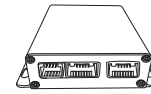


# **DVS 2024 AI Sensor V2 System**

## **Installation Manual**

# Package Content



ECU×1



AI sensor×1  
black



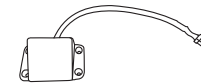
AI sensor×1  
white



sensor×4



LED DISPLAY×1



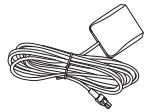
77GHz radar X 1



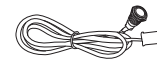
Sensor Cable ×1



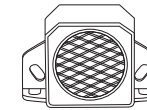
A pillar Led×1



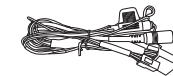
GPS module With  
gravity sensor×1



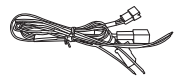
Mute switch×1



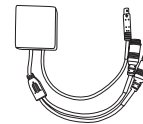
External speaker×1



Power harness×1



Display Cable×1

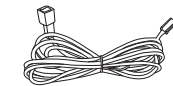


Wifi calibrationModule ×1

Wifi calibration module is not included in every kit, it can be used for many times



3m Camera  
Extension cable×3



2.7m display  
extension cable×1



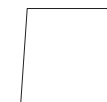
Bracket for  
led display×1



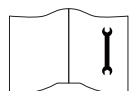
Angle Sleeve  
for sensor ×1



Alarm extension cable×1



3m tape×1



Installation Guide×1

## Sensor Specification

Senor Frequency:	58 KHz
Working Voltage:	12 ~ 32V
Working Current:	< 500mA
Operating Temperature:	- 40 ~ 80°C
Sensor Waterproof IP Rating:	IP69
Alarm Distance:	2.5m
Horizontal Detection Angle:	120 degree
Vertical Detection Angle:	60 degree
Number of sensor:	up to 10 sensors
GPS search time:	< 60 seconds

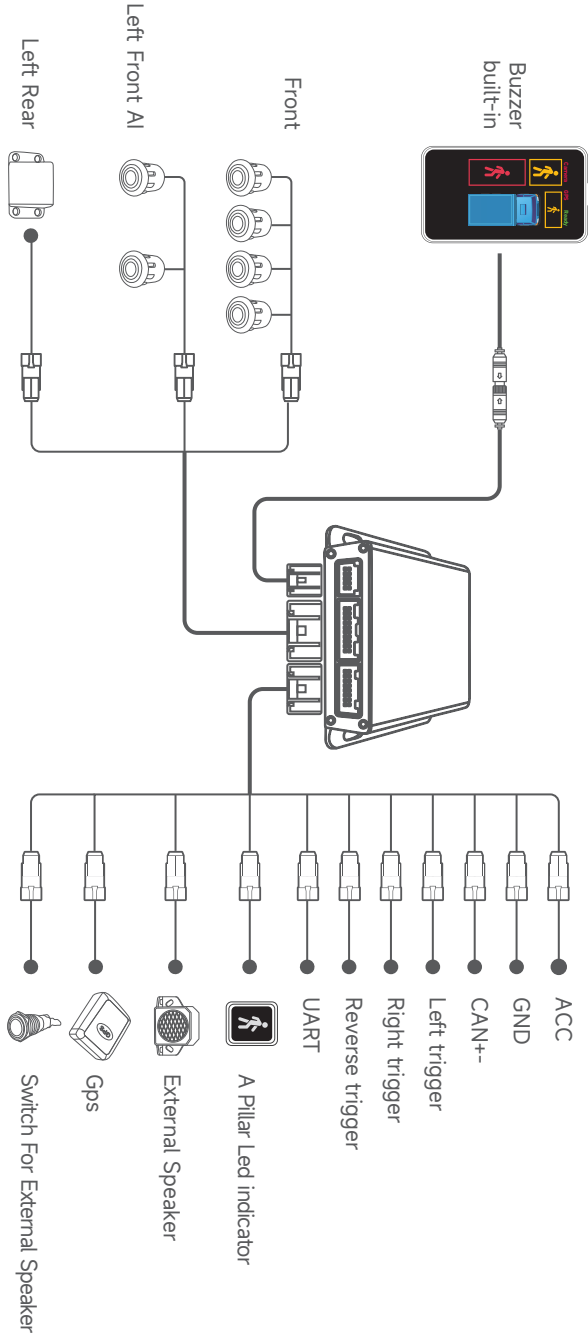
## External Alarm specification

Rated Voltage:	DC 12 / 24V
Working Voltage:	12 ~ 36V
Working current:	< 500mA@24V
Operating temperature:	- 40 ~ 85°C
Storage temperature:	- 40 ~ 85°C
Sound Frequency:	500Hz ~ 7KHz
Duty cycle:	3.0S/T(Vocal Reverse Warning) 3.3S/T(Vocal Left Turn Warning) 33S/T(Vocal Right Turn Warning)
Waterproof IP rating:	IP69

