



BSIS AND MOIS SOLUTIONS

4 Ultrasonic sensor

2 AI sensor

1 microwave radar (77GHz)



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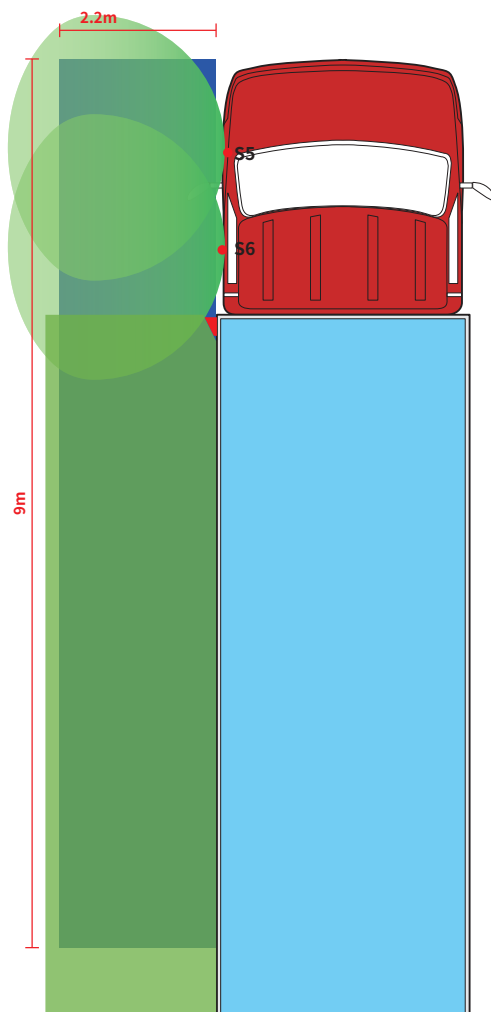
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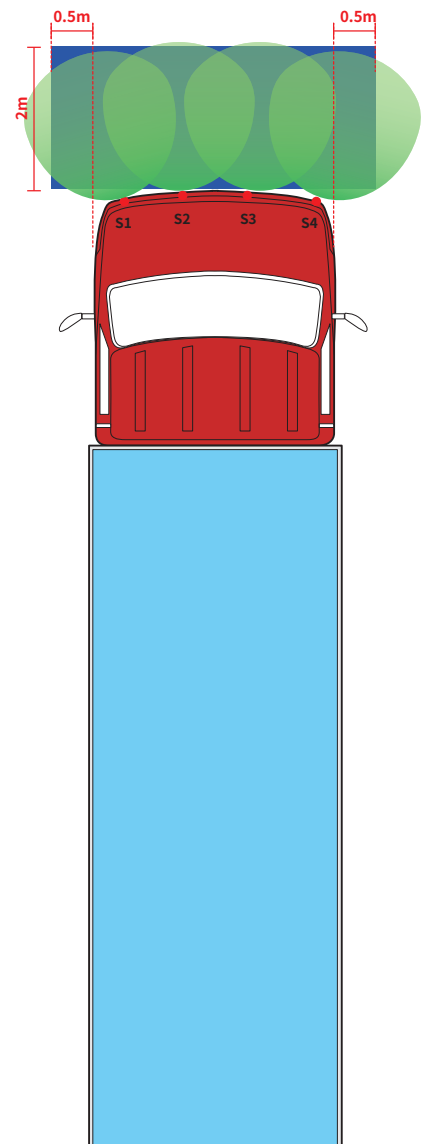
The Direct Vision Standard (2024 Update) implemented by Transport for London (TFL) is a legislation aimed at increasing the safety of HGVs (Heavy Goods Vehicles) weighing over 12 tones operating within Greater London.

From October 2024, this will be raised to a minimum 3-star rating. MOIS and BSIS systems are must required.

