

# USER MANUAL





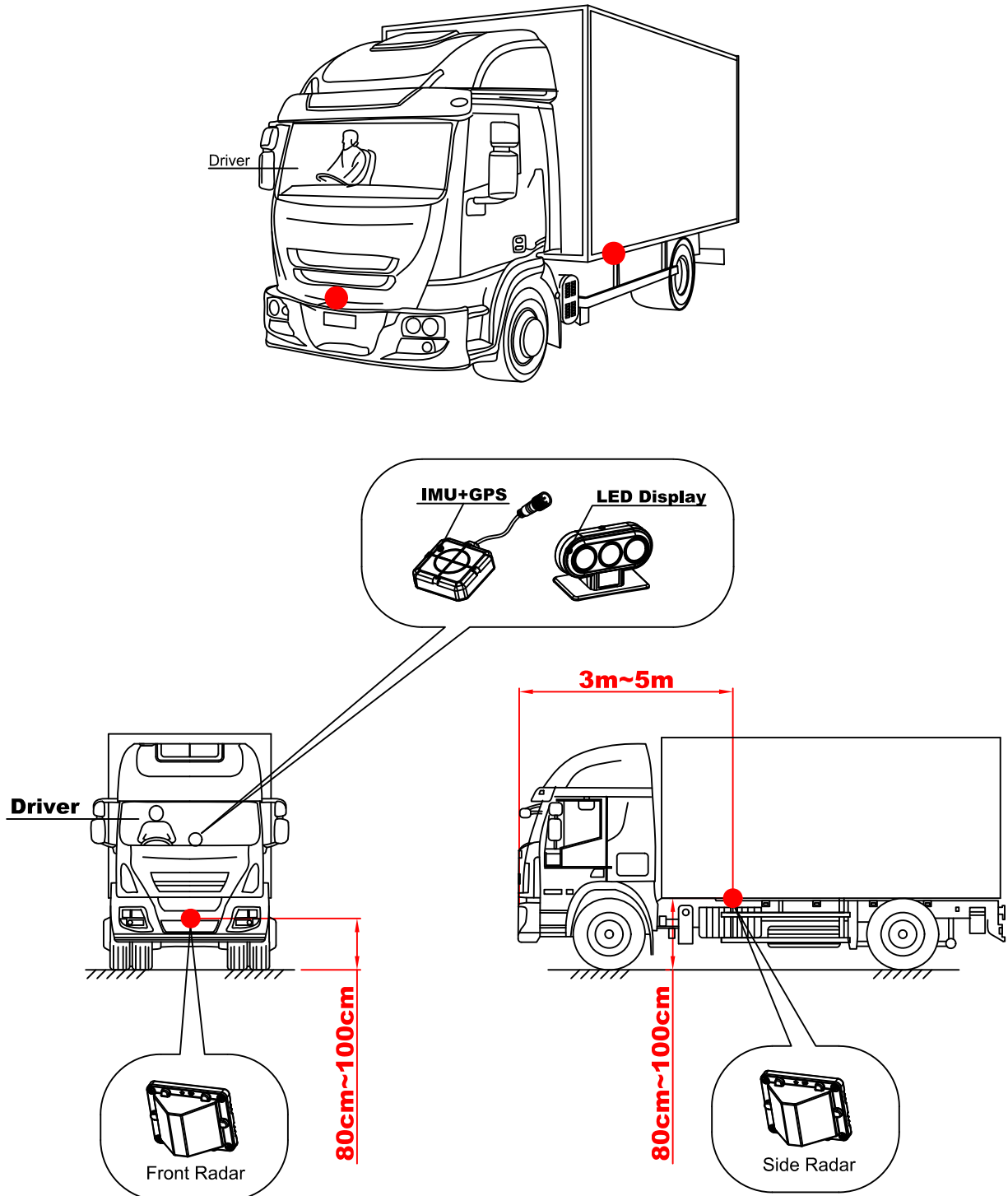
**Q's system is well designed to provide a 360° on road protection and as a security guard in camping site.**



## CATALOGUE

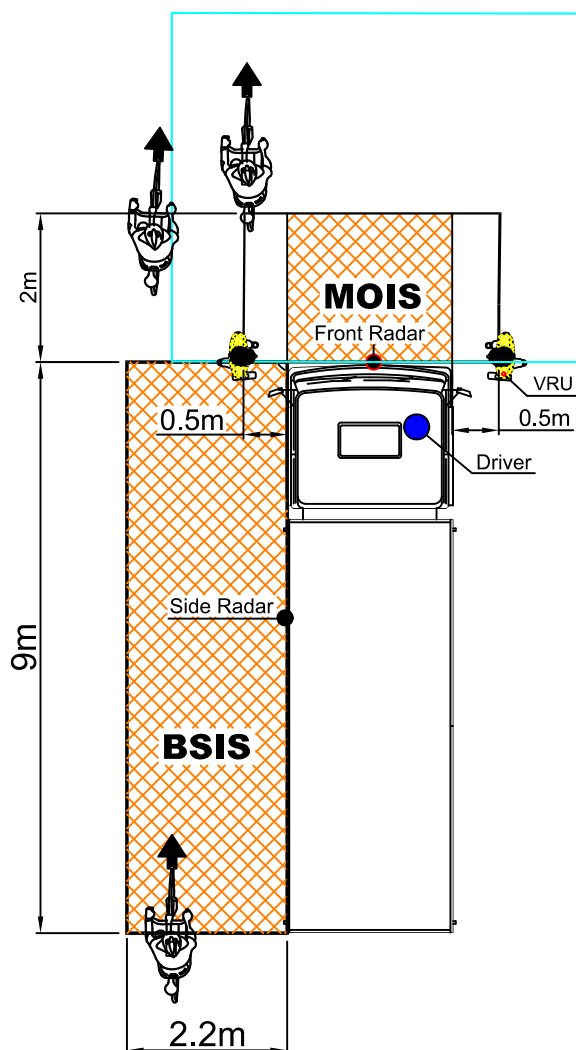
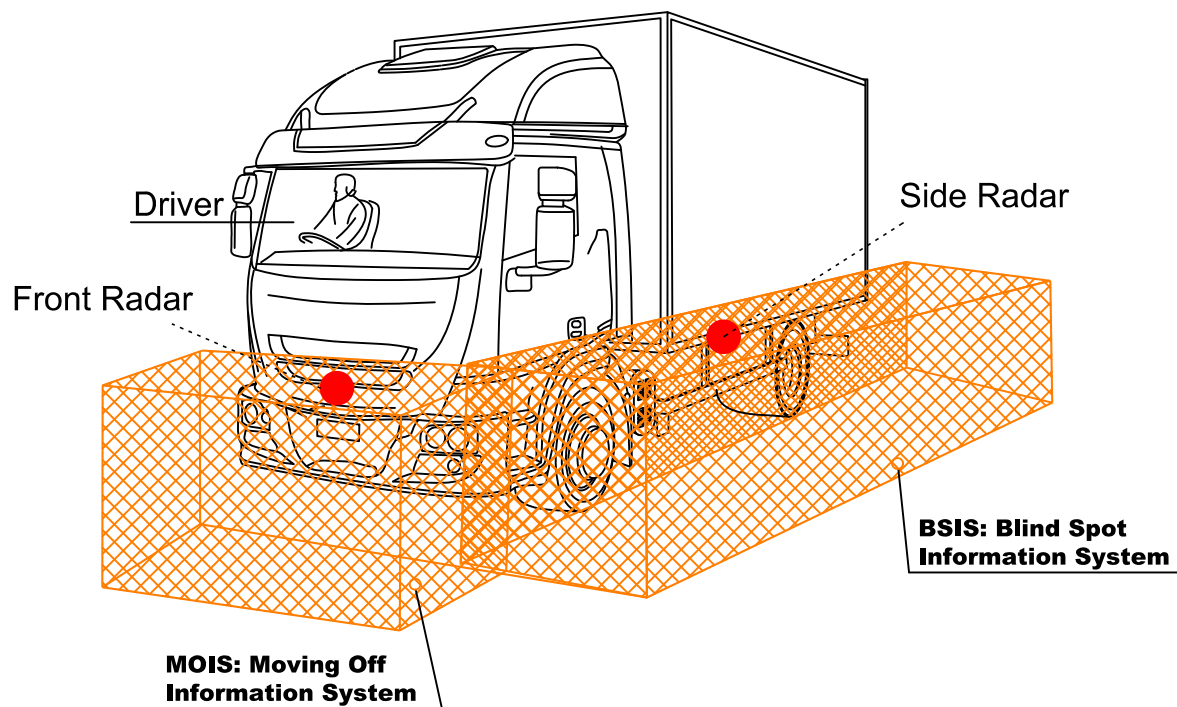
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## **FOR PSS**



- **The Radar sensor/s can be installed within a height of 80cm to 100cm without calibration.**
- **Any height beyond this range should be further calibrated. The manufacturer shall provide a proper calibration program to the installer.**

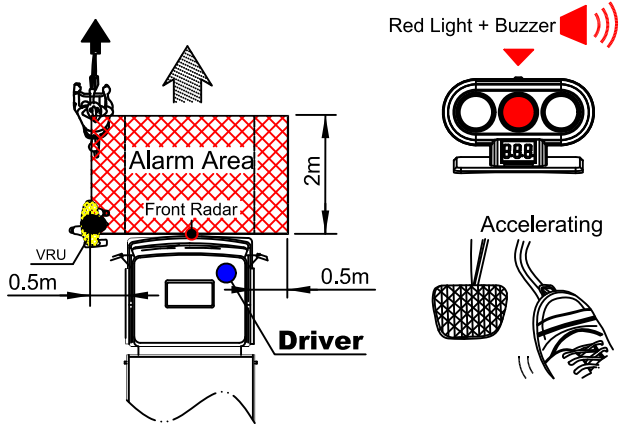
## FRONT/SIDE COVERAGE



## MOVING

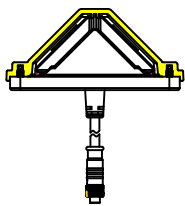
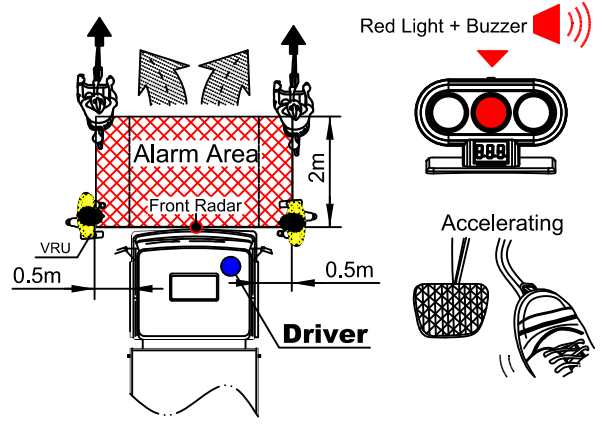
### Straight Forward

Velocity :  $0 < V \leq 3$  (MPH)

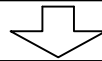


### Turning

Velocity :  $0 < V \leq 3$  (MPH)

