

Product Guide

TVG SideSight

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Read guide fully before commencing installation.
This guide must be present during time of install.
This guide is to be used in conjunction with training.

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Document Change Control

Date	Version	Author	Approval	Changes
07/12/23	V2.0	A. Barker	N. Yianni	Complete re-write of document
04/03/24	V2.1	A. Barker	M. Blackbourn	Updated to include foot brake.

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Notices

- Before starting installation please read the TVG Installation Guide document. The performance of the device is dependent on correct installation.
- Usage of this system is for automotive use only. It must not be used in situations in which human life is dependant on the operation performance of the device.
- The installation of the system may become in conflict with a countries regulations or the vehicle/equipment OEM instructions. The conformance shall solely be the customers responsibility. Improper device installation may invalidate the vehicle/equipment warranty.
- Ensure manufacturers guidance is followed prior to commencing installation.
- Vehicle ignition must be off prior to installation of TVG SideSight.
- Misuse, physical damage and incorrect installation will invalidate the warranty of TVG SideSight or systems using the TVG SideSight.
- The device should be installed away from direct heat sources and moisture. Installation inside the vehicle is essential.
- Do not secure TVG SideSight in such a way as they would interfere with the vehicles/ equipment control systems. E.g. steering column, brake pedals etc.
- TVG SideSight is fitted with 5A fuses in both power supply leads. Any additional cabling must be fused to match cable ratings.
- The TVG SideSight system must be installed by a suitably qualified and experienced professional skilled in automotive and equipment electronics respectively.
- Connecting power supply and ground should be done as per OEM specifications. Once any jointing or crimping has been completed, testing should be carried out to ensure the joint is compliant with the crimp specs and all other relevant standards.

Introduction

From October 2024, Transport for London (TfL) are tightening the safety standards for the Direct Vision Standard (DVS) with the aim to further reduce the risk to Vulnerable Road Users (VRUs) caused by poor HGV driver vision. The DVS is supported by a set of requirements and regulations called the Progressive Safe System (PSS) which details a suite of safety systems to be fitted to HGVs.

TVG SideSight

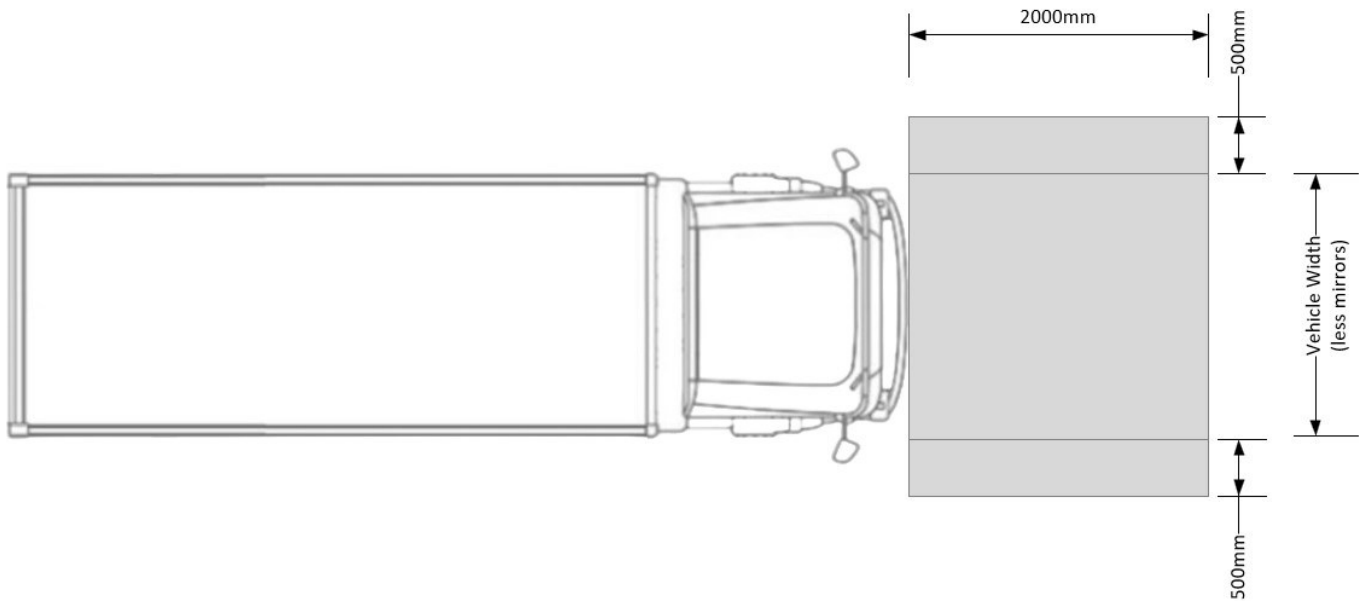
TVG SideSight is our system that provides compliance with the TfL DVS regulations. It uses our Oculux® cameras, and advanced Artificial Intelligence (AI) to watch critical blind spots and give information and warnings to the driver to reduce the risk of a collision with a VRU. It comprises of Moving Off, and Blind Spot Information Systems. TVG SideSight uses yellow and red zones to capture the location of the VRU, and the park brake to determine if the vehicle is stationary or not.