BSIS



MOIS



COMMERCIAL VEHICLE AI SENSORS + MICROWAVE RADAR



Working conditions

- Truck Speed <30km/h, ultrasonic sensor work
- Truck speed > 30km/h, ultrasonic sensor not work

Product Feature

- GPS with gyroscope to detect speed more accurate
- Led and Audio Warning
- Easy to Install
- Perfect for Safety Driving
- Algorithm ECU

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) 3.3S/T(Vocal Right Turn Warning)
Waterproof IP Rating:	IP69
Volume:	80-85 dB at 1m
Function:	With On/Off switch and mute function, mute time: at 23:30pm and 07:00am
Certification:	CE/E-mark

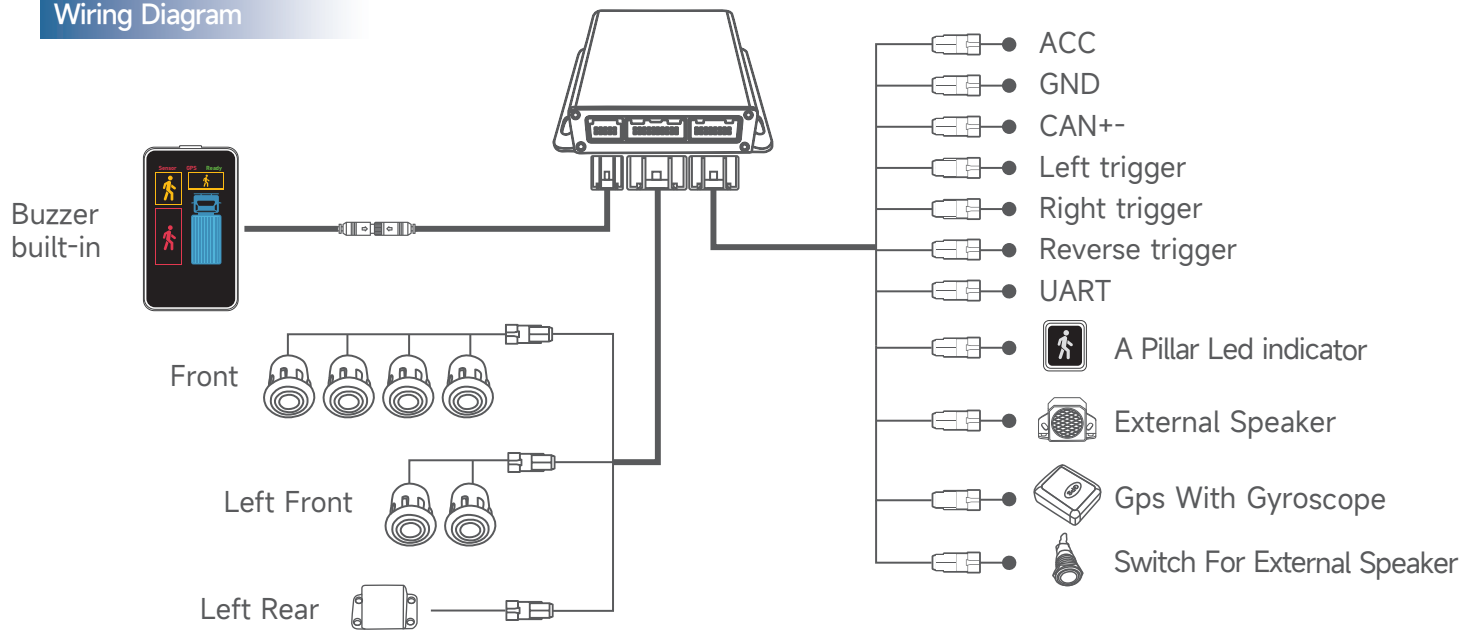
Sensor Specification

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

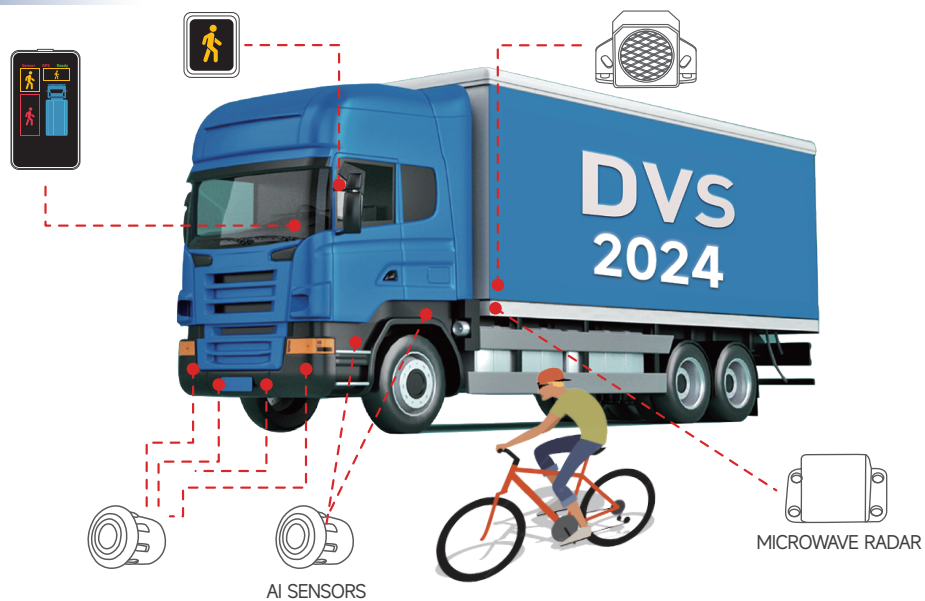
Radar Specification

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

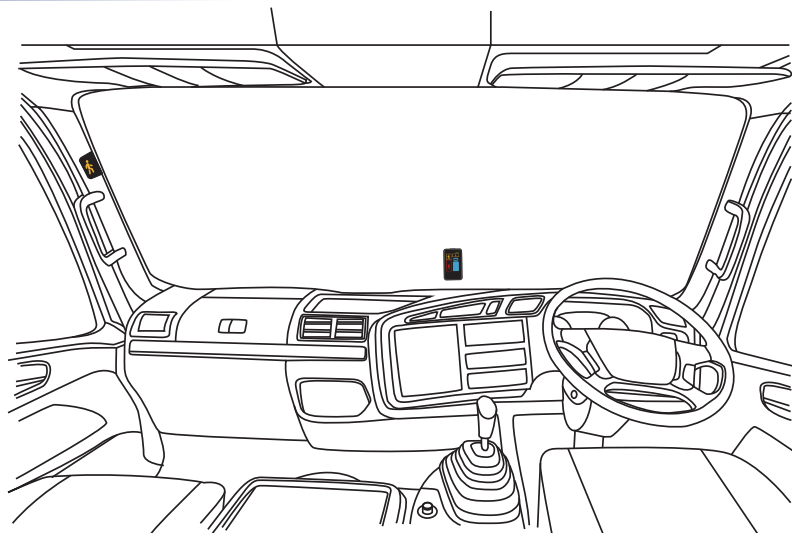
Wiring Diagram



Product Diagram



LED displays install in the cab



AI sensor



System Working Condition

The system starts working when speed is $< 30\text{km/h}$ (18mph),
the system stand by when speed is $> 30\text{km/h}$,
both led display and A pillar indicator show like the picture.