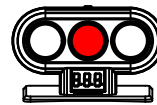


**FRONT RADAR**



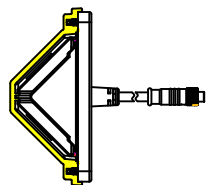
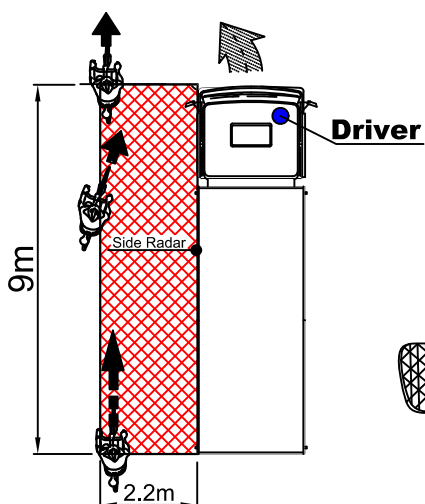
Braking

Red



### Turning

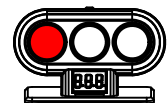
Red Light + Buzzer



**SIDE RADAR**



Red



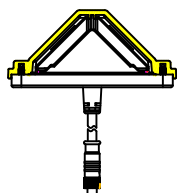
Braking



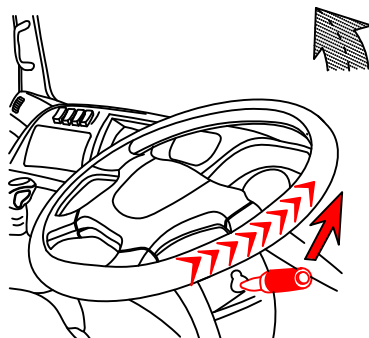
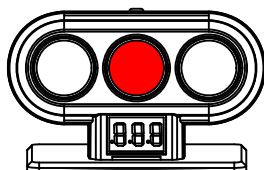
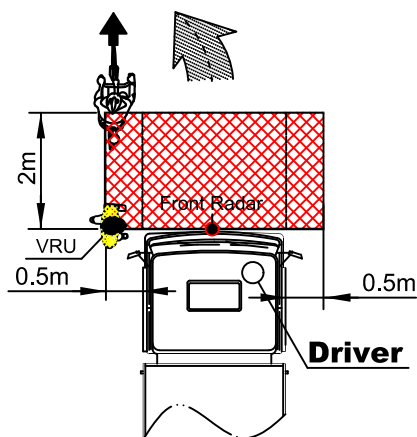


# Turning

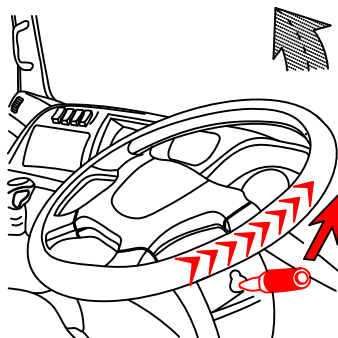
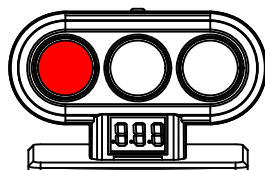
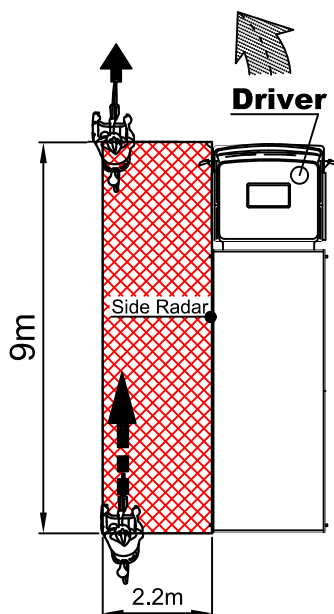
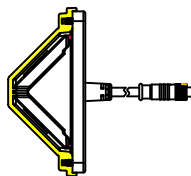
## FRONT SENSOR



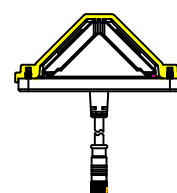
## Turning Left



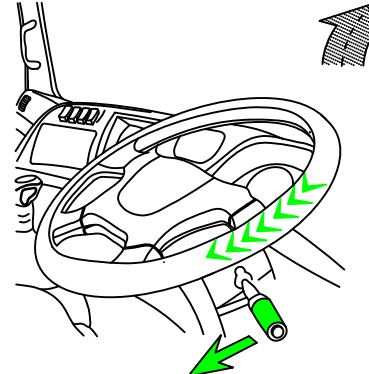
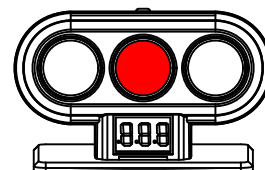
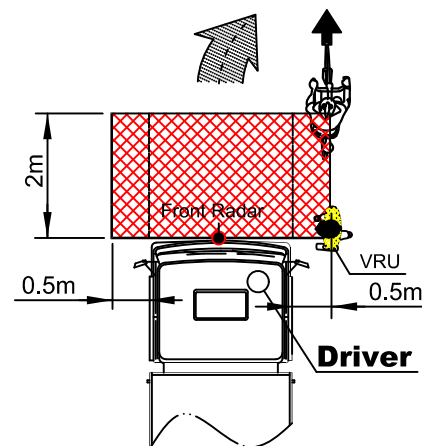
## SIDE SENSOR