The Moving Off Information System (MOIS) will watch for the presence of any VRUs who are within, or about to enter the blind spot zone in front of the vehicle and will inform the driver of the VRU. Should the system detect a VRU in the area when the vehicle is about to perform a moving off manoeuvre (eg park and foot brake released), then the system will warn the driver visually and audibly of the imminent collision so they may take evasive action.

The Blind Spot Information System (BSIS) will watch for the presence of any VRUs in the left side blind spot and will inform the driver of their presence. When the system identifies that a collision may be imminent, for example if the vehicle turns towards the VRU, it will warn the driver both visually and audibly so they can not make the turn until it is safe to do so.

Moving Off Information System (MOIS)

TVG SideSight uses a front camera and AI to watch the area in front of the vehicle as seen below.



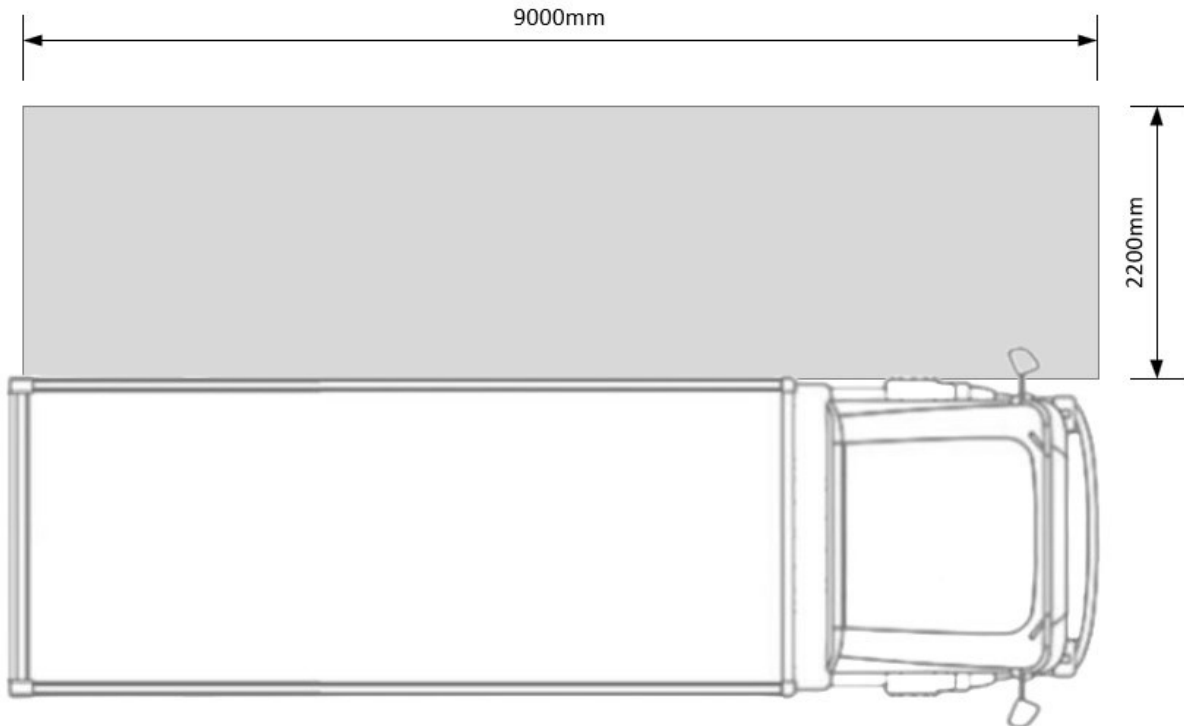
When the system detects a VRU within the area while the vehicle is stationary (park or foot brake applied) it will INFORM the driver visually with the VRU LED on the SideSight display flashing yellow. Should the VRU move closer to the front of the vehicle, the VRU LED will turn solid red, the Front arrow will flash red, and the monitor (if fitted) will display the VRU showing a split image from the front and side cameras.

When the park and foot brake are released and the vehicle is in a potential moving off manoeuvre, the system will WARN the driver visually of the risk of an imminent collision by the SideSight VRU LED flashing yellow. Should the VRU move closer to the front of the vehicle the VRU LED will turn solid red, the Front arrow will flash red, the unit will emit audible repeated beeps, and the monitor (if fitted) will display the front camera image showing the VRU.

The system will be active at vehicle speeds between 0mph and 10mph.

Blind Spot Information System

TVG SideSight uses a side camera to watch the area to the left hand side of the vehicle as seen below.



When the system detects a VRU within the area while the vehicle is stationary (park or foot brake applied) it will INFORM the driver visually with the VRU LED on the SideSight display flashing yellow. Should the VRU move closer to the vehicle, the VRU LED will flash red, the Left arrow will flash red, and the monitor (if fitted) will display the VRU showing a split image from the front and side cameras.

