

TrafiCam Tender Document

Following text describes in a neutral way the specifications of the TrafiCam 2nd Generation sensor for vehicle presence detection. You can copy-paste this text in tenders.

The vehicle presence detection system is non-intrusive (i.e. **above ground**) and consists of a mounting bracket, a camera and a video detection module with video detection software. The camera and video detection module are integrated in one housing. In one or more predefined detection zones ("**virtual loops**"), the video detection software detects both **moving and stationary vehicles** on multiple lanes (when module is well-positioned, e.g. on a traffic light pole). The system generates detection outputs to the traffic light controller.

The **housing** is compact, esthetical, UV-resistant and waterproof to **IP67**. It has an integrated rain/sun shield and is made of polycarbonate and fiber reinforced polyamide.

The **bracket** allows horizontal and vertical mounting and is made of fiber reinforced polyamide (with an aluminum tube). To attach the video detection module on existing or new infrastructure, 2 bolts or 2 stainless steel bands are used.

The **camera** is a black & white or color 1/3" **CMOS** with a resolution of minimum **480x640 pixels**.

The **video detection module** has a version for detection at close range (0-25m) and one for medium range (15-60m). The module provides **4 optically isolated open-collector detection outputs** for the traffic light controller ($U_{max}=48VDC$, $I_{max}=50mA$). A red **detection LED** is clearly visible from the ground and allows both the vehicle drivers and maintenance personnel to see the video detection module status (detection, no detection, safe status). The LED can be switched off. The video detection module operates at **12-26VAC/DC** and between **-34°C and +80°C**. Its power consumption does not exceed **1.5W** (or 65mA at 24V) during regular operations. The video detection module requires a minimum of maintenance and complies with CE directive 89/336/EEC; product standard EN55022 class A.

The total mass of the vehicle presence detection system (incl. mounting bracket, excl. cabling) is less than 1kg.

A DIN-rail clickable **interface** connects a portable PC with 1 or up to 4 video detection modules. The interface is used for system configuration, detection verification and provides **4-16** (i.e. 4 per video detection module) optically isolated open-collector **outputs** to a traffic light controller, intelligent signs or other devices ($U_{max}=48VDC$, $I_{max}=50mA$). The interface has a **USB**, an **RS485** or an **Ethernet** connection to communicate with a portable PC.

The configuration of the system is done with **software** on a portable PC. The program can run on Windows XP. The program is user friendly and graphical, with a top down menu structure and uses the camera image (JPEG snapshot) to place the detection zones ("virtual loops") on the road's surface in a simple and accurate way. It is possible to set-up, add, change, delete and combine (logical function AND/OR) for up to **8 virtual loops**. These zones can be made direction sensitive and linked to up to **4 detection outputs**. There is limited streaming video for visual verification of the detection performance. The color of the detection zones can be chosen (e.g. green when no detection, red when detection). The configuration can be changed while normal operation is not disrupted.

It is possible to **record and playback video sequences** with dedicated software that can be installed on a portable PC.

The **mean time between failure** and lifetime expectancy of the video detection module, mounting bracket and interface is a minimum **100.000 hours**.

The **mean time to repair** is less than **15 minutes**, once a technician and the necessary equipment is on-site.

The system is **field proven** worldwide for at least 4 years. More than **5.000** vehicle presence detection systems are **operational** in at least **30** different **countries**.

Assuming a good camera positioning, zone positioning, zone size and no optical occlusion, the system detects vehicle presence with **≥98% accuracy** under non-extreme weather conditions, both day and night.

The time to detect is lower or equal to 100 milliseconds once the vehicle occupies at least 1/3rd of the detection zone. In extreme weather (e.g. dense fog, heavy snow), the video detection module is able to switch to a **safe status** (i.e. permanent detection) until regular operations can be continued.