## FRONT SENSOR

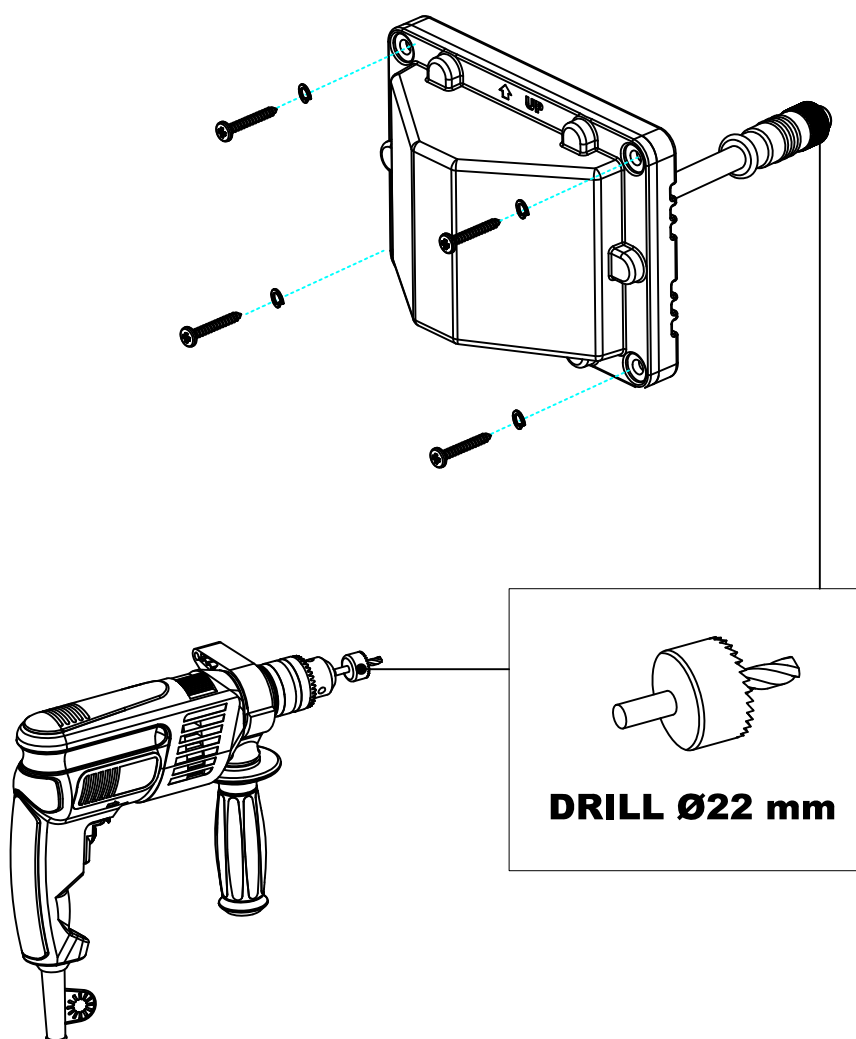


## Turning Right



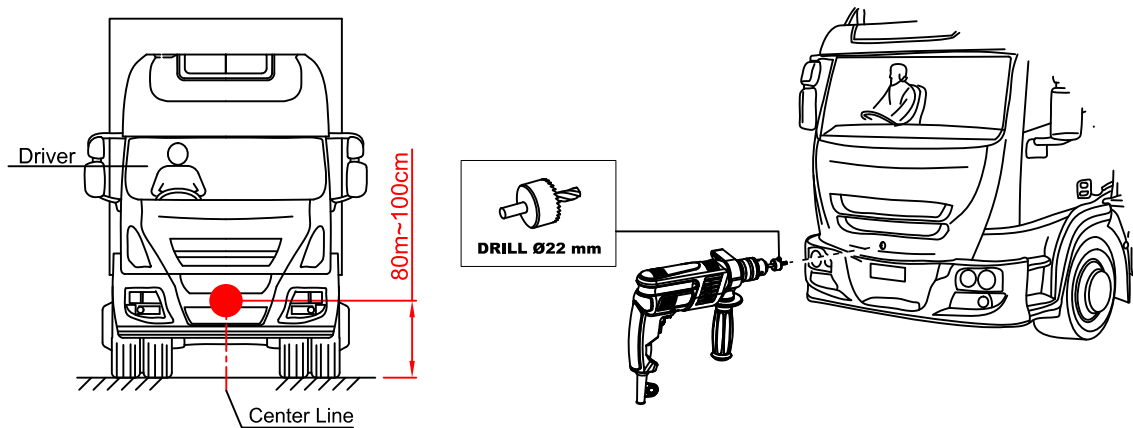
# **RADAR SENSORS**

## **INSTALLATION**

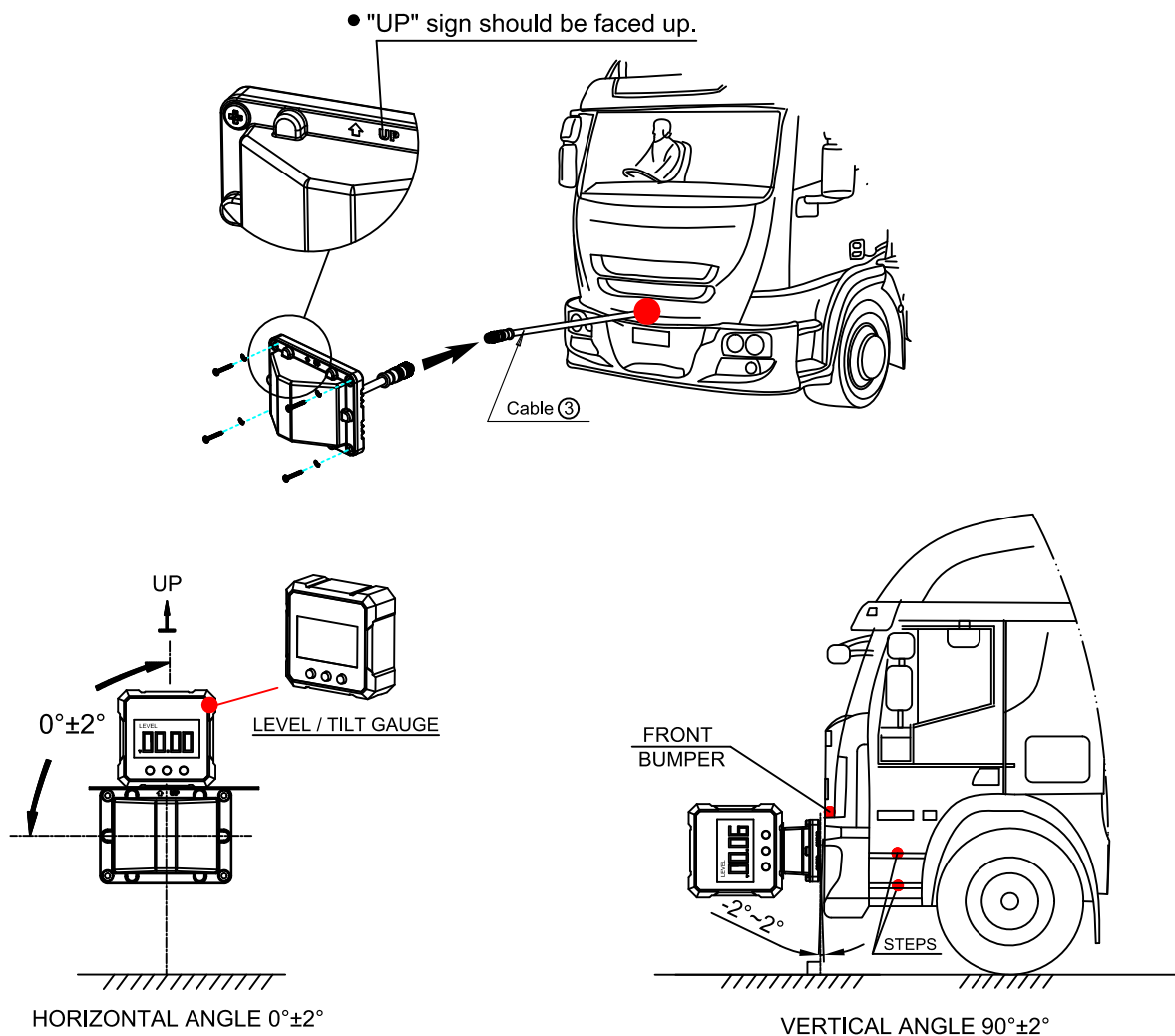




## Front Radar



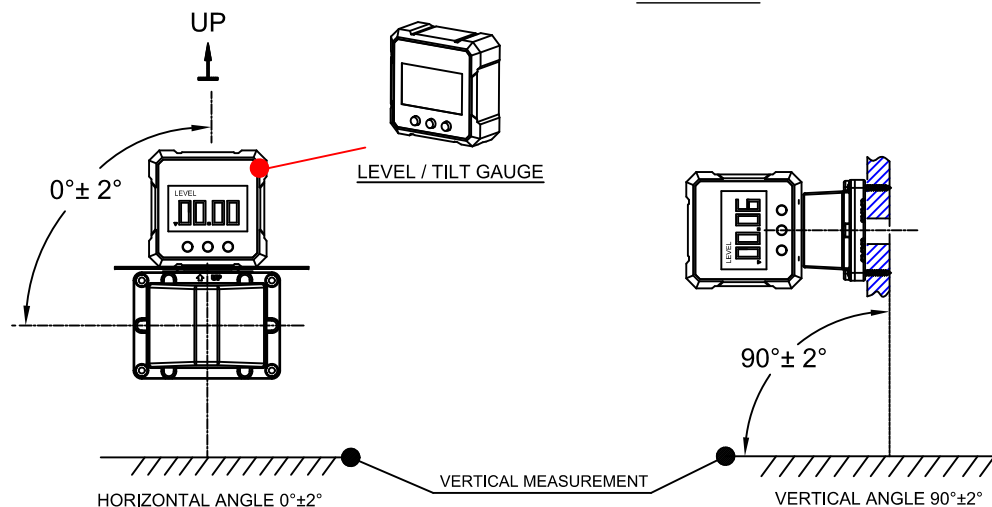
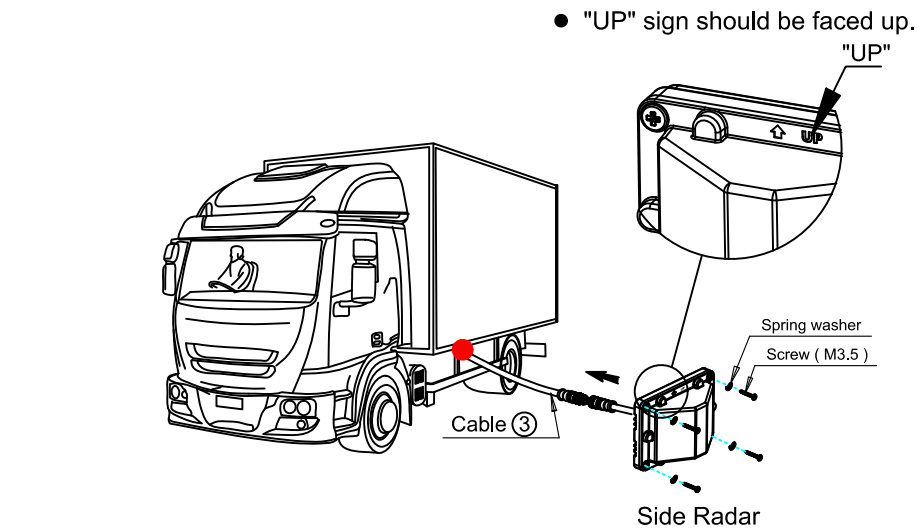
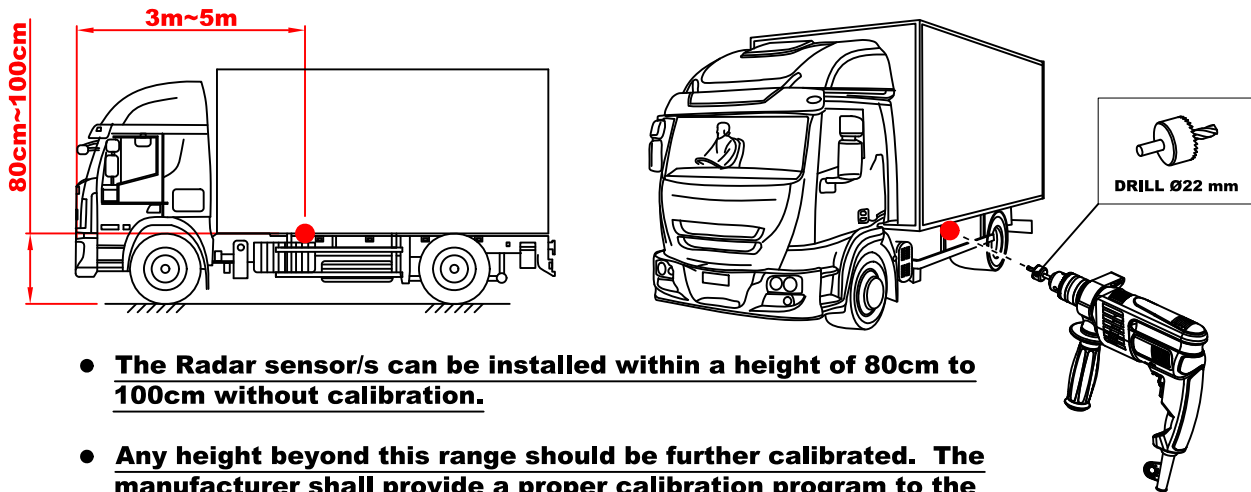
- **The Radar sensor/s can be installed within a height of 80cm to 100cm without calibration.**
- **Any height beyond this range should be further calibrated. The manufacturer shall provide a proper calibration program to the installer.**



- Horizontal ±2 degree tolerance is acceptable.
- Vertical ±2 degree tolerance is acceptable.

**! While installation, Make sure there's no obstacles around.**

## Side Radar

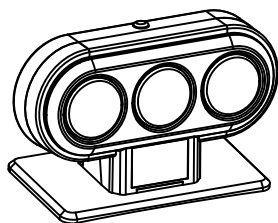
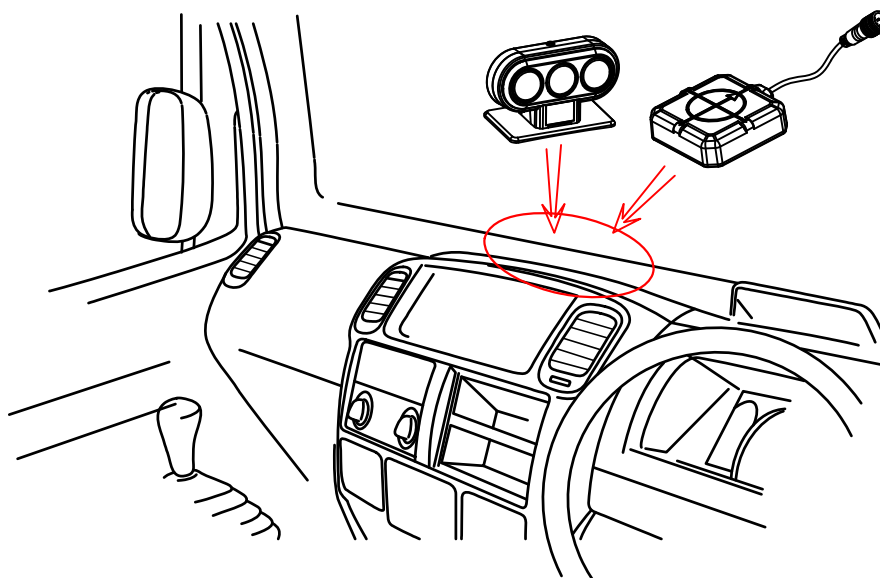


- Horizontal ±2 degree tolerance is acceptable.
- Vertical ±2 degree tolerance is acceptable.