When the park and foot brake are released the system will WARN the driver of the risk of an imminent collision visually by the SideSight VRU LED flashing yellow. Should the VRU move closer to the side of the vehicle the VRU LED will flash red, the Left arrow will flash red, the unit will emit audible repeated beeps, and the monitor (if fitted) will display the side camera image showing the VRU.

The system will be active at vehicle speeds between 0mph and 20mph.

Technical Information

Electrical and Environmental

Operational Voltage	10-32 Volts DC
Current	1.5A
Working Temperature range	-20 to +70°C
Storage Temperature range	-30 to +85°C
Humidity, no condensation	10-95%

Power & Signals connections

Power IN + Red (Fused)	12 or 24v DC
Power IN - Black (Fused)	0v (Ground)
Ignition (Acc.) Yellow	12 or 24v DC
Left Turn signal Blue	Input 12 or 24v DC
Park brake signal Violet	Input 12 or 24v DC

Other Connections

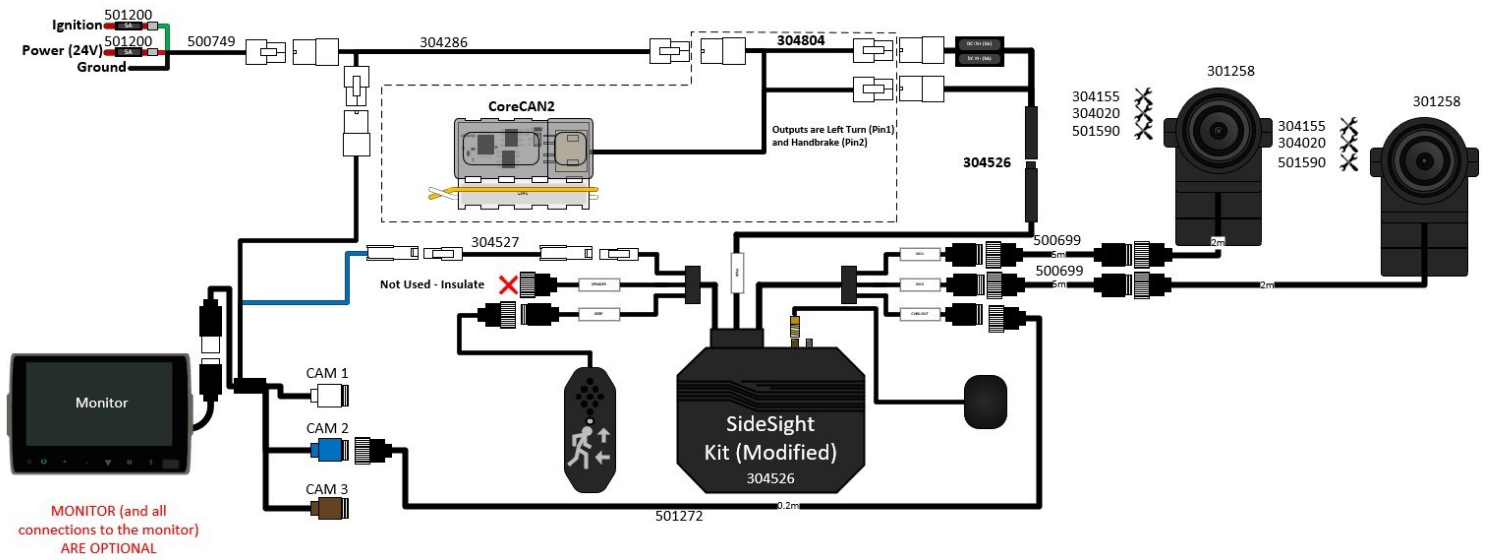
12v OUT + Blue	+12v OUT DC
12v OUT - Black	0v OUT
GPS Antenna 2-Pin	
Camera VIN1 4-Pin	
Camera VIN2 4-Pin	
Monitor 4-Pin	
Display and beeper 4-Pin	
Speaker 4-Pin	
Micro SD card slot. Maximum card size 512GB	

Dimensions & Weight

Display Dimensions	42x24x110mm
Display Weight	100g
Controller Dimensions	127x75x46mm
Controller Weight	375g

Example System Schematic

Below is an example of a TVG SideSight system schematic.



For detailed installation instructions please read the TVG SideSight G0028 Installation Guide.

About Us

The Vehicle Group Limited (TVG) is a leading manufacturer of high quality safety and security systems for commercial vehicles. Our facility in North Yorkshire, where we have circa 100 employees, is home to our design, manufacturing, engineering, and service centre. We are especially proud of our market leading, British engineered and manufactured CCTV solution Oculux®, which is used Worldwide.

Our technology's include:

- Oculux® Cameras.
- Automotive CCTV.
- CANbus Readers.
- Commercial Vehicle Announcement System (CVAS).
- Vehicle Solar Systems.
- Cable Harness Design & Manufacture.
- Electronic Design & Manufacture.
- Systems Development.

Useful Contacts

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