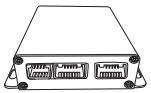
DVS 2024 AI Sensor V2 System

Installation Manual

CE / E-mark E24 / UKCA

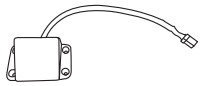
Package Content



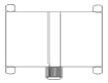
ECU×1

AI sensor×1
black

AI sensor×1
white



77GHz radar X 1

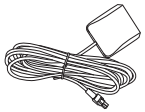


77GHz radar X 1

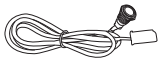
LED DISPLAY×1

Sensor Cable ×1

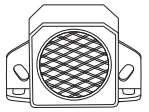
A pillar Led×1



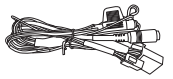
GPS module With
gravity sensor×1



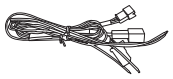
Mute switch×1



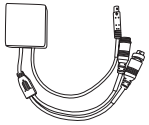
External speaker×1



Power harness×1



Display Cable×1



Wifi calibrationModule ×1

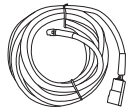
Wifi calibration module is not
included in every kit, it can be
used for many times

3m Sensor
Extension cable×3

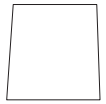
2.7m display
extension cable×1

Bracket for
led display×1

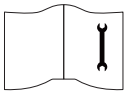
