

**AUTOMATION INDIA**

An ISO 9001 : 2015 Company

Mob. : 8917218270

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Presents

## PROXIMITY WARNING SYSTEM

We are **committed** to Industrial **Safety** of all Operations and events in order to **protect** its **employees** and **assets**

To establish ourselves as a leading organisation, working to provide safety and monitoring devices for equipment as and assets



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### About Royaleo

Know little more about us ,  
who we are what we offer

## 02

### About Product 01

Commercial vehicle collision  
avoidance system

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specifications

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Wiring Diagram /  
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How to goahead and  
place an order with us





01

# Our company

An organization without Boundaries

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The zest of entrepreneurship led to the formation of this company. Our combined experience of more than 60 years in the Industrial, Construction, Mining, and Port equipment industry has paved an obvious path to start our business venture in the same industry.

Throughout our career we have gained hands-on knowledge about requirements of safety devices on stationary and mobile equipment.

We see good investments in various industries and further positive business for the stationary and mobile equipment industry.

# Our Mission

We are here to offer maximum value to our Customers

# We serve

- Material Handling and Warehouse solution
- Mining Sector
- Construction Sector
- Ports Sector
- Transportation
- Agriculture Sector

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**TO BE A LEADER  
IN SAFETY &  
FUTURISTIC PRODUCTS,  
BY OFFERING RELIABLE  
TECHNOLOGY.  
WE AIM TO MEET  
EVOLVING INDUSTRY  
REQUIREMENTS.**

*We*

**ARE READY TO SERVE YOU  
PLEASE DO VISIT OUR WEBSITE  
TO KNOW MORE**

02

About  
Product 01

COMMERCIAL  
VEHICLE COLLISION  
AVOIDANCE  
SYSTEM



Safety of Living and  
infra Asset is in our  
hand

Commercial vehicles in mining, quarrying, agriculture and construction area are big or even large Vehical Mobility Large vehicles with large blind zone, especially when the drivers' seats are in high level. In harsh environment, such as thick dust or darkness, it's more dangerous

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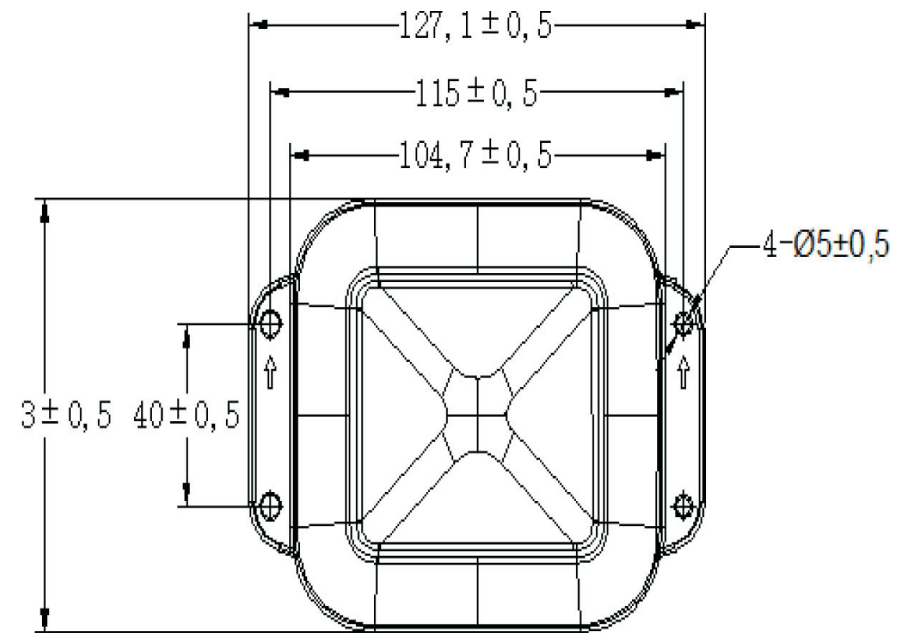
In order to reduce environmental impact and blind zone, 77GHz microwave radar technology provides visible and audible warnings to drivers. It helps drivers to reduce accidents caused by blind zones.