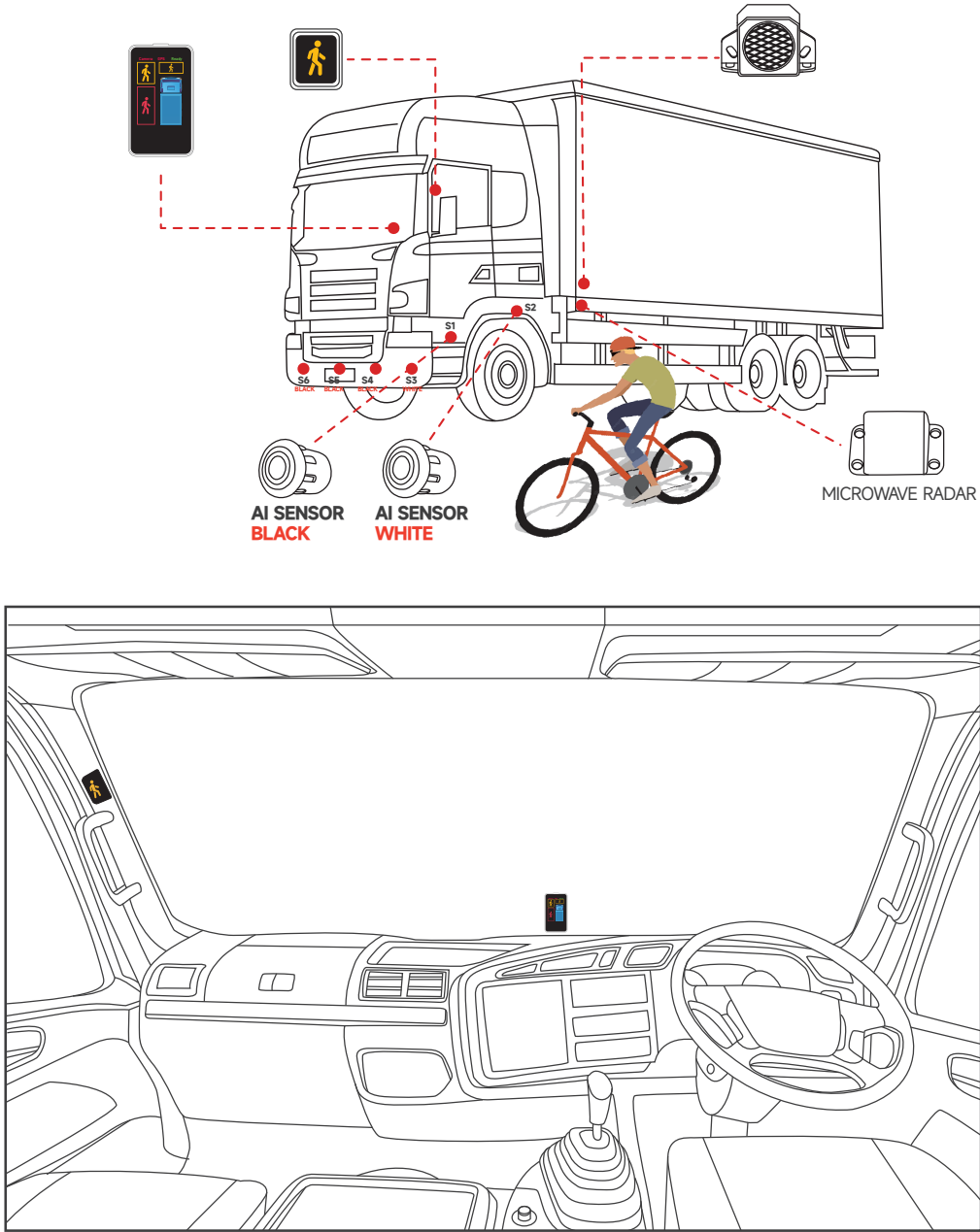
## 77GHz radar technical Specification

Detection Target Type:	moving targets(vehicles / pedestrians obstacles, etc.)
Number Of Transceiver Links:	2T4R
Working Mode:	FMCW (CS + MIMO)
Operating Frequency Range:	76GHz ~ 77GHz
Eirp:	≤ 30dBm
Distance Detection Range:	0.15m ~ 120m
Horizontal Detection Range:	± 75°
Vertical Detection Range:	± 10°
Distance Measurement Accuracy:	± 0.1m
Distance Resolution:	0.25m
Relative Speed Detection Range:	-400km/h ~ +200km/h
Relative Speed Measurement Accuracy:	± 0.15km/h
Relative Velocity Resolution:	0.5km/h
Angle Measurement Accuracy:	± 0.4°