Angle Sleeve
for sensor ×1



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

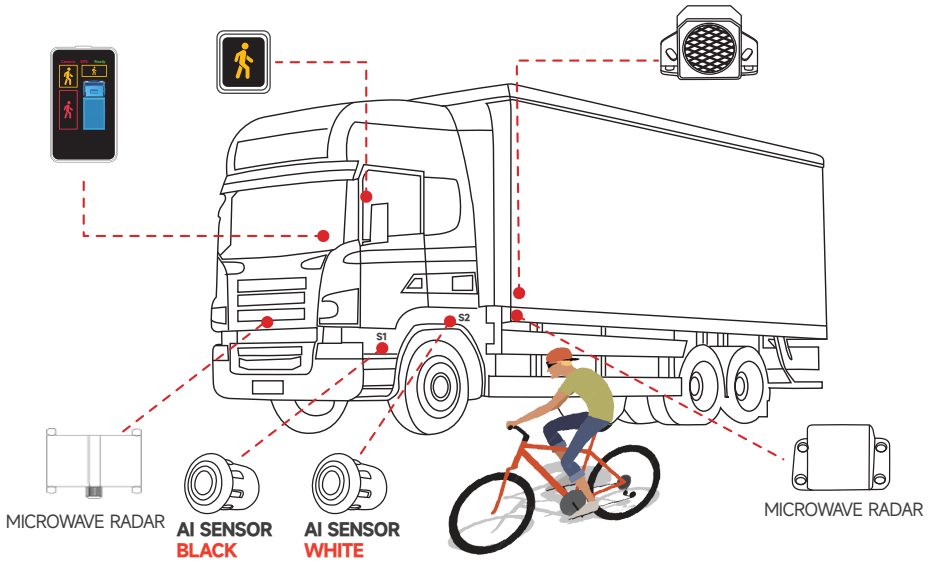
External Alarm specification

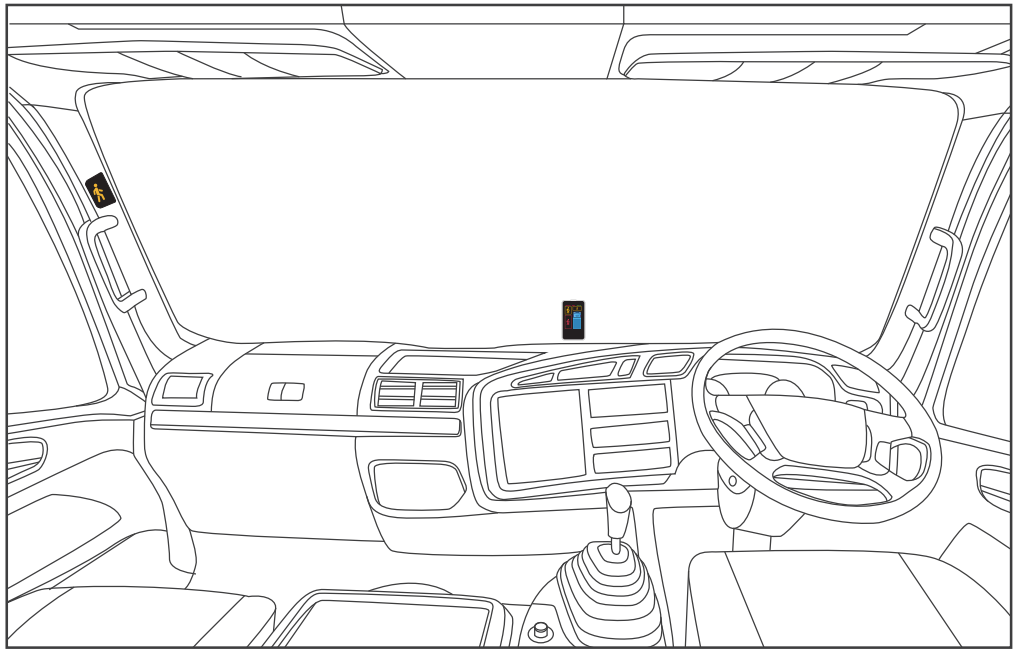
Rated Voltage:	DC 12 / 24V
Working Voltage:	12 ~ 36V
Working current:	< 500mA@24V
Operating temperature:	- 40 ~ 85°C
Storage temperature:	- 40 ~ 85°C
Sound Frequency:	500Hz ~ 7KHz
Duty cycle:	3.0S/T(Vocal Reverse Warning) 3.3S/T(Vocal Left Turn Warning) 33S/T(Vocal Right Turn Warning)
Waterproof IP rating: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

77GHz radar technical Specification

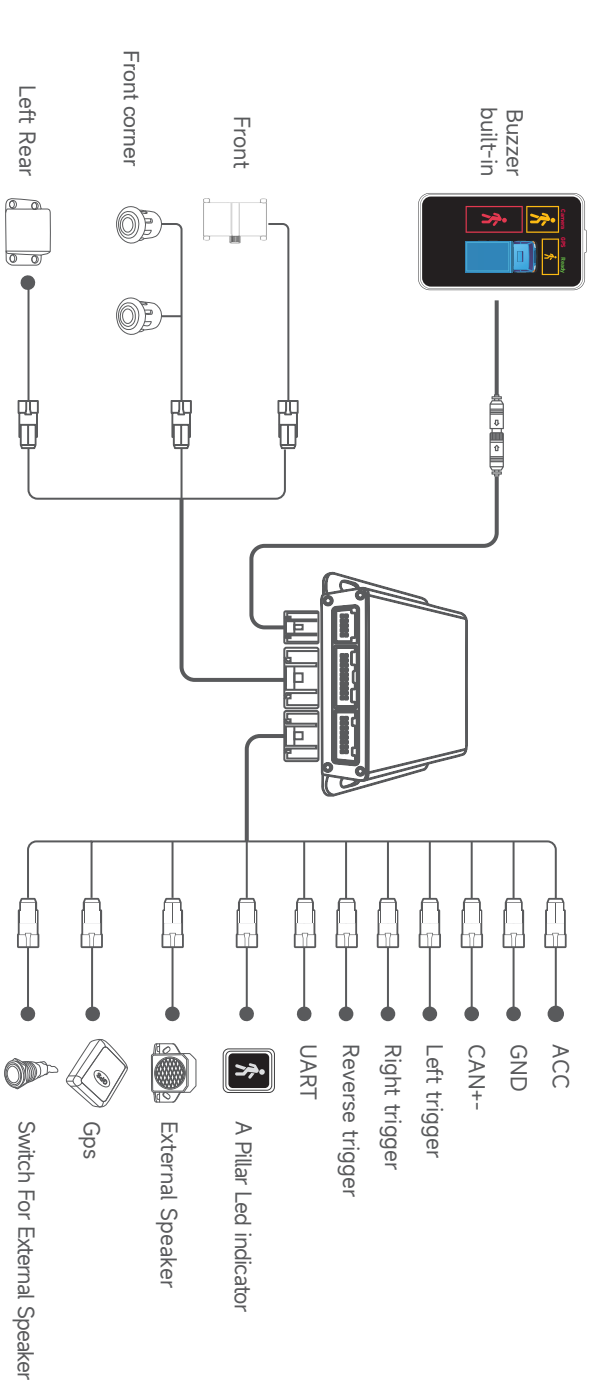
Detection Target Type:	moving targets(vehicles / pedestrians obstacles, etc.)
Nomber Of Transceiver Links:	2T4R
Working Mode:	FMCW (CS + MIMO)
Operating Frequency Range:	76GHz ~ 77GHz
Eirp:	≤ 30dBm
Distance Detection Range:	0.15m ~ 120m
Horizontal Detection Range:	± 75°/± 90°
Vertical Detection Range:	± 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

