

## LRA7 Series Millimeter Wave Lidar



### Product Introduction

Safety millimeter wave radar is an electromagnetic wave radar that detects obstacles ahead even working in dusty, smoky and moist environment. It has good performance against interference and detection ability and is especially suitable for complex industrial sites. It can be applied in a specific area, movable equipment in medium or low speed and in port or wharf for safety protection.

For dust, smoke, or waste produced in the industrial process, optical sensors may have false alarms and failures, but milliwave (electromagnetic wave) lidar can easily cope with them. ESPE has developed a lidar and algorithm suitable for this harsh scene, so that our sensors can provide more accurate and safer protection.

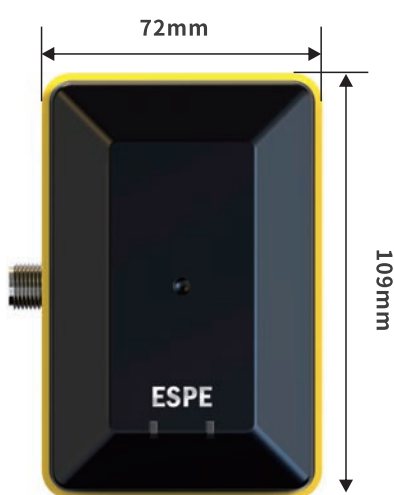
### Product Features:

- **Intelligent software configuration**  
Stop area and warning area, beam width, shielding area, etc., can be easily set by software, which can distinct and track human and machine.
- **IP68 mechanical protection**  
High protection suitable for indoor or outdoor harsh environment.
- **Support setting by APP or Bluetooth**  
Android 6.12-13.0.0 or advanced.
- **Reduce the frequency of false signal**  
Strong penetrate ability through particles, dust, smoke, mist, oil, wood, paper, plastic and so on.
- **Wide range of ambient temperature**  
Normal temperature -40°C-80°C.
- **Adjustable detection distance**  
The detection distance is up to 20m.

## Product Parameter

| Model                      | LRA70                                                                                                                                                      | LRA76                                                                                                   |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Working Frequency          | 81 Ghz                                                                                                                                                     |                                                                                                         |
| Detection Range            | 0.2~20m                                                                                                                                                    | 0.2~6m                                                                                                  |
| Cover Range                | Azimuth 120°X Tilt 30°                                                                                                                                     |                                                                                                         |
| Power Supply               | DC10V~24V (suggest 12v for normal, 24V if over 20m)                                                                                                        |                                                                                                         |
| Response Time              | ≤100ms                                                                                                                                                     |                                                                                                         |
| Lightning Protection Level | 2 KV                                                                                                                                                       |                                                                                                         |
| Average Power              | ≤70 mA                                                                                                                                                     |                                                                                                         |
| PC Communication           | RS485 or CAN                                                                                                                                               |                                                                                                         |
| Protection Rate            | IP68                                                                                                                                                       |                                                                                                         |
| Relay Signal               | 2 Channel                                                                                                                                                  |                                                                                                         |
| Working Temperature        | -40°C~80°C                                                                                                                                                 |                                                                                                         |
| Storage Temperature        | -20°C~65°C                                                                                                                                                 |                                                                                                         |
| Configuration Mode         | PC/ APP                                                                                                                                                    |                                                                                                         |
| Application                | Suitable for harsh outdoor, can be installed on movable equipment, like cranes, port equipment, construction equipment for safety and collision avoidance. | Safety protection for hard industrial environment, fixed installation, to achieve 3D safety protection. |
| Cable Length               | 2m power & IO cable                                                                                                                                        |                                                                                                         |

## Product Size

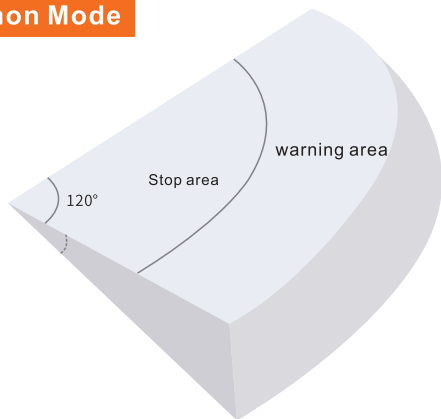


# LRA7 Millimeter Wavelength Lidar

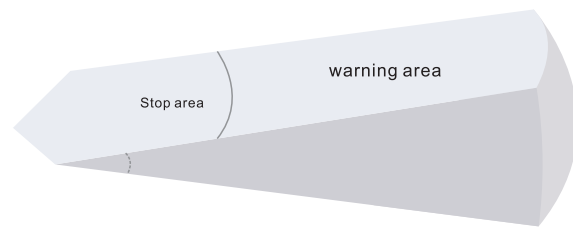
## Software Setting

- Detection angle can be set;
- Edge of protection area can be set;
- It can monitor dynamic or static objects respectively.
- Stop area & warning area can be set;
- Shielding area can be set to block normal moving area in case of false alarm to protect people.
- 6 lidars can be cascaded and matched with control area for expanding the monitoring area.