Angular Resolution:	4°
Maximum Number Of Target Tracks:	128
Data Output Refresh Rate:	≤ 50ms

# Wiring Diagram

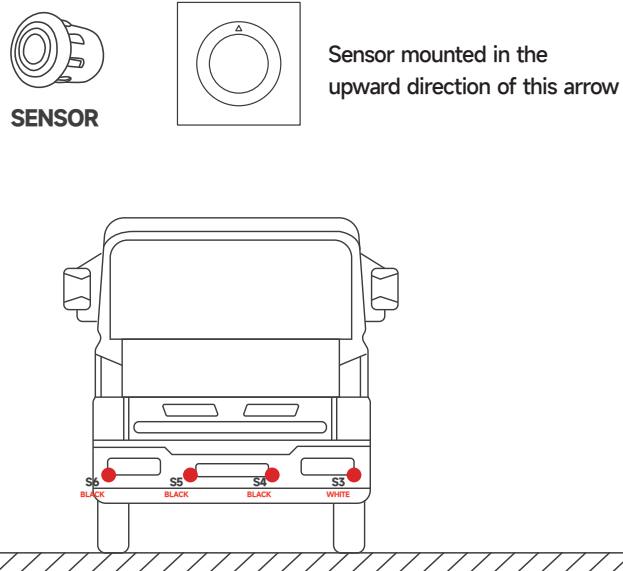


# System Layout



# Sensor installation

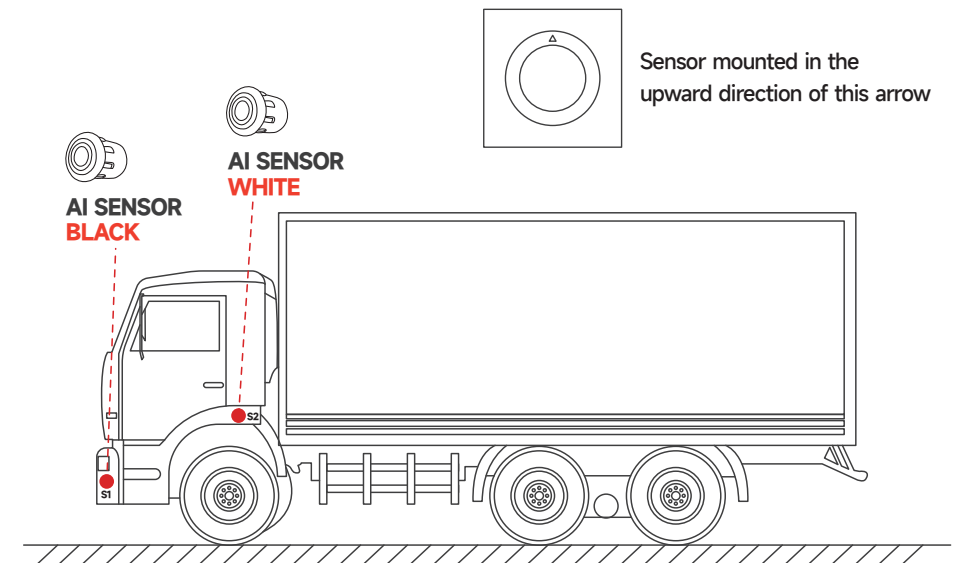
( Installation position is in the front of the vehicle for MOIS )



- 1、 Recommended installation height: 60~80cm, use 4 or 8 degree angle sleeve.
- 2、 When installation height is higher than 80cm, use 0 degree angle sleeve.
- 3、 S3 must be white, S4~S6 must be Black.
- 4、 Distance between two sensor should be from 60~80cm.
- 5、 Sensor working logic: It can alarm any object within the detection area.

