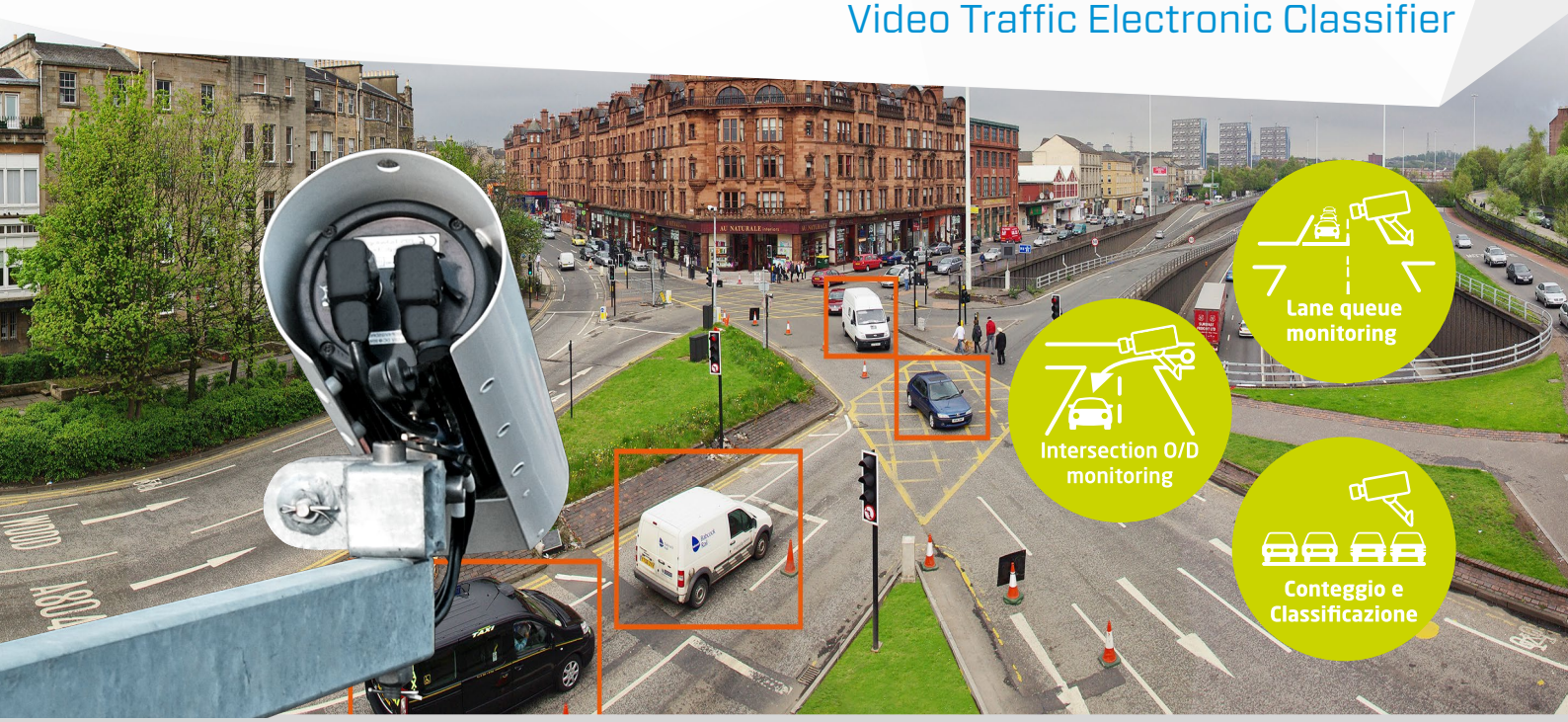
LA SEMAFORICA

TECSEN

V-TEC

Video Traffic Electronic Classifier



KEY FEATURES

V-TEC is a device with video imaging system that allows the detection, traffic monitoring and classification of vehicles.
Using a sophisticated video analysis algorithm the ARM-TEC UNIT can monitor the video-detection area, and simultaneously gather real-time data such as the number, type and traffic status, with O/D matrix function capability.
The system is focused for dynamic algorithms of traffic junctions management non-invasive, for traffic junction video-monitoring, and for travel time estimation (TTE); can be coupled with ANPR system.
The resulting data can be used to help the road users to move smoothly on the road sections subject to traffic queues /congestions or delays at certain times, for example by alerting via variable message signs, or through the most popular social networks (Facebook, Twitter, etc.) the best way to go and the estimated travel time.

VISION-ALGORITHM SW

Vision-Algorithm Software to elaborate video imaging embedded on Arm TEC-Unit.

VISION-SENS

Detection up to 4 lanes for each road

VISION CAMERA SETTING

Vision camera setting by remote..

SENSORS PORTFOLIO

- Image Sensor: 1/2.8" Progressive Scan CMOS
- Min. Illumination: 0.01Lux @ (F1.2, AGC ON) ,0 Lux with IR ,0.028Lux @ (F2.0, AGC ON) ,0 Lux with IR
- Video Compression: H.264/MJPEG
- Max. Image Resolution: x 1080 2MP
- Frame Rate: 30 fps
- Protocols:,RTSP,
- Communication: 1 RJ45 10M / 100M Ethernet interface
- Lens: different for the various functions

TRAFFIC COUNTING & CLASSIFICATION

- Lens: 6 mm

LANE QUEUE MONITORING

- Lens: 4 mm

INTERSECTION O/D MONITORING

- Lens: 2,8 mm

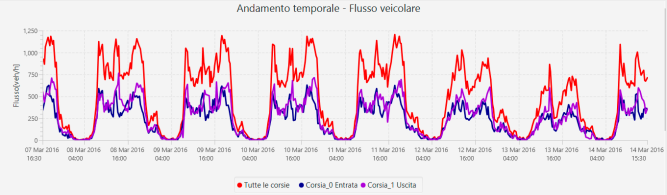
In order to offer the best possible service, La Semaforica and Tecsen reserve the right to modify at any moment and without any warning the features of the products described in this document. This document has the only purpose of illustrating the products. If you need detailed technical data, please do not hesitate to contact us.