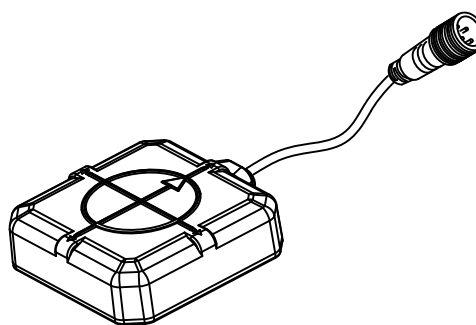
**! While installation, Make sure there's no obstacles around.**

# **INSTALLATION OF LED/IMU+GPS**

## **ON CABIN's DESKTOP**



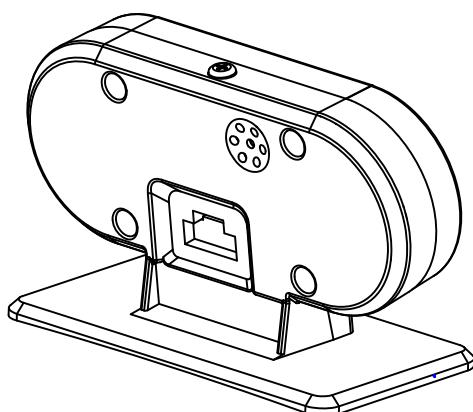
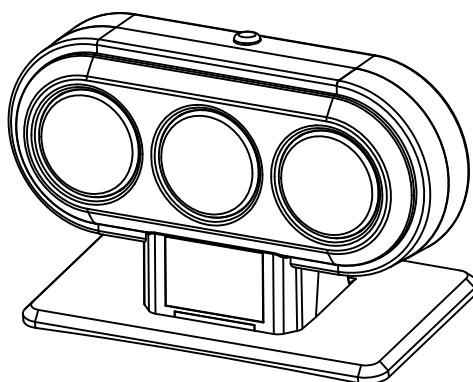
**LED Display**



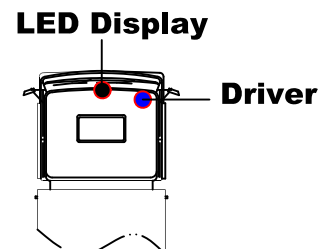
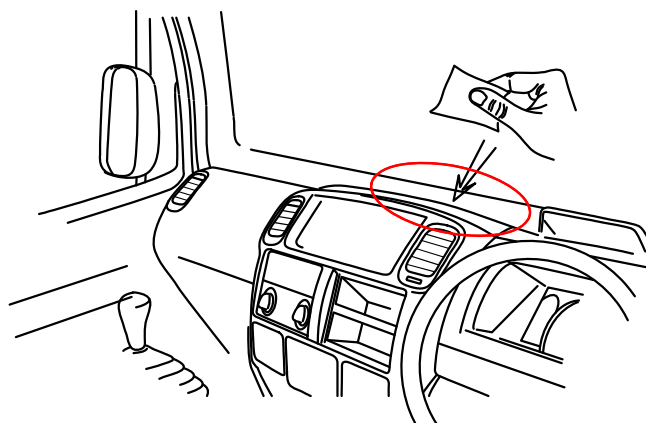
**IMU+GPS**

# **LED DISPLAY**

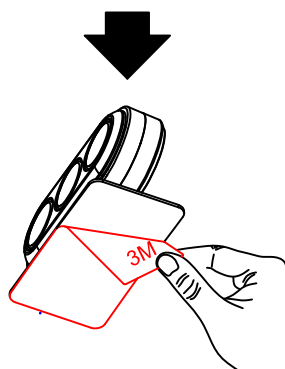
## **INSTALLATION INSTRUCTION**



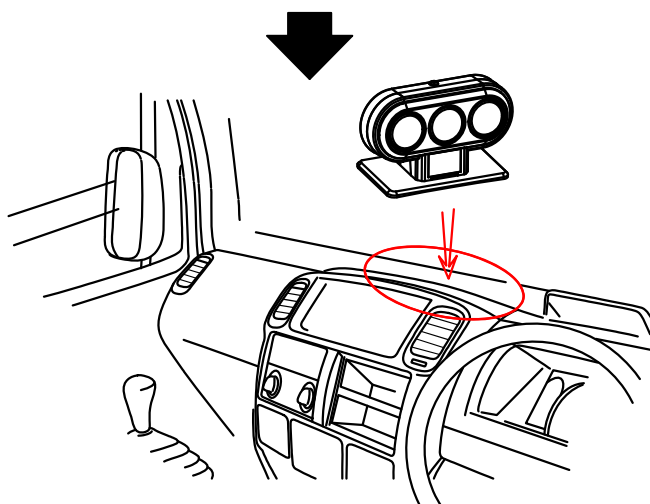
## **LED Display Installation Procedure**



1. Wipe and clean up the mounting position with alcohol swab.



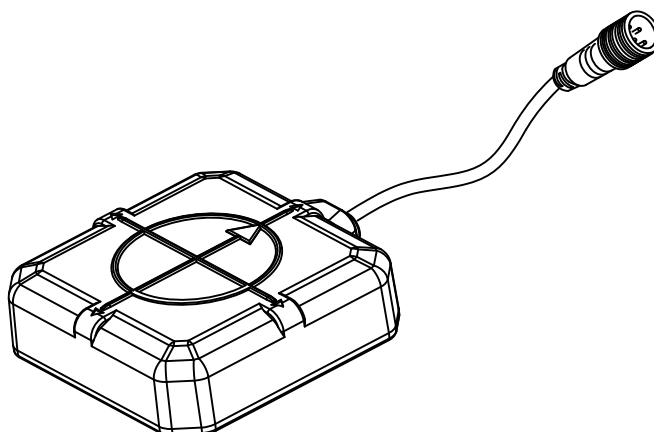
2. Tear off the release film on the bottom of LED Display.



3. Stick the LED Display onto the recommended area.

# **IMU + GPS UNIT**

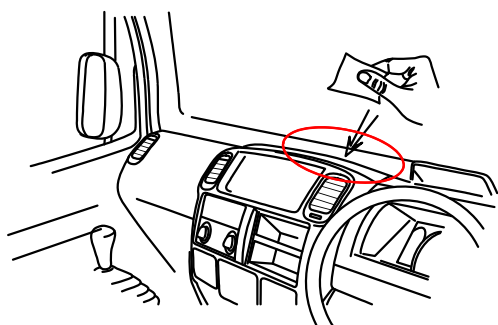
## **INSTALLATION INSTRUCTION**



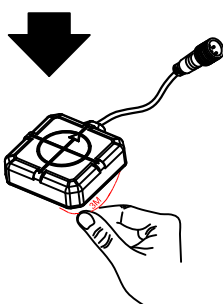
**IMU (Inertial Measurement Unit)**  
**GPS (Global Position System)**



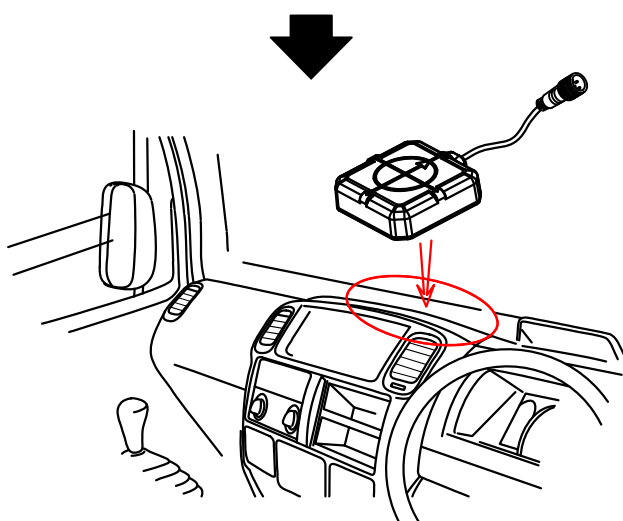
## Installation procedure (IMU+GPS)



1. Wipe and clean up the mounting position with alcohol swab.  
(It is recommended to mount on a nearly horizontal table)

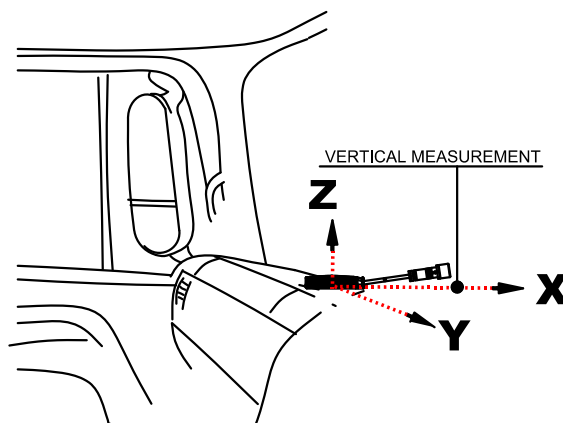
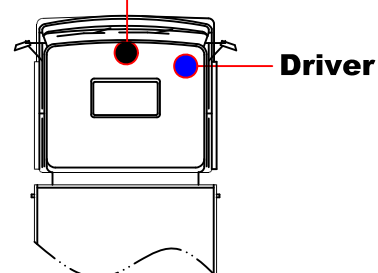
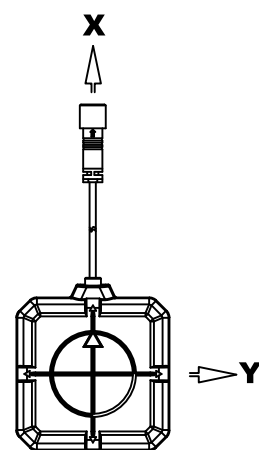


2. Tear off the release film on the bottom of IMU+GPS

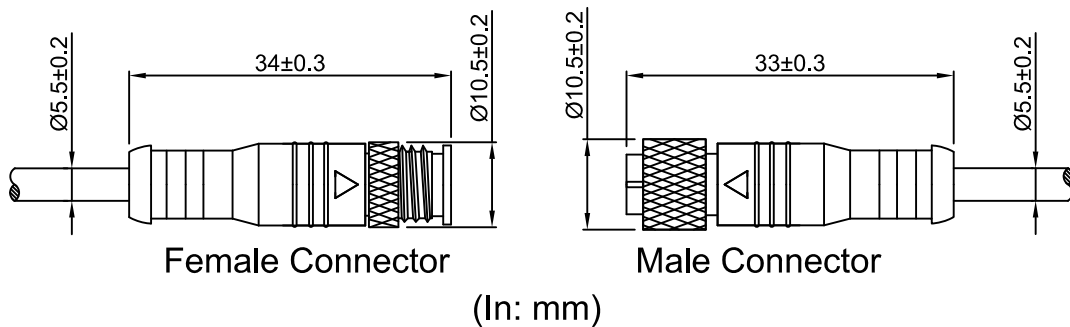
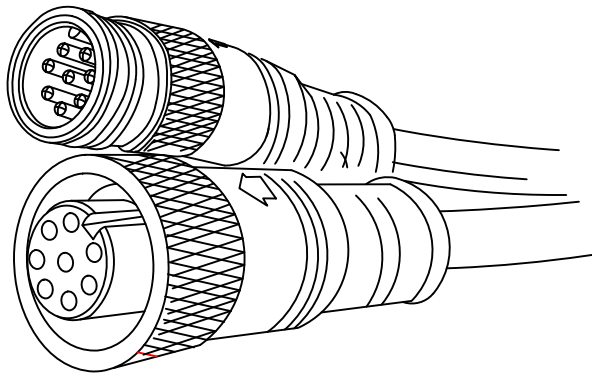