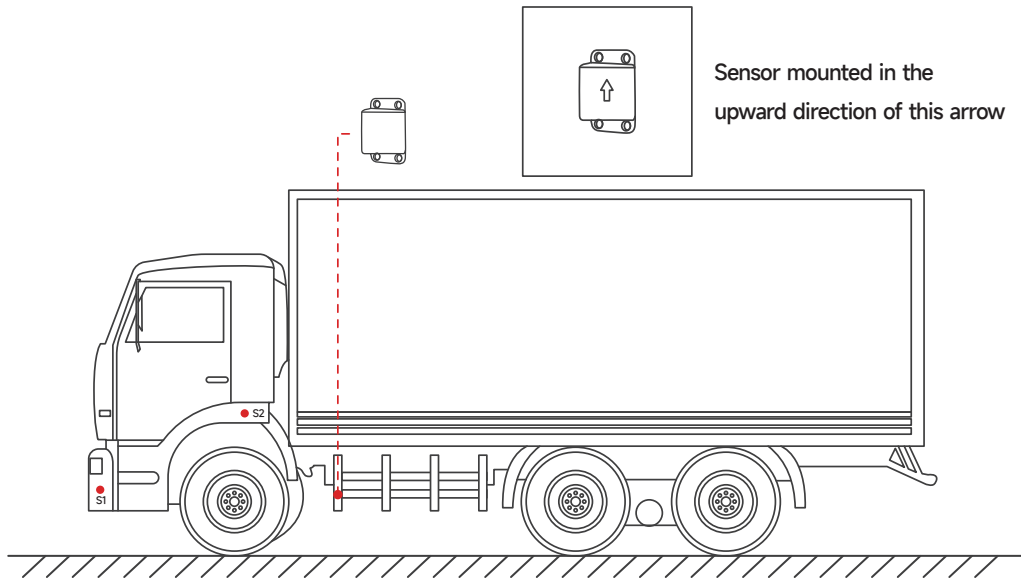
# AI sensor installation

( Installation position is in the side of the vehicle for BSIS )



- 1、 Recommended installation height: 60~80cm, use 4 or 8 degree angle sleeve.
- 2、 When installation height is higher than 80cm, use 0 degree angle sleeve.
- 3、 S1 must be black, S2 must be white. Installation height for S1 must be same or lower than S2. Gap between S1 and S2 is not greater than 60cm.
- 4、 Distance between S1 and S2 should be from 1.2~1.7m.
- 5、 Please be attention when you install S2, find a good place that will avoid detecting truck body.
- 6、 AI sensor working logic: It only triggers alarms for moving objects; stationary objects do not elicit alarms. However, it can be configured to provide an alarm for stationary objects within the optional range of 30~60cm.

# 77GHz radar installation



- 1、 Installation height: 0.6-1m.
- 2、 Installation angle is 0 degrees, should not be tilted towards the ground. There should be no obstructions in front of the radar.
- 3、 Radar should be installed close to S2 to cover blind spot area.
- 4、 Radar only detects moving objects, not detect stationary objects.
- 5、 The side radar detects moving objects in the detection area, the main display and A-pillar light will be lit. If the turn signal is activated, there will be an audible alarm and the LED light will flash

# System working condition

## Self Test



When GPS is faulty, GPS icon will be showing on the led display.



When Sensor are faulty, Sensor icon will be showing on the led display.

## Handbrake function

When handbrake is on, it gives 12-24V output, Speaker on the led display is muted when a VRU is detected.

When handbrake is off, it gives 0v or GND output, speaker on the led display generates audio alarm when a VRU is detected.

## System Working Condition

MOIS works from 0.1-5km/h.  
MOIS stops alarm above 5km/h.

Sensor works from 0.1-30km/h.  
Sensor stops alarm above 30km/h. Both led display and A pillar indicator show like the picture.



Led Display



A Pillar LED Indicator

# System Trouble-Shooting

Problem	Solution
Sensor doesn't work	<div><div>a)</div><div>Check whether the power supply is connected correctly and ensure that the vehicle turns on ACC.</div><div>b)</div><div>Whether all connectors are connected correctly and ensure no looseness or poor connection.</div></div>
Sensor does not turn off properly	<div><div>a)</div><div>Check if the GPS is connected correctly.</div><div>b)</div><div>Ensure that the GPS satellite search is normal, and the GPS antenna is not blocked by metal.</div></div>
False Alarm	<div><div>a)</div><div>Check if the power supply voltage is greater than 11V.</div><div>c)</div><div>The sensor surface is without obstructions, including: water, snow, mud and other objects.</div><div>b)</div><div>Ensure sensors are installed at correct direction.,the arrow mark on the sensor should be upward.</div></div>