**Part 01**

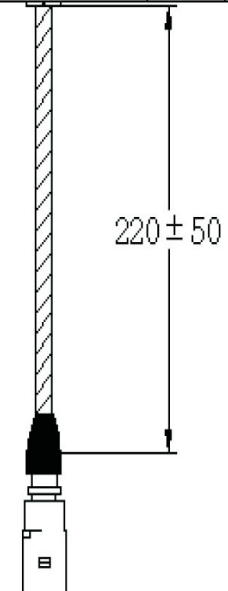
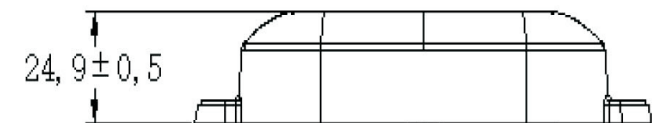
# Microwave sensor - radar

**Qty 01**

Name of Part  
Microwave sensor



Appearance and size  
Unit : MM



# Specification Part 01

## Microwave Radar / Sensor

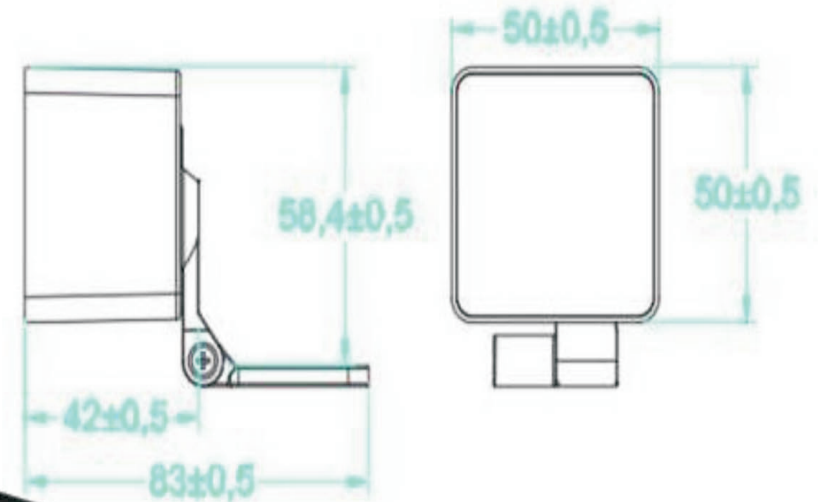
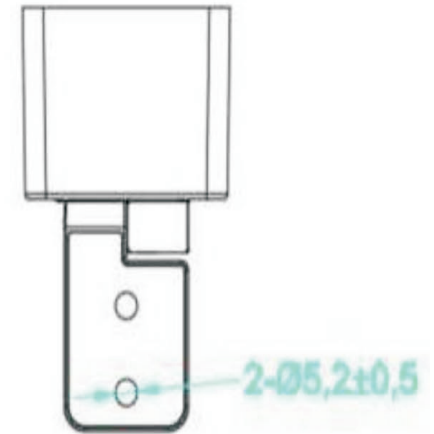
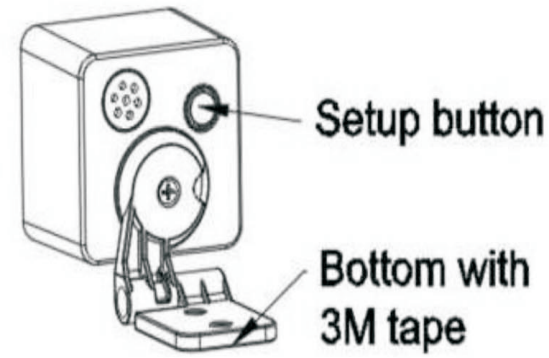
ITEM	Parameter	ITEM	Parameter
Rated working voltage (V)	12V OR 24V	Horizontal angle (°)	110 @ -3dB
Operating voltage range (V)	9-36V	Vertical angle (°)	30 @ -3dB
Working current	<200mA	Angle accuracy (°)	±0.5 @ 40°
Operating temperature range (°C)	-40 ~ 80	Angular resolution (°)	15
Storage temperature range (°C)	-40 ~ 85	Speed Range (km/h)	-36 ~ +36
Working frequency (GHz)	76-77	Speed Accuracy (km/h)	0.5
Transmit power (dBm)	12	Detectability (m)	30
Modulation mode	FMCW	Distance Accuracy (m)	±0.02
Antenna form	2TX, 4RX	Distance Resolution (m)	0.04
Traceable target number <sub>MAX</sub>	31	Waterproof grade	IP69K



