

## 110mJ Laser Target Designator with Rangefinder

Model:JIO-D110M



JIO--D110M Laser Target Designator with Rangefinder is an airborne equipment that provides sufficient guidance reflection energy for laser semi-active guided bombs and missiles, continuously tracking and implementing laser irradiation on targets. Communication is achieved through the RS422 communication interface, which has the characteristics of outstanding performance and simple operation. It has a wide range of application scenarios and the following advantages: small size, light weight, low power consumption, suitable for various platform environments such as airborne, vehicular, and shipborne. Laser wavelength: 1064nm, direct contact with the human eye is prohibited.

### Product Functions

- ▶ Laser ranging function;
- ▶ Provides target laser irradiation;
- ▶ Responds to laser ranging commands and can stop ranging at any time on a stop command;
- ▶ Output distance data and status information once per pulse during ranging;
- ▶ Distance selective pass function;
- ▶ Automatic stopping of ranging when no stop command is received after starting continuous ranging;
- ▶ Irradiation mode and code can be set;
- ▶ Responding to the laser irradiation command, irradiating according to the set mode, code, and irradiating, and can stop irradiating at any time according to the stop command;
- ▶ Start irradiation after not receiving the stop command then irradiation automatically stops after one cycle;
- ▶ Outputting the distance value and status information once per pulse during laser irradiation;
- ▶ The ability to report the cumulative number of laser pulses;
- ▶ Over-temperature alarm function: when the laser illuminator working temperature is too high, can not continue to emit laser light, should be able to send over-temperature alarm status information to the host computer, and protect the laser illuminator safety;

▶ Laser protection function: forced rest.

## Product features:

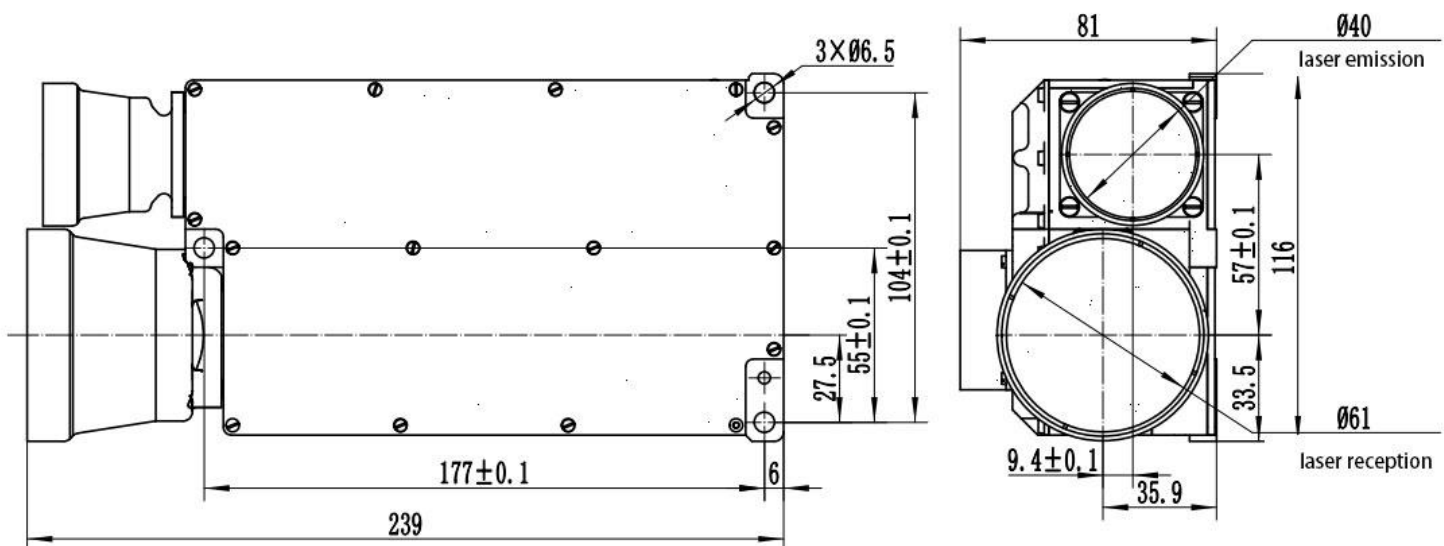
1. Wide temperature non-thermal system design, strong anti-tuning ability, good optical axis stability, can achieve a wide temperature range of work;
2. Using unique pulse detection and automatic compensation technology, high energy stability;
3. Choose active Q-switching pump mode, fine adjustment step, high coding precision.

## Product performance indicators

Item	Index data
Model	JIO-D110M
Wavelength	1064nm±10nm
Ranging capability	≥20000m
Ranging Blind Zone	≤300m
Ranging accuracy	±3m
Accuracy rate	≥98%
Distance Resolution	≤50m
Distance Selection	≥200m
Operating Frequency	Once、1Hz、5Hz、20Hz
Laser continuous ranging time	≥10min(5Hz)
Laser continuous irradiation time	One irradiation duration ≥60s, each irradiation interval 60s (5 consecutive irradiations as a cycle, each cycle interval 30min)
Weight	≤2.5kg
Dimension	≤239mm×116mm×81mm
Voltage	18V ~ 36V
Power Consumption	Standby power consumption: ≤10W Average power consumption: ≤150W
Environmental adaptability	Working Temperature: -40℃ ~ 60℃ Storage temperature: -55℃ ~ 70℃

Average energy	≥110mJ
Energy Stability	≤8%(Statistics after 2 seconds of light output)
Angle of divergence	≤0.15mrad
Pulse width	15ns±5ns
Irradiation distance	≥15500m
Encoding mode	Precise frequency encoding, external synchronization
Encoding precision	≤±2.5μs

## Mechanical and optical interfaces



## Electrical interface

The upper computer side is cross-linked and tested with the female connector J30J-21ZKP on the Laser Target Designator and Rangefinder side through the connector plug J30J-21ZKP. The power supply and communication port pin definitions for the Laser Target Designator and Rangefinder side are as shown in Table 1 (Receiver and Transmitter versus Light Detector). As shown in Table 1 (Receiving and transmitting relative to Laser Target Designator and Rangefinder).

Power supply and communication port pin definitions

Socket J30J-21ZKP		
Corresponding plug J30J-21ZKP		
Pin Number	Signal Name	Description
1-5	+28V	
12-16	+28V_GND	
6	T+	Laser Send
7	T-	
8	R-	Laser Reception
9	R+	
10	GND	Communication ground
17	SYNC_IN+	laser reception
18	SYNC_IN-	
19	NC	vacant
20	NC	
11	Control signal_ + 12V	Power-up control
21	Control signal_GND	