


SDM10 laser rangefinder module

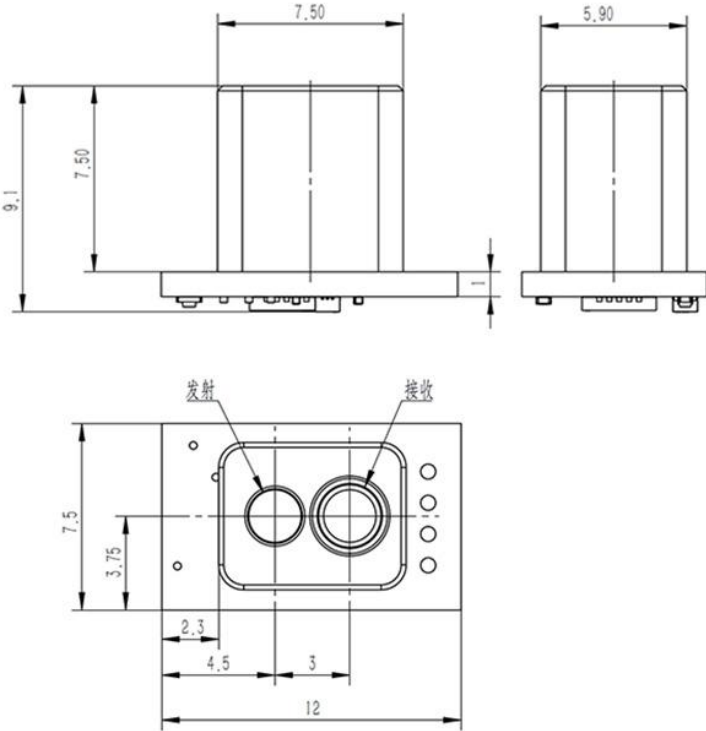
SDM10 LiDAR is our cutting-edge laser ranging solution for drones, robotic vacuum cleaners, and industrial robots. Built on the DTOF (Doppler Time of Flight) principle, it delivers compact size, cost efficiency, superior performance, and strong resistance to ambient light interference, making it an ideal upgrade replacement for these applications. Featuring UART-based distance transmission, the system offers user-friendly operation, flexible installation, and easy expansion. For more product details, visit: www.siman.asia

warn	Follow the equipment usage guidelines! This product is not a safety sensor and cannot be used for personnel protection.
	<div><div>➤ Measuring laser (940nm): Class 1 laser product. Safe under normal operating conditions.</div><div>➤ This product has no explosion-proof structure, and it is forbidden to use in flammable and explosive environments.</div><div>➤ The product has no reverse connection or overvoltage protection. Please power and wire correctly according to the specifications.</div><div>➤ Be sure to turn off the power before operating. Do not connect wires while powered on!<div><div>1. Avoid use in dust/steam or corrosive gas environments;</div><div>2. Avoid use in places where corrosive gases are generated;</div></div></div><div><div>➤ Do not use this product in water.</div><div>➤ When used outdoors, pay attention to adding a waterproof cover.</div><div>➤ The product may fail when measuring high-reflective objects (such as 3M tape) or mirrors.</div></div></div>
hookup	



pin	Pin Description	customer interface
1	TX	RX
2	RX	TX
3	GND	External power negative
4	VCC+5V	External power is on
Specifications		
model	SDM10	

measuring range	0.05-10m (90% reflectivity), 0.05-5m (10% reflectivity)
repeatability	10mm
precision	
accuracy	±5cm(< 5m), 1%(≥5m)
measuring frequency	50Hz
Measure laser light source	940nm, Class 1
Field of View (FOV)	3°
Environmental light resistance	2m@70KLux
Control output	UART TTL
Average Power Consumption	<0.1W (low-power mode supported)
working voltage	4.5-5.5VDC
Reverse Protection	have
weight	1g
size	12 x 7.5 x 9.1 mm
working temperature	-20~60℃
Electrical connections	4-pin 1.25mm terminal, 10cm soldered loose wire
Customize range	Supports customizing the shape structure and output protocol
dimensional drawing	



contact us

Siman

Ximan Sensing Technology Co., LTD


[URL: www.siman.asia](http://www.siman.asia)

Wanda Mall 1, Qingpu District, Shanghai

11 Changchun Road, High-tech Zone,

Zhengzhou City, Henan Province

[Email: 17317261651@163.com](mailto:17317261651@163.com)



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UART TTL

Baud rate	460800bps (default), can be modified		
Data bit 8	Stop position 1	Check bit: None	

output format

This series of distance measurement modules actively outputs data (one frame of 4 bytes) after power-on. When measurement fails, it outputs 65535.

instance :5C0211EC

5C: Fixed frame header 1 byte

02 11: Two bytes indicate the measured distance of 4354mm in little-endian mode, with a range of 0-65,535mm

EC: From 02 to 11, perform byte-level XOR operation and verification

Check function

(Sum and invert from the second byte to the second-to-last byte)

```
uint8_t Check_Sum(uint8_t *_pbuff, uint16_t _cmdLen)
{
    uint8_t cmd_sum=0;
    uint16_t i;
    for(i=0; i<_cmdLen; i++)
    {
        cmd_sum += _pbuff[i];
    }
    cmd_sum = (cmd_sum);
    return cmd_sum;
}
```