3. Stick IMU+GPS on the recommended area

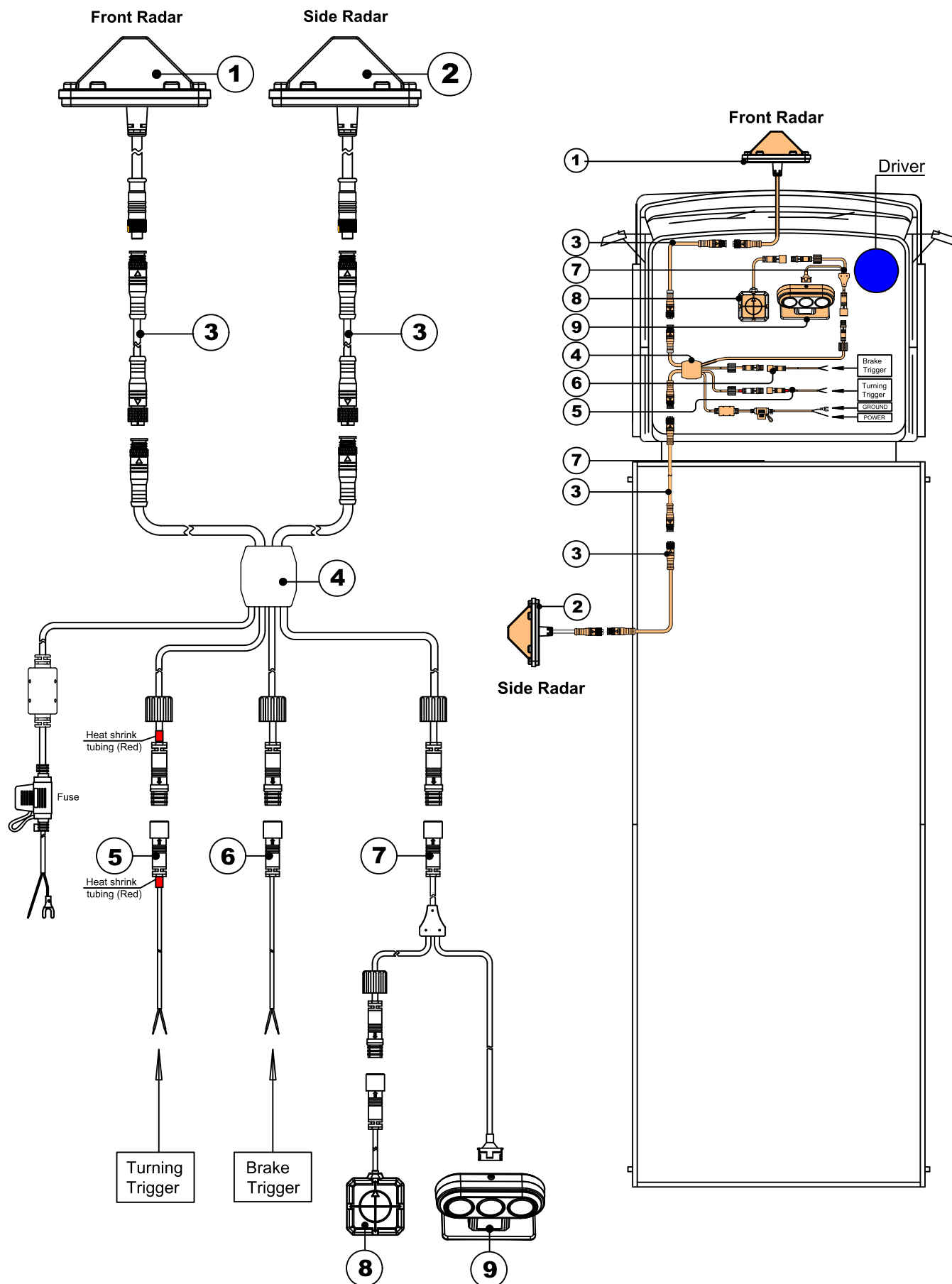
## Recommendation



## WIRING DIAGRAM

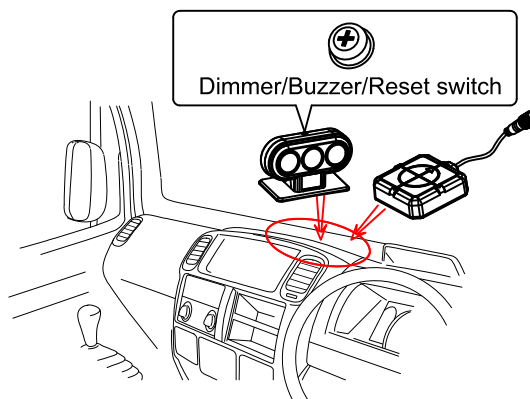


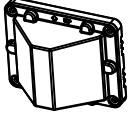
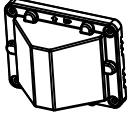
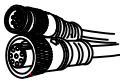
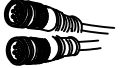





## System Wiring Diagram



**There is a ( + ) button on the top of LED display .  
The button has three ( 3 ) functions:**

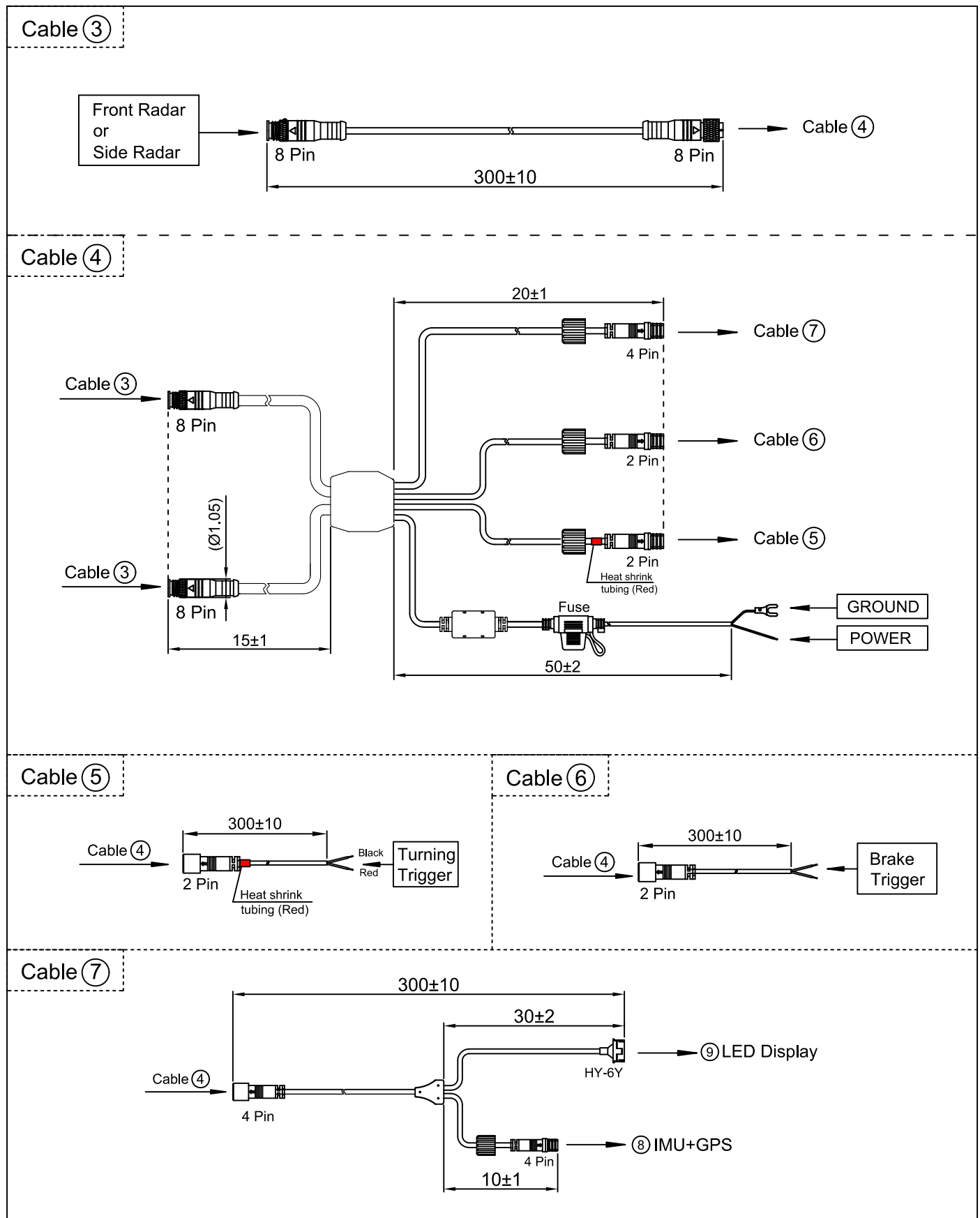
- 1. LEDS dimmer control:**  
- Press the ( + ) button < 1 second for dimmer control.
- 2. Buzzer control:**  
- Press 1-2 seconds for speaker on / off.
- 3. Long press button for 6 seconds to reset LED Display.**



①	Front radar		1
②	Side radar		1
③	Radar extension cable 3m		3
④	System Cable		1
⑤	Turning trigger cable 3m		1
⑥	Brake trigger cable 3m		1
⑦	LED Display & IMU+GPS cable 3m		1
⑧	IMU+GPS		1
⑨	LED Display		1

## SYSTEM WIRING DIAGRAM

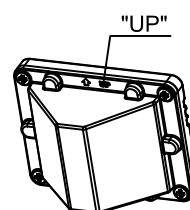
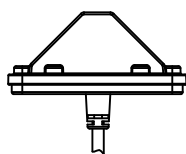
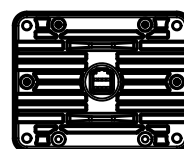
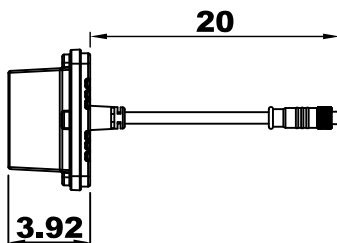
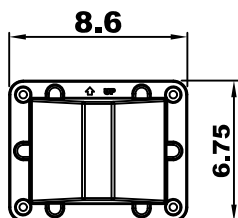
(Basic size : cm)



## **PARTS AND ACCESSORIES**

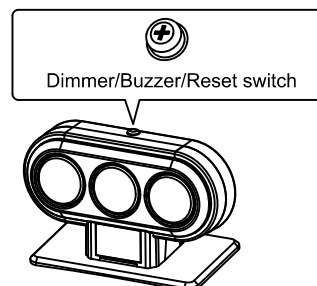
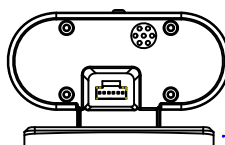
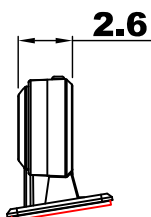
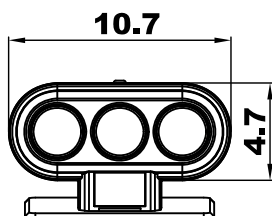
**Front / Side radar**