## Part 02

# Display Unit

Qty 01



Appearance and size  
Unit : MM

# Specification

## Part 02

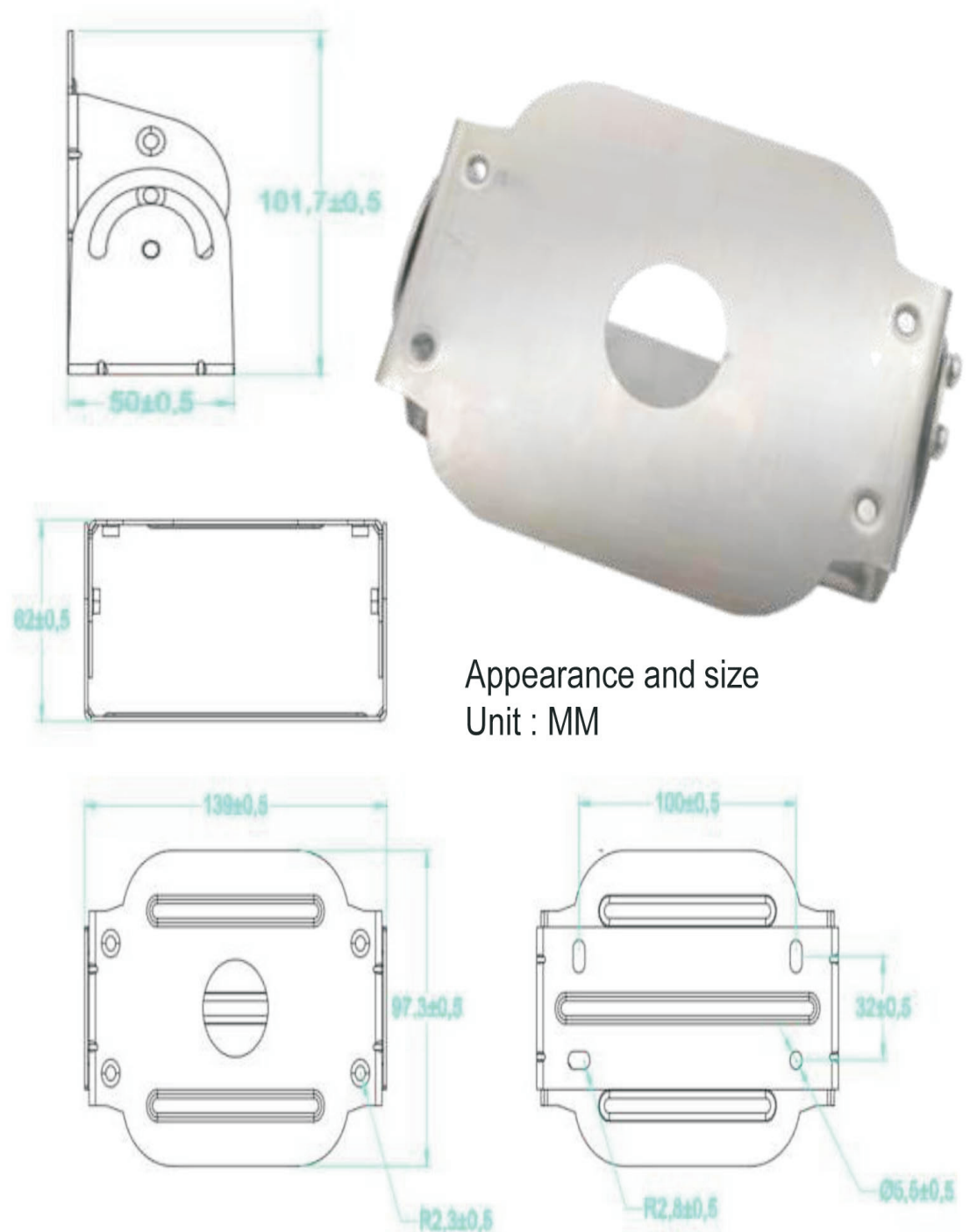
### Digital Display

ITEM	Parameter
Rated working voltage (V)	12V
Operating voltage range (V)	9-16V
Working current	<300mA@12V
Operating temperature range (°C)	-40 ~ 80
Storage temperature range (°C)	-40 ~ 85
Volume	≥80dB@12V/10cm

## Part 03

# Sensor installation bracket

Qty 01



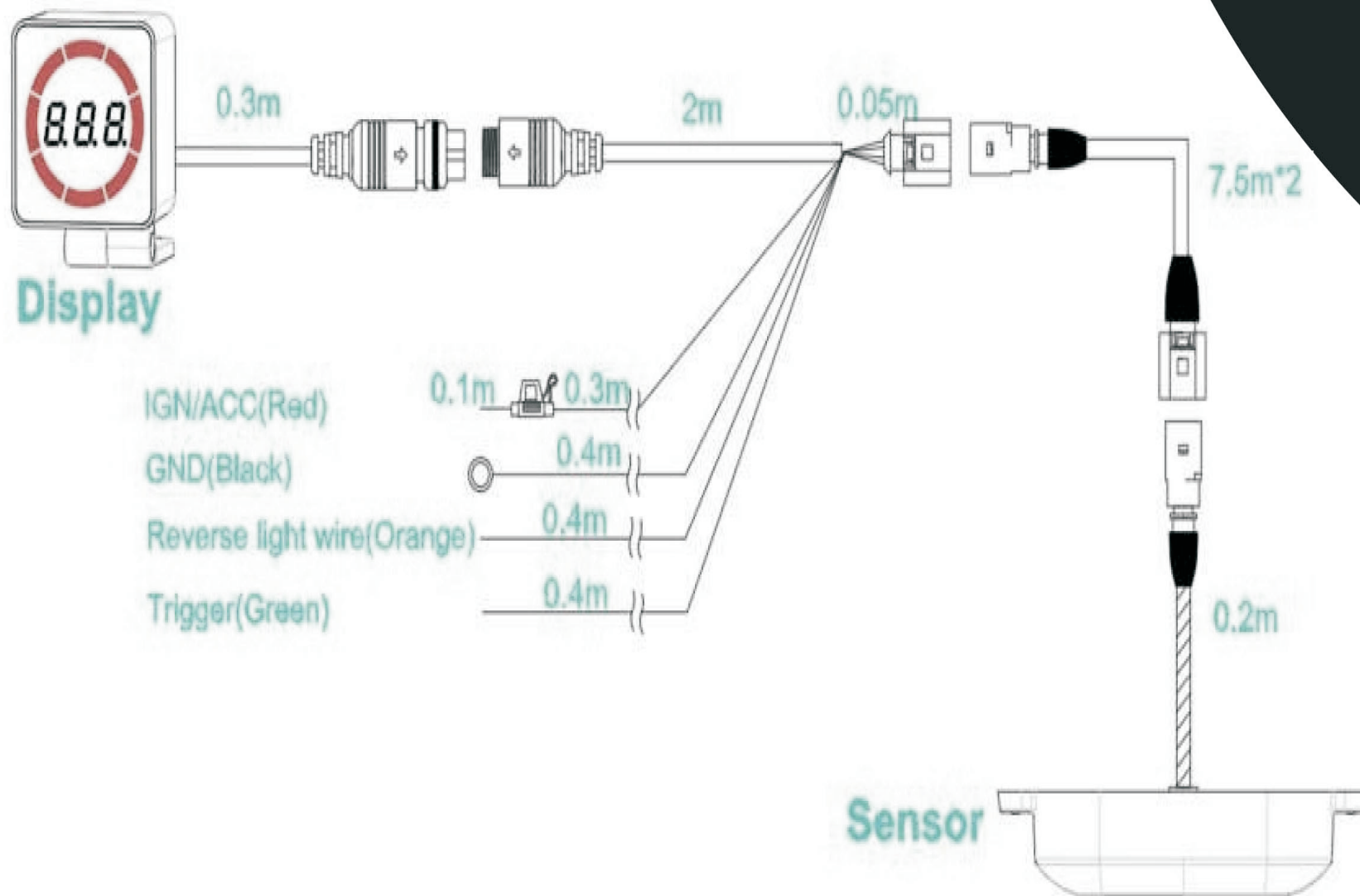
# Installation instruction

Display Unit

Microwave  
Radar / Sensor





# Wiring Diagram



# Functioning Self- diagnosis

When the system IGN is on and the reverse gear is engaged in, the system starts self-diagnosis, the result showed






No.	Self-diagnosis result	LED bar	Buzzer built-in
1	Pass		Beep once
2	Fail		Beep twice

# Functioning

## Basic function

After self-diagnosis, the object distance information will be showed on the display, the information as shown

**Note:** The warning sections showed above when the detection distance was set to 10 mt.

Item No.	Object distance	Distance showing	Color bar showing	Beep frequency
1	No detection	— —	No. showing	No beep
2	8.1 - 10.0m	8.1-10.0	Green LED bar 	1Hz-8Hz Stepless warning beep
3	6.1 - 8.0m	6.1 - 8.0	Yellowish green LED bar 	
4	4.1 - 6.0m	4.1 - 6.0	Yellow LED bar 	
5	2.1 - 4.0m	2.1 - 4.0	Orange LED bar 	
6	1.26-2.0m	1.26-2.0	Red LED bar 	
7	≤1.25m	-P-		Constant beep