

# Quick Start Use Manual

## LR-1BS2 2D 270° Mini LiDAR Sensor Sensing Reality



QSEN-1BS2-202011

### 1. Electrical Connection

LR-1BS2 contains two connectors on the back side, which are 4PIN Ethernet, 12 core cable, which is shown as below.

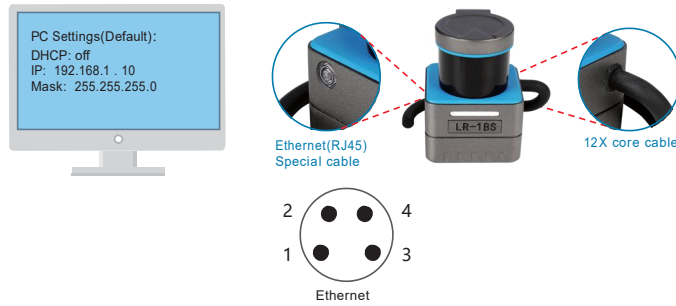


Figure 1: Connection diagram

### 2. Ethernet connector

The pin definitions of Ethernet connector are as follows:

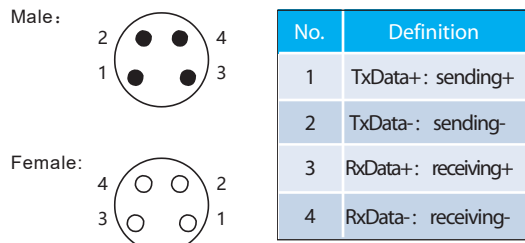


Figure 2: Ethernet Definition

### 3. Power and I/O Cable

Power supply requirement for LR-1BS2 is 12~32VDC, I/O is a switch port of input and output, the input port is used for inputting an external switch signal, and the Output port is outputting a switch signal to an external trigger. The interface uses a 12 core cable and the pin definitions are as follows:

NO	Definition	Wiring color
1	Power_VCC	Red
2	Power_GND	Black
3	Input 0	Orange
4	Input 1	White
5	Input 2	Wathet
6	Input 3	Navy blue
7	Output 0	Brown
8	Output 1	Yellow
9	Output 2	Green
10	Output 3	Violet
11	IO_VCC	Pink
12	IO_GND	Gray

Figure 3: Power and I/O Cable Definition

### 4. Mechanics Connection

The side of the LR-1BS2 LiDAR has 4PIN Ethernet and 12 core cable for power, I/O and Ethernet connection respectively. There are 2\*M3 screw holes (3mm depth) on the back sides for mounting from the back. There are also 2\*M3 screw holes (5mm depth) at the bottom for mounting of LiDAR.

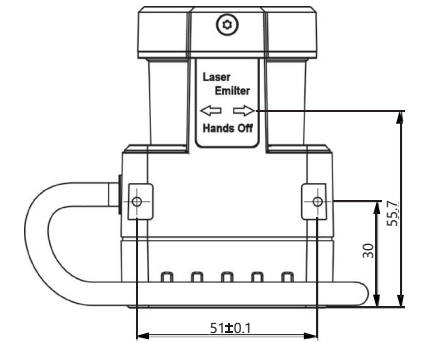


Figure 4: LR-1BS2 rear view

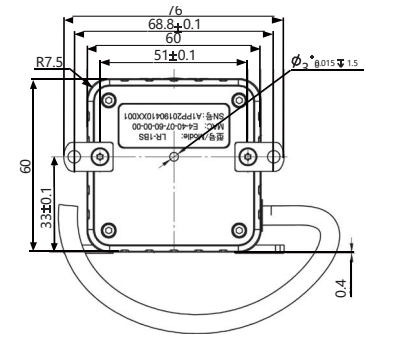


Figure 5: LR-1BS2 bottom view

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### 5. Communication

The LR-1BS2 is connected to the computer through a standard Ethernet RJ-45 Connector, which follows the UDP protocol. The point cloud packet receiving port number is 2368, The IP setup process is shown below:

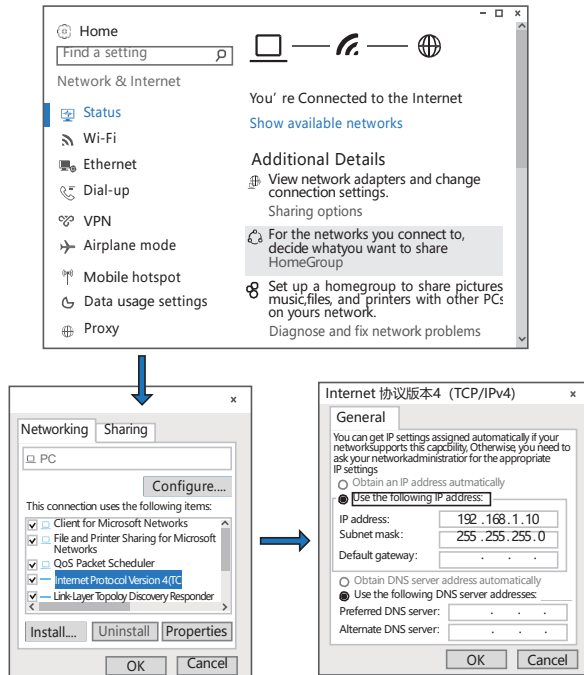


Figure 6: Network IP Settings

Both the LiDAR and the computer IP addresses must be set in the same subnet and conflict should be avoided. Factory setting: IP: 192.168.1.100, subnet mask: 255.255.255.0. Computer IP: 192.168.1.10 Subnet mask: 255.255.255.0.

The IP settings can be modified on the configuration web page.

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### 6. PC software configuration

The LR-1B upper computer software can configure the scanning area and scanning area group as following:

- Double-click " " to start the software OFRge.
- Click "Device" to select the configuration file, and click "Connect" to connect to the Lidar, the real-time point cloud is displayed.
- In Bank Info, click on the Bank you want to draw, select the area you want to draw, and select the type of drawing by right-clicking.
- After setting, click "Download" in Lidar Info to download the setting file to the Lidar.
- BankNow displays the currently effective Bank.
- If you need the file that has been downloaded to the Lidar, click "Upload" to transfer the file to the upper computer.
- When an obstacle enters the scanning field, the corresponding I/O port output signal is triggered.

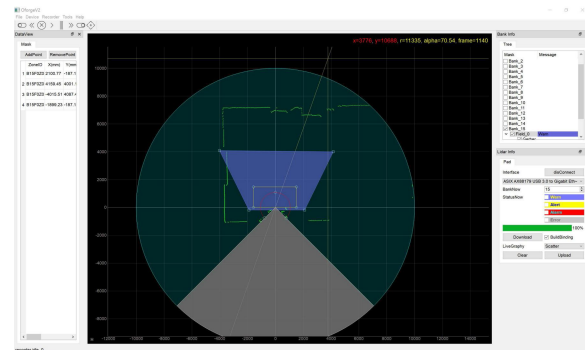


Figure 7: PC software interface example

Please refer to the software manual for details.

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### 7. Webserver configuration

The LR-1BS2's parameter is configured on the webserver as follows:

- Open the web browser (Please use Chrome, Firefox, Edge and other standards-compliant browsers), Enter the right IP Address, The sensor's IP address comes from the factory set to its default value 192.168.1.100;
- The Model and Version are the product model and firmware version number respectively, and shown on the upper end of the interface;
- The Temperature and Voltage on the right side of the interface are LiDAR's parameters displayed in real-time, which demonstrate the temperature and voltage information of specific modules inside. When the parameter font turns red, the LiDAR may not work properly;
- The current LiDAR settings are automatically loaded when the page is refreshed.
- Select the required speed value in motor RPM: 600/900/1200/1500, corresponding to the 10/15/20/25Hz LiDAR scanning frequency;
- Host IP: Your computer IP Address;
- Host Port: Your computer Port ;
- On/OFF DHCP:
  - ON: The LiDAR dynamically obtains the IP address from the DHCP server.
  - Off: A static IP address is needed for this LiDAR.
- LiDAR IP: LiDARIP Address;
- NetMask: Subnet mask 255.255.255.0
- Gateway: Gatewayaddress
- Enter /advanced.html after the radar IP address to enter the advanced page

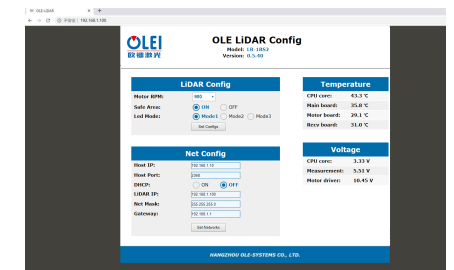


Figure 8: Web page parameter configuration

As the product will be updated constantly, the settings may be changed, subject to actual value.

### 8. Service and maintenance

Please visit the OLEI official website for enquiry of service and maintenance information;  
Website: [www.ole-systems.com](http://www.ole-systems.com)  
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