(Basic size : cm)



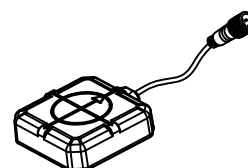
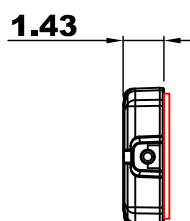
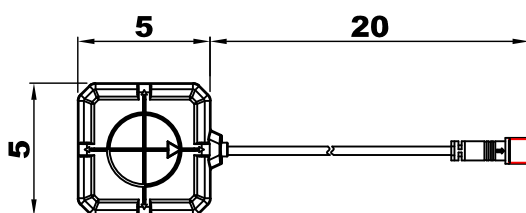
**LED Display**

(Basic size : cm)



**IMU+GPS**

(Basic size : cm)

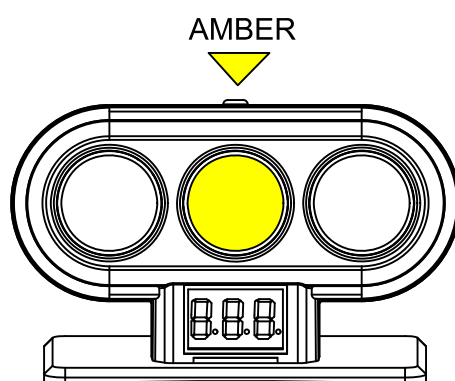




# MALFUNCTION

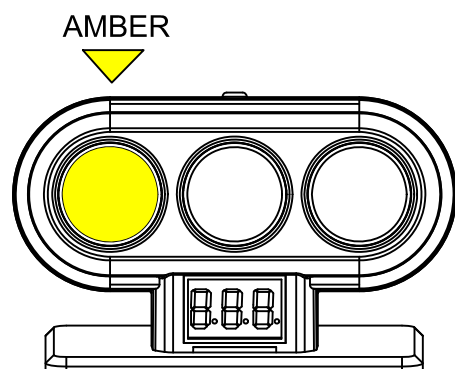
## WARNING

### FRONT SENSOR



**(S.O.S)**

### SIDE SENSOR

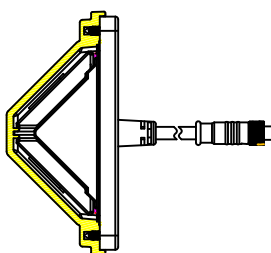


**(S.O.S)**

## MALFUNCTION WARNING

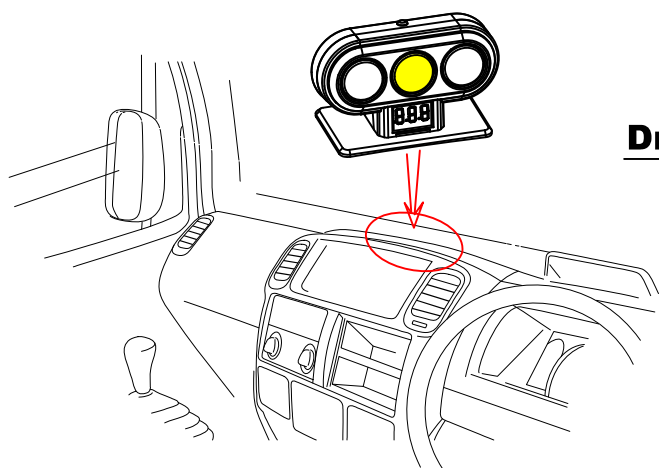
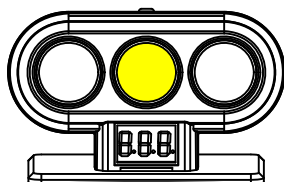
### FRONT SENSOR

### MALFUNCTION

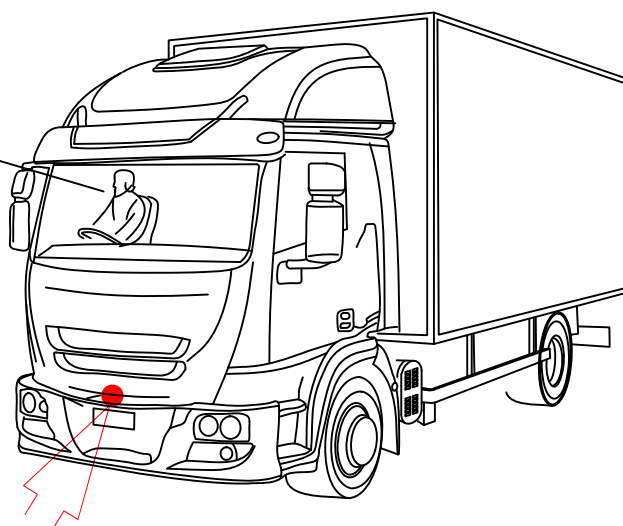


**(S.O.S)**

AMBER



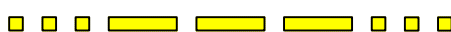
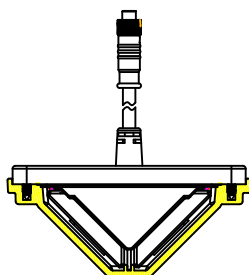
Driver



## MALFUNCTION WARNING

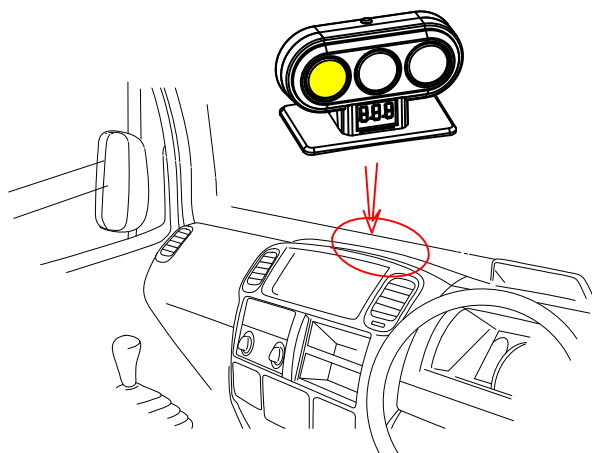
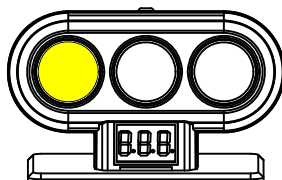
### SIDE SENSOR

### MALFUNCTION

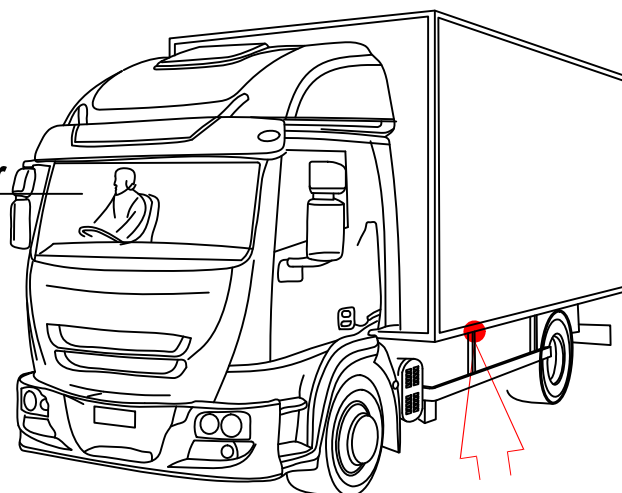


(S.O.S)

AMBER

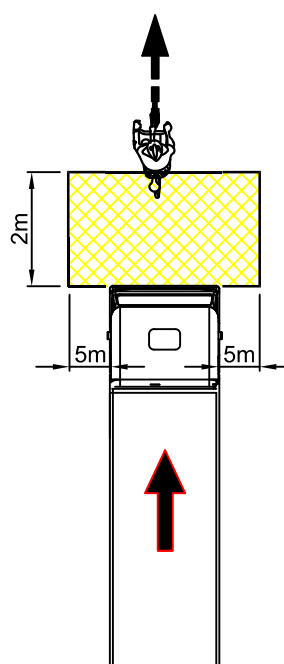
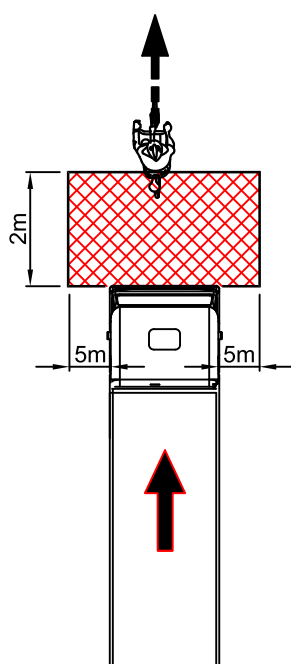
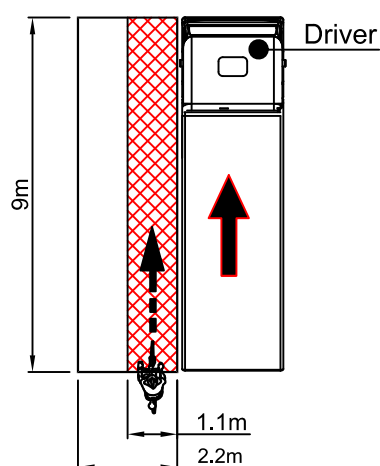
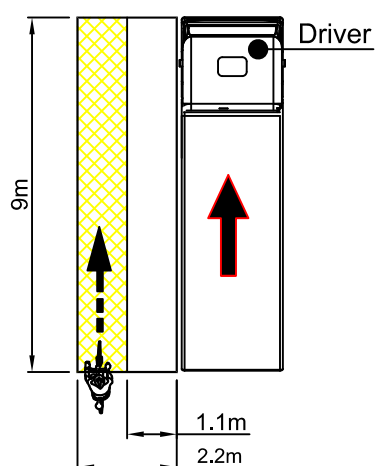


Driver


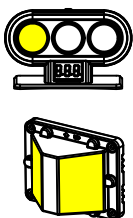
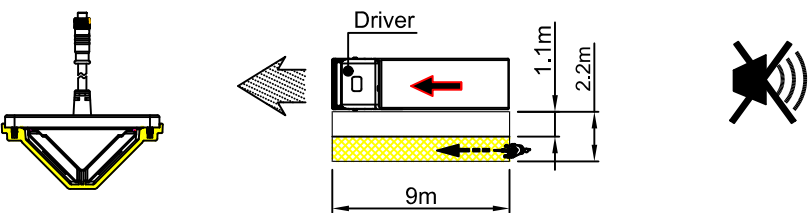

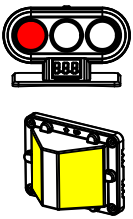
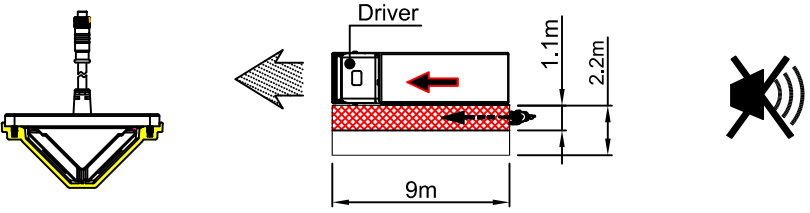


# MOVING AND STATIOANARY


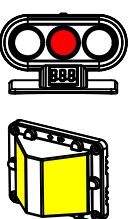
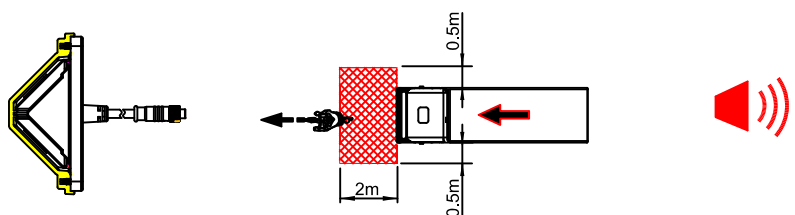

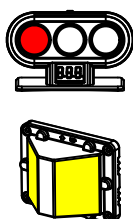
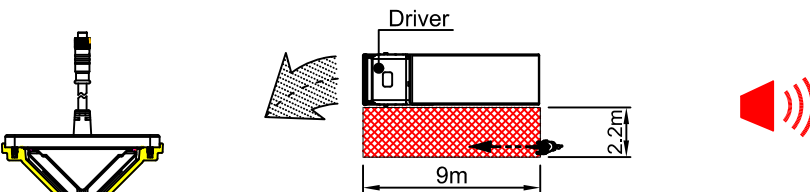
## RANGE COVERAGE



**SPEED: 18±2 MPH**

<p>AMBER </p>  <p>Side Radar</p>	<p><b>MOVING</b></p> 
<p>RED </p>  <p>Side Radar</p>	<p><b>MOVING</b></p> 

**SPEED :  $0 < V \leq 3$  (MPH)**

<p>RED &amp; BUZZER </p>  <p>Front Radar</p>	<p><b>MOVING</b></p> 
<p>RED &amp; BUZZER </p>  <p>Side Radar</p>	<p><b>TURNING</b></p> 

SPEED : 0 (MPH)

**AMBER**

Front Radar

STATIONARY

2m  
0.5m  
0.5m

**AMBER**

Side Radar

STATIONARY

Driver  
9m  
1.1m  
2.2m

**RED**

Side Radar

STATIONARY

Driver  
9m  
1.1m  
2.2m



## **FCC WARNING**

**This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and(2) this device must accept any interference received, including interference that may cause undesired operation.**

**Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:**

- Reorient or relocate the receiving antenna.**
- Increase the separation between the equipment and receiver.**
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.**
- Consult the dealer or an experienced radio/TV technician for help.**

**FCC Radiation Exposure Statement**This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

**This transmitter must not be co - located or operating in conjunction with any other antenna or transmitter.**

**This equipment should be installed and operated with minimum distance 25cm between the radiator& your body.**

Q Global Solutions(xiamen)Electronics Crop.

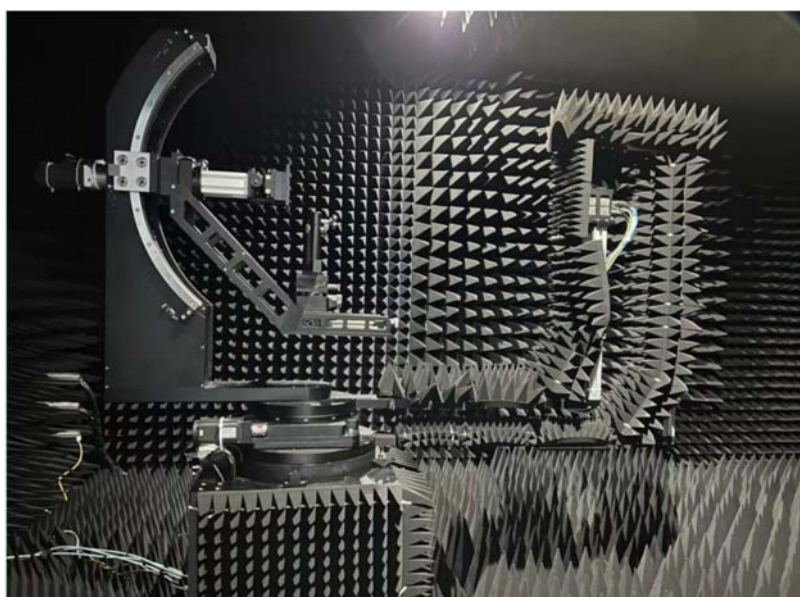
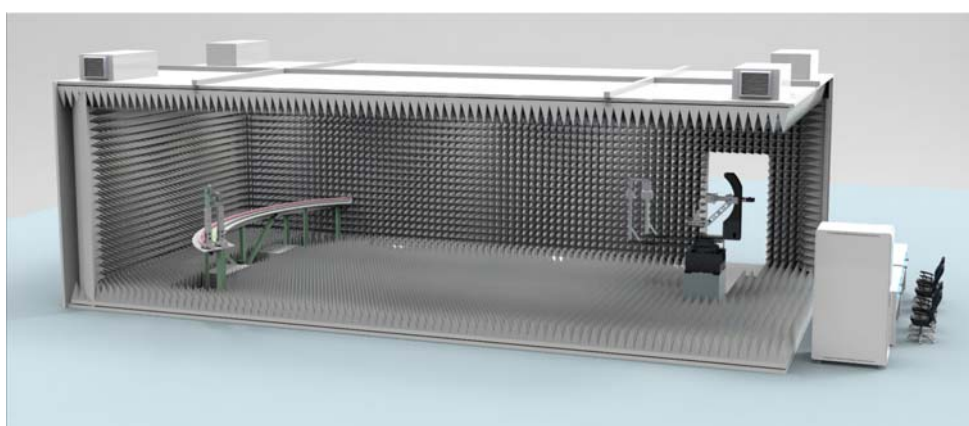
Floor 3,4,5, No.195,Simingyuan,Tong'an Collective Industrial Park,Tong'an District,xiamen,Fujian 361100,China.

## PRODUCT PARAMETER

NO	Characteristics	
1	Modulation Mode	FMCW
2	Frequency band	77-81GHz
3	Output Power of Eu	38.59dBm
4	Horizontal angle coverage	180°
5	Pitch angle coverage	±25
6	Detect range	40m
7	Distance resolution	0.250
8	Detect accuracy	0.301
9	Speed range	-100MPH~ +100MPH
10	Velocity resolution	0.17m/s
11	Speed measurement accuracy	0.33m/s
12	Data update rate	50Hz
13	Maximum number of detection objects	64

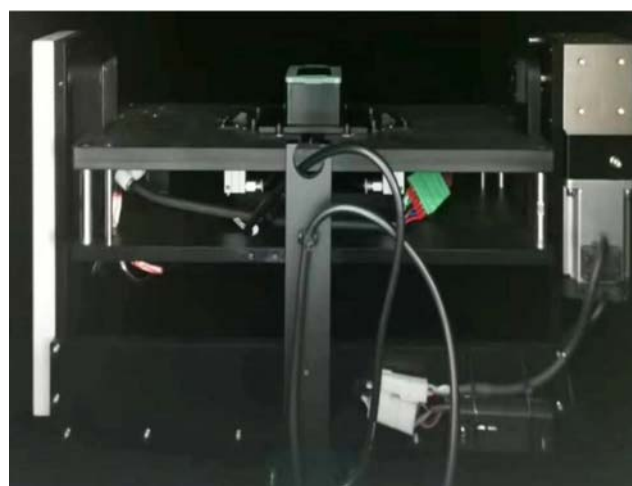
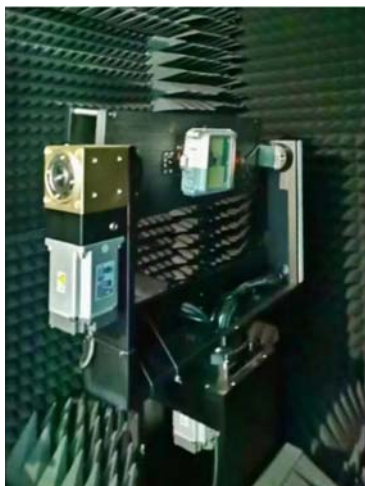
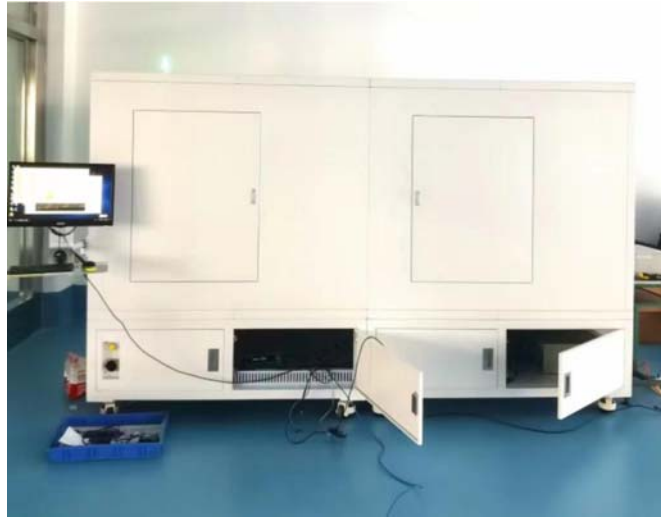
NO	Basic parameters	
1	Working voltage	12/24V works normally,the light flashes.
2	Power dissipation	≤5W
3	Unit size	8.6*6.75*3.92 cm
4	Weight	150g
5	Storage temperature	-40°C ~ 85°C
6	Operation temperature	-40°C ~ 85°C
7	Protection grade	IP67

## RADAR Antenna Direction Testing / mmFMCW Module Calibration and End Of Line (EOL) Production Chamber

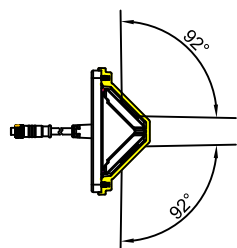


## CATR (Compact Antenna Test Range) Anechoic Chambers

A Compact Antenna Test Range (CATR) allows electrically large antennas to be measured at a significantly shorter distance than would be necessary in a traditional far-field test range.

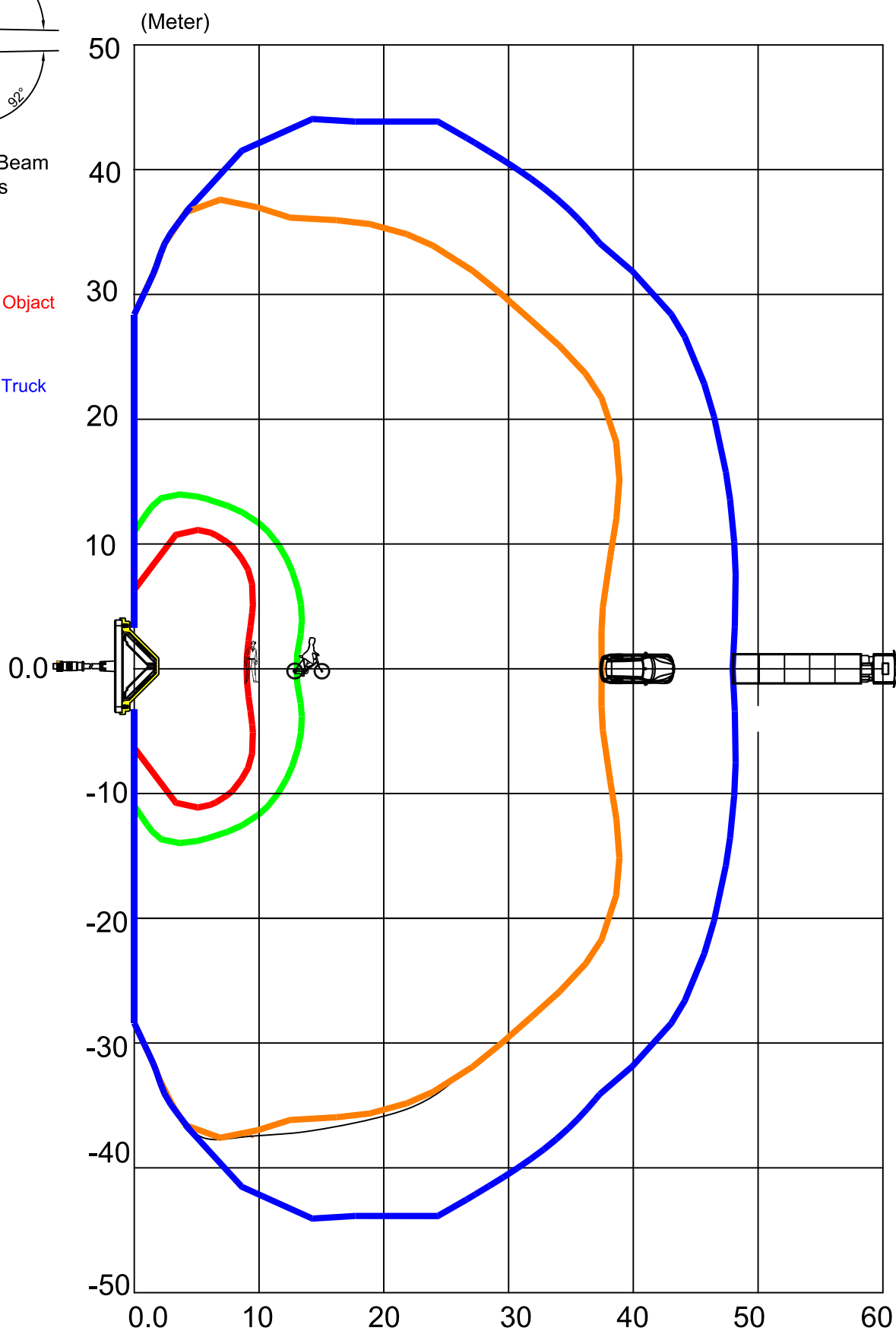


## Beam Patterns (Horizontal)

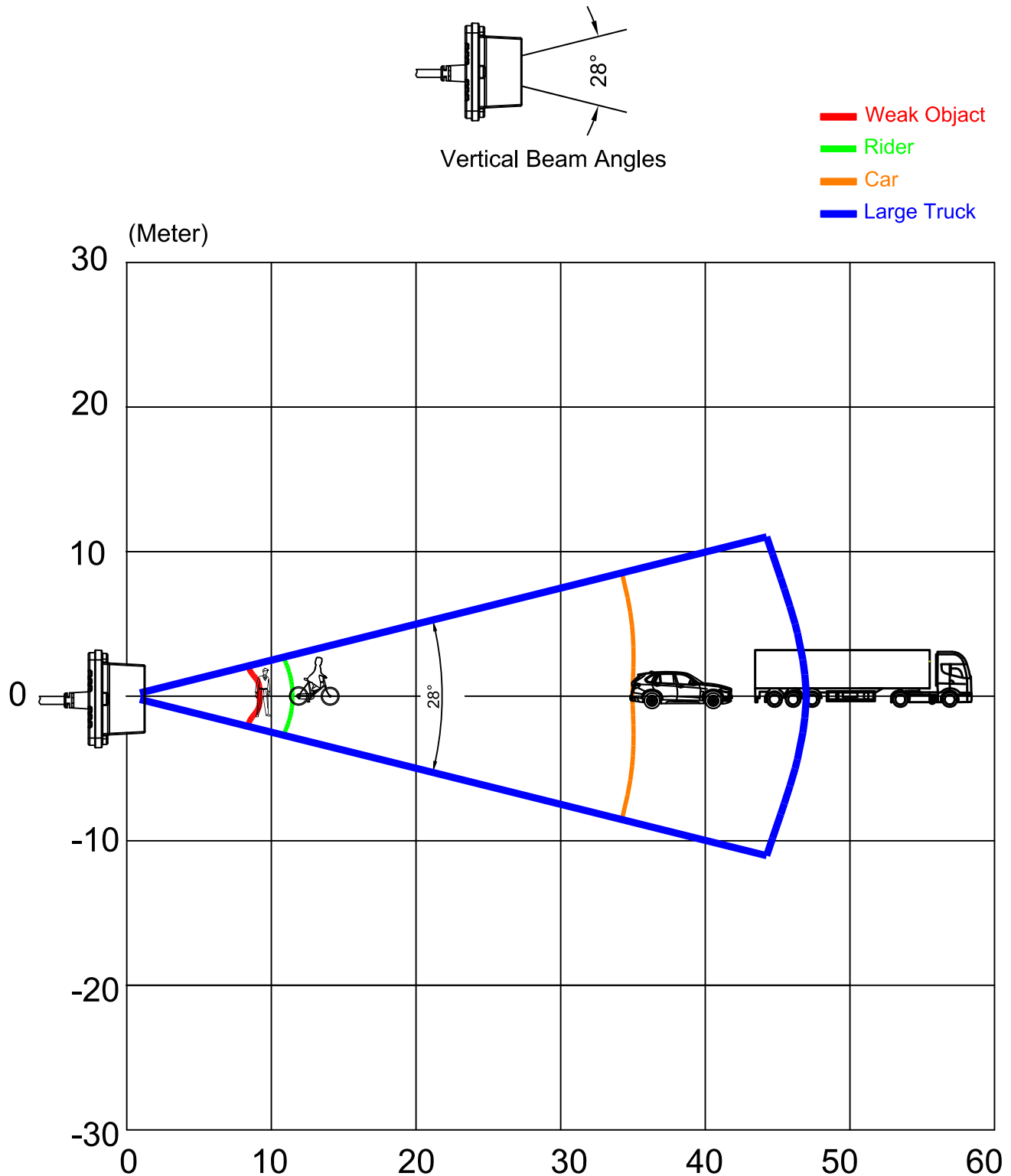


Horizontal Beam Angles

- Weak Object
- Rider
- Car
- Large Truck

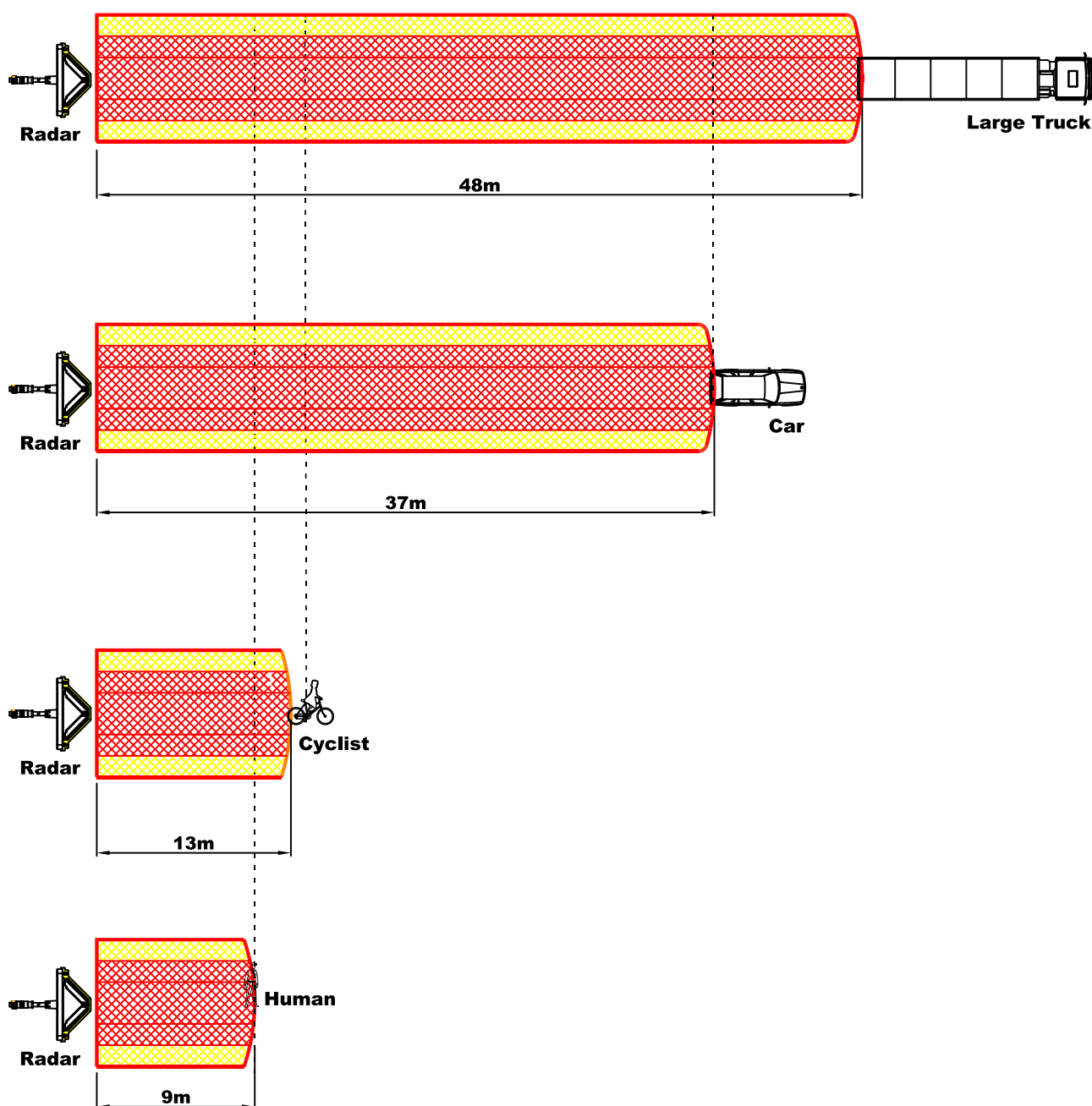


## Beam Patterns (Vertical)





# Detection Distances of Large Truck / Car / Cyclist / Human being



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