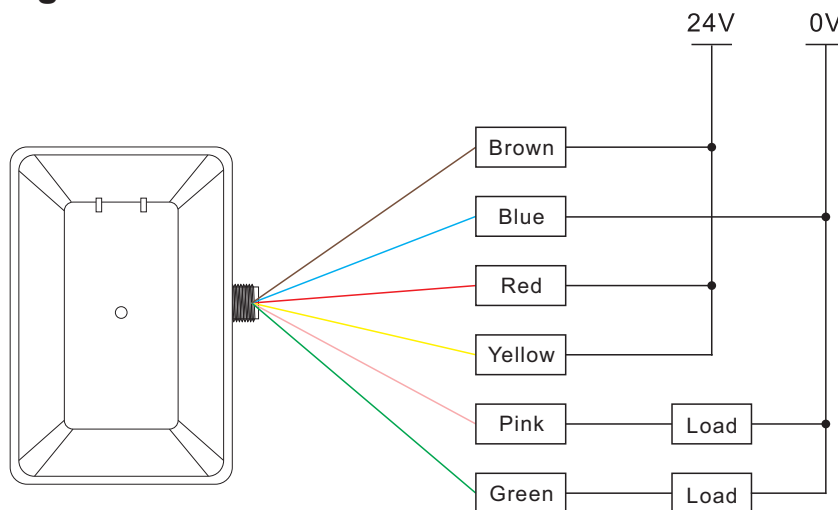
### Common Mode



### Focusing Mode



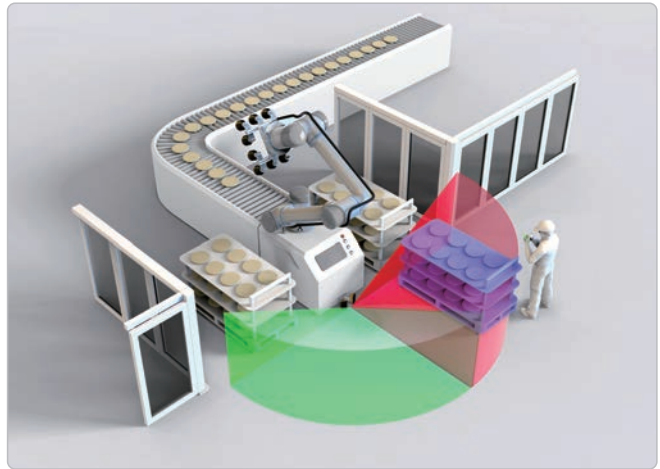
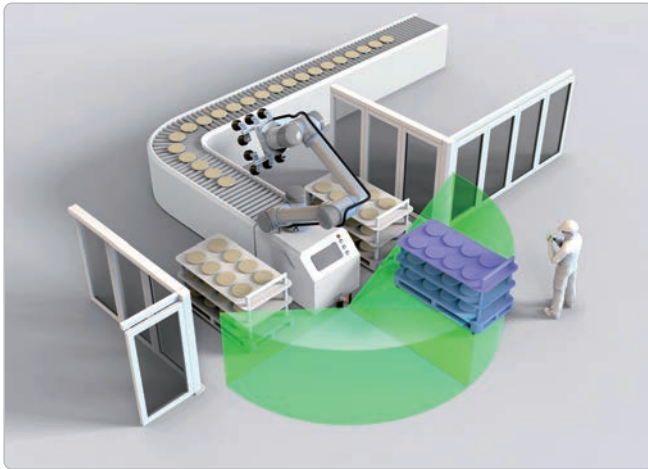
## Wiring Diagram



### Wire Definition

| NO. | Color         | Description                                   |
|-----|---------------|-----------------------------------------------|
| 1   | Brown         | Power supply negative                         |
| 2   | Blue          | GND                                           |
| 3   | Grey          | 485A+                                         |
| 4   | White         | 485B-                                         |
| 5   | Red/ Pink     | Relay normally open (warning area signal)     |
| 6   | Yellow/ Green | Relay normally open (pre-warning area signal) |

## ☆ Application In Complex Area



## ⚙ Application In Harsh Environments



Dirt & Dust



Rain



Smog



Sunshine & Strong Light

# LRA7 Millimeter Wavelength Lidar

## Application



Welding & Spray Coating Robots



Automobile Production



Wood & Stone Processing



Metallurgical Workshop



Dock/ Port/ Ship/ Crane



Grinding Equipment