System Layout



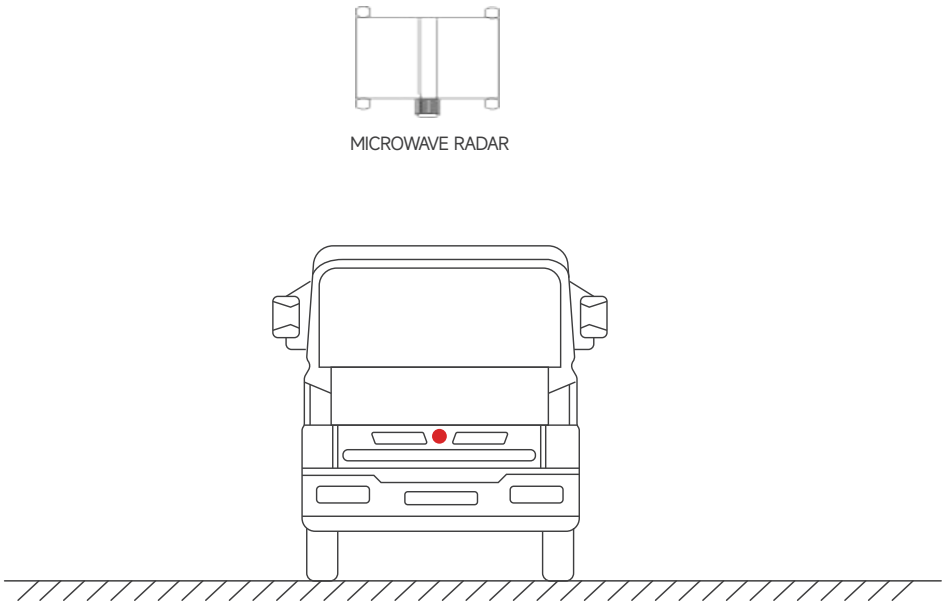


Wiring Diagram



Sensor installation

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



1、**Recommended installation height: 60~80cm.**

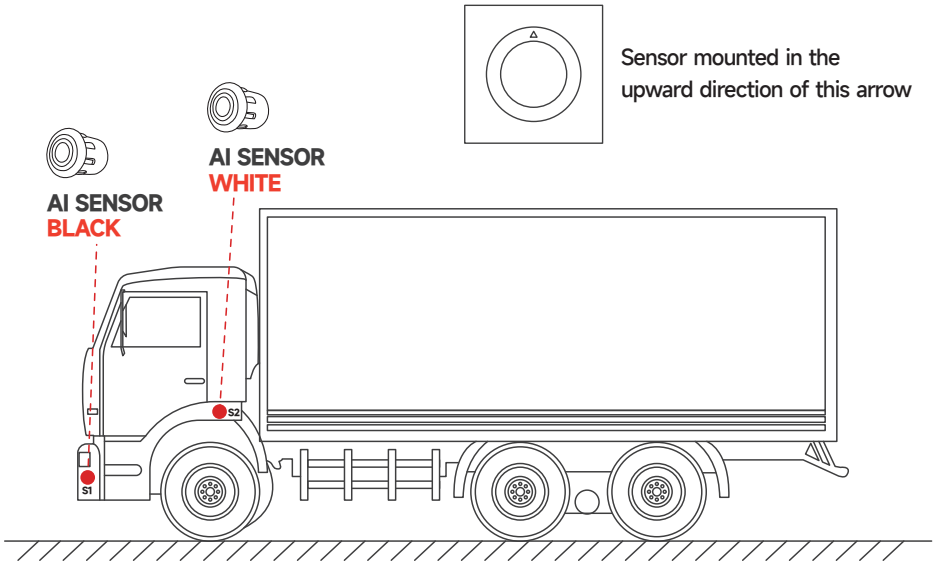
2、**Recommended installation position: front and in the middle of the vehicle.**