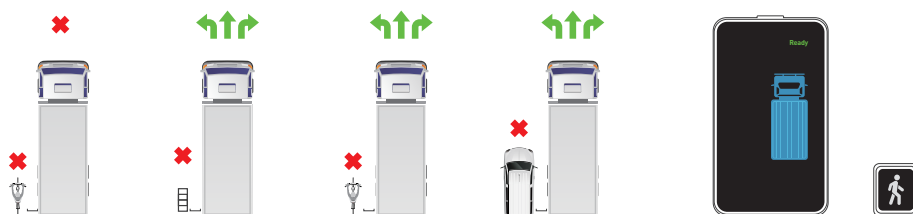
Led Display



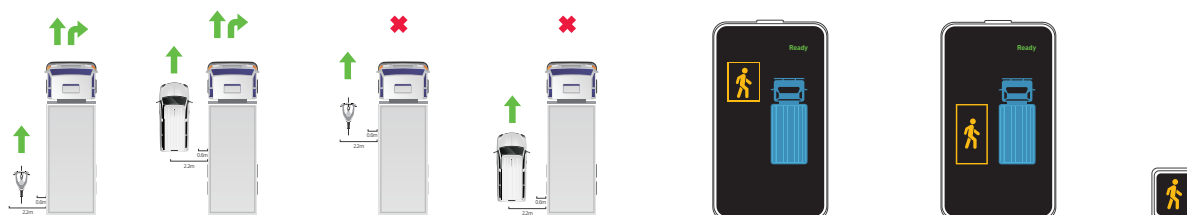
A Pillar LED Indicator

BSIS Working Method

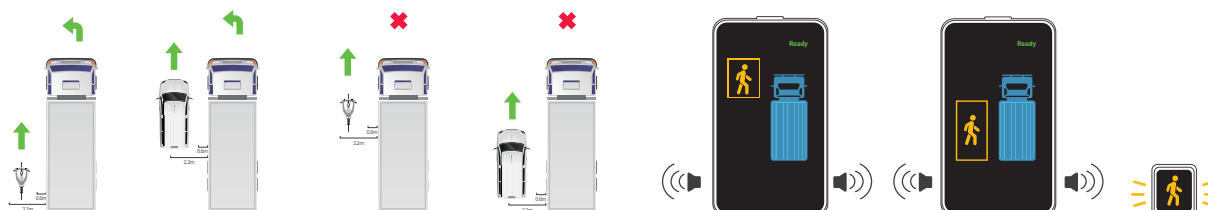
- ① If there are no vehicle/VRU detected or there are stationary objects are detected outside 0.6m, There will be no visual and audio alarm.



- ② When moving objects are detected vehicle/VRU, detection distance is from 0.6m to 2.2m, the display shows a yellow icon in the corresponding obstacle direction, and left A-Pillar led indicator shows a yellow icon warning, and no audio warning.

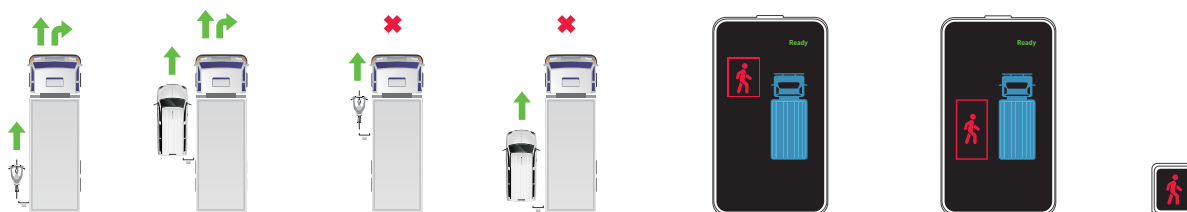


- ③ When moving objects are detected vehicle/VRU, detection distance is from 0.6m to 2.2m, and left turn signal are turned on, the display shows a yellow icon in the corresponding obstacle direction, and left A-Pillar led indicator gives a yellow flashing and audio warning.



BSIS Working Method

- ④ When objects are detected (vehicle/VRU and stationary objects), detection distance is less than 0.6m, led display shows a red icon and A pillar led indicator shows a red warning.



- ⑤ When objects are detected (vehicle/VRU and stationary objects), detection distance is less than 0.6m, and left turn signal are turned on, the led display shows a red icon and audio warning, A pillar LED gives a red flashing warning.



MOIS Working Method

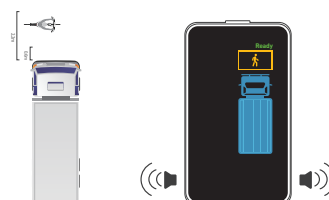
System Working Condition

The MOIS camera gives the alarm when speed is 0~5km/h, the MOIS camera still working but not gives the alarm when speed is >5km/h.

- ① When no objects are detected in front, led display shows like picture.



- ② When objects are detected in front of the vehicle, and detection distance is 0.6-2.2m. Led display gives a yellow warning and audio warning.



- ③ When objects are detected in front of the vehicle, and detection distance is less than 0.6m. Led display gives a red warning and audio warning.

