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.

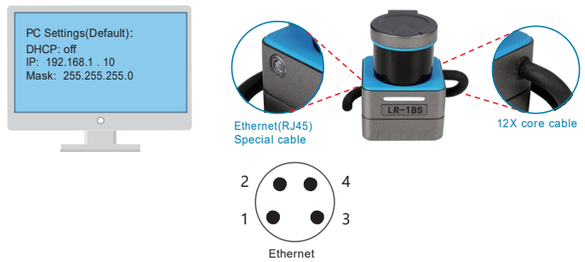
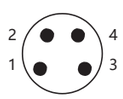


Figure 1: Connection diagram

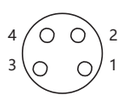
2.Ethernet connector

The pin definitions of Ethernet connector are as follows:

Male：



Female:



No.	Definition
1	TxData+: sending+
2	TxData-: sending-
3	RxData+: receiving+
4	RxData-: receiving-

Figure 2: Enthernet Definition

3. Power and I/O Cable

Power supply requirement for LR-1BS2 is 12~32VDC，I/O isa 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.

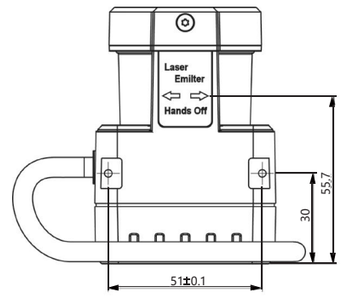


Figure 4: LR-1BS2 rear view

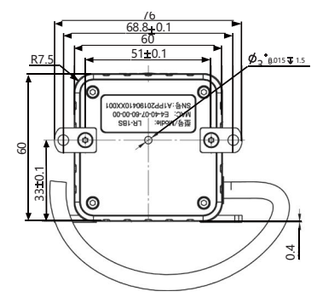


Figure 5: LR-1BS2 bottom view

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:

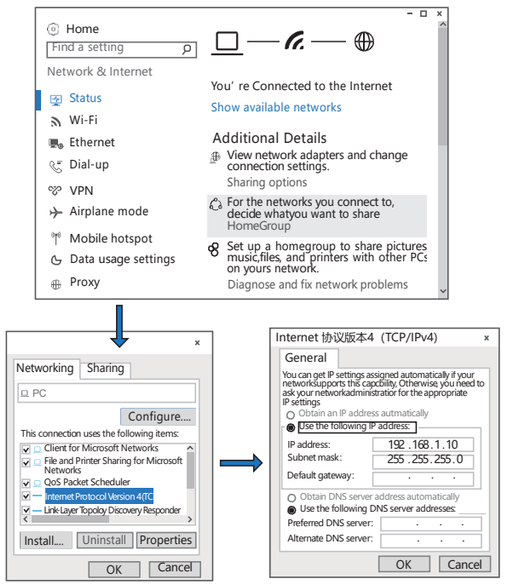


Figure 6: Network IP Settings

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.

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.

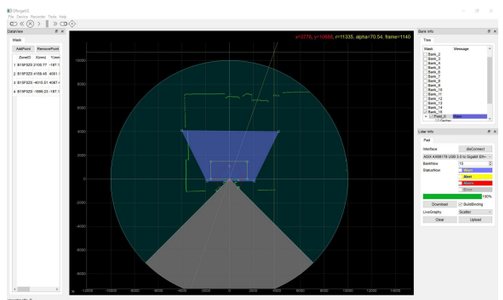


Figure 7: PC software interface example

Please refer to the software manual for details.

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;
- Net Mask: Subnet mask 255.255.255.0
- Gateway: Gatewayaddress
- Enter /advanced.html after the radar IP address to enter the advanced page

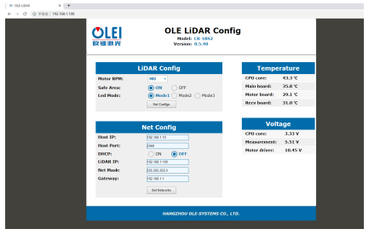


Figure 8: Web page parameter configuration

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

Path: Service and Support>>Service and maintenance

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