3、**The arrow symbol on the sensor panel should be facing upwards, perpendicular to the ground and parallel to the vehicle body.**

4、**Sensor working logic: It detects any objects within the detection area.**

AI sensor installation

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



1、Recommended installation height: 60-80cm.

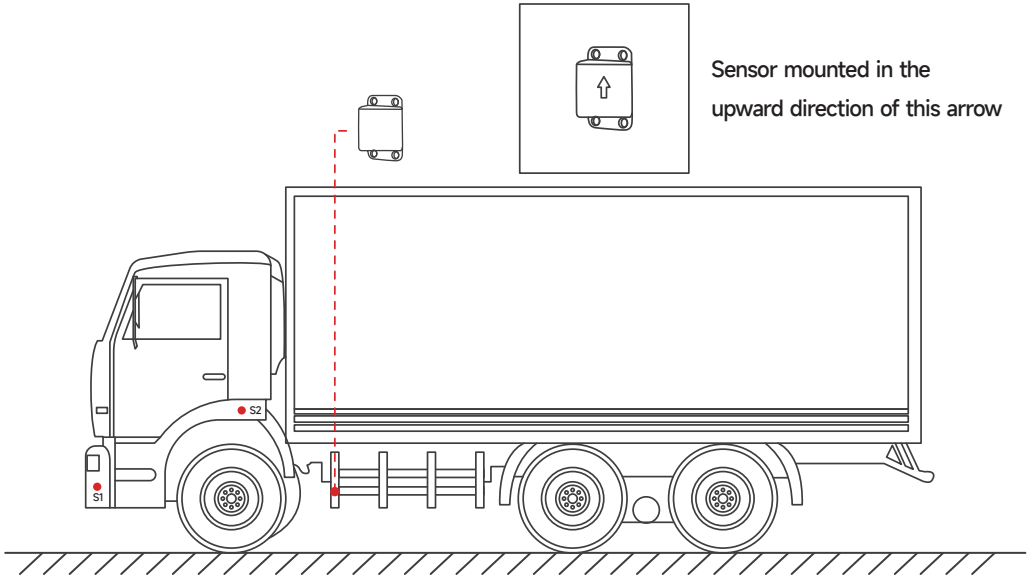
2、S1 must be black, S2 must be white. Installation height for S1 must be same or lower than S2.

3、The horizontal distance between S1 and S2 should be 1.2-1.8m.

4、Please be attention when you install S2, find a good place that will avoid detecting vehicle body.
AI sensor working logic: It only triggers alarms for moving objects; stationary objects do not elicit alarms.

5、However, it can be configured to provide an alarm for stationary objects within the optional range of 30-60cm.

77GHz radar installation



Sensor mounted in the upward direction of this arrow

1、Installation height: 0.6-0.8m.
2、Radar detection panel should be facing rear, perpendicular to the ground and parallel to the vehicle body. Radar should be installed close to S2 to cover blind spot area.
3、Radar only detects moving objects, not detect stationary objects.
4、The side radar detects moving objects in the detection area, the display and A-pillar indicator will be activated. If the left turn signal is on, the audio alarm will be activated and the LED light will flash.

System working condition

Self Test

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

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