMS, within one irradiation cycle)
- Working time @20hz: 1 minute of work, 0.5 minute of rest; 8 cycles of work, can continue to work after a 10-minute break
- Power supply: DC 28V \pm 4V
- Power: standby power consumption \leq 5W; peak power consumption \leq 120W; irradiation power consumption \leq 90W

Coding type:

- a) Built-in accurate frequency coding, variable interval code, support pseudo-random coding
- b) With the ability to load more than 1024 groups of preset codes, reserved for

- Coding accuracy: \geq 1.5 μ s@20Hz

2. Ranging system indicators

- Ranging mode: pulse ranging
- Ranging frequency: 1-5HZ
- Measuring Distance: $>$ 14Km (3m*3m target plate, visibility $>$ 10km)(Customizable)
- Minimum measurement distance: \leq 500m (3mX3m target plate)
- Ranging accuracy: \pm 5m
- Quasi-measurement rate: \geq 98

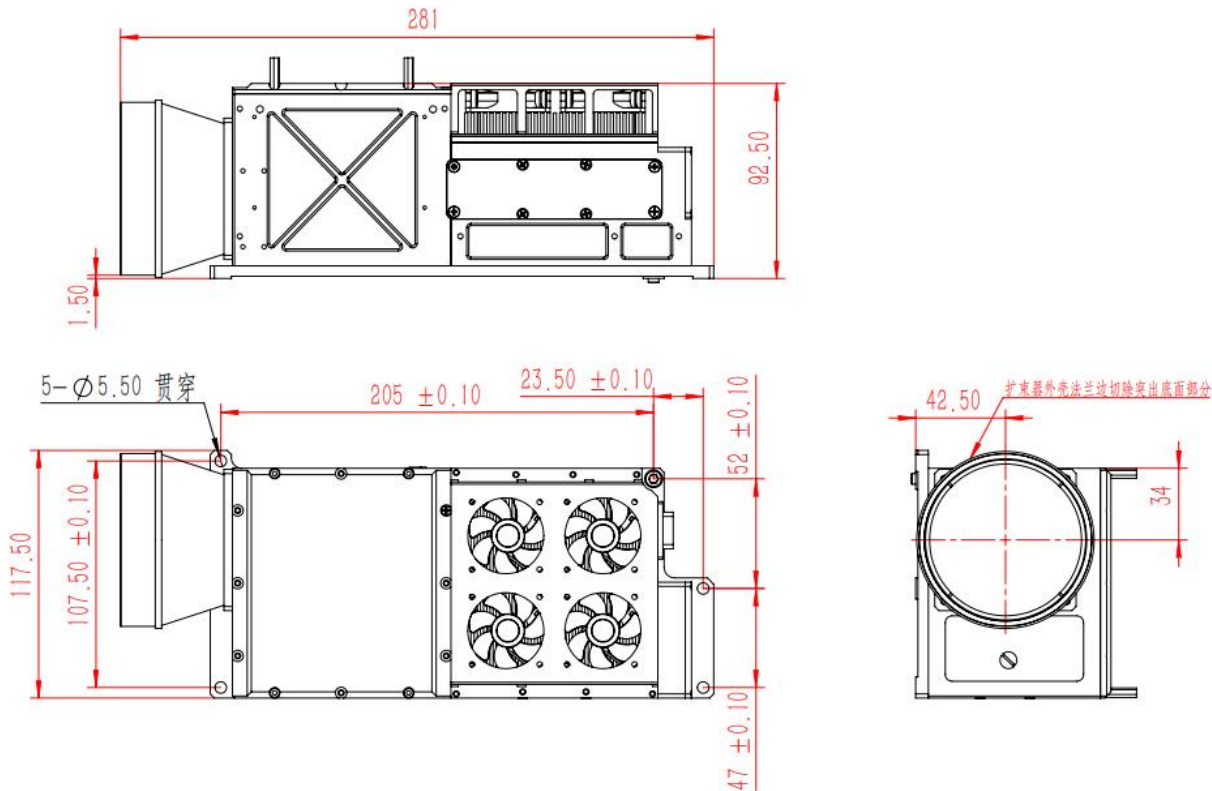
3. Interface and structure

- RS422 serial port, external synchronous input 422 level, 0-5V external synchronous irradiation
- Product size: \leq 280X118X95mm
- Weight: \leq 2300g
- Cooling method: air-cooled

4. Environmental adaptability

- Operating temperature: $-40^{\circ}\text{C} \sim +60^{\circ}\text{C}$;
- Storage temperature: $-45^{\circ}\text{C} \sim +70^{\circ}\text{C}$;
- vibration: meet the frequency range and power density requirements specified in Figure C.3 in GJB150.16A-2009 (frequency 5HZ~500Hz, time 12min);
- Shock: meet the requirements of 7.2.1 Functional Shock in GJB150.18A-2009.

5. Product external dimensions



COMMUNICATION INTERFACE

1. Communication connector (socket model J30J-15ZKP, butt plug model J30J-15TJ) Pin definition

Pin	Definiton	Content	Type of signal	Remarks
1	TX+	RS422 Send positive (local)	Output	Object host computer
2	TX -	RS422 Send negative (local)	Output	Object host computer
3	RX+	RS422 Receive positive (local)	Input	Object upper computer
4	RX -	RS422 Receive negative (local)	Input	Object upper computer
5	GND	Ground RS422	Signal ground	Object upper computer
6				Manufacturer's debug special
7				Manufacturer's debug special
8				Manufacturer's debug special
9				Manufacturer's debug special
10				Manufacturer's debug special
11				Manufacturer's debug special
12				Manufacturer's debug special
13				Manufacturer's debug special
14		External time system +	Input	RS422 differential

15		Outer time Tong -	Input	RS422 differential
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2. Power connector (plug type J30J02P020P000S0P120, plug type J30J02P020S000S0L000) Pin definition

Pin Number	Definition	Remarks
A, B	24V	The wire color is red
C, D	GND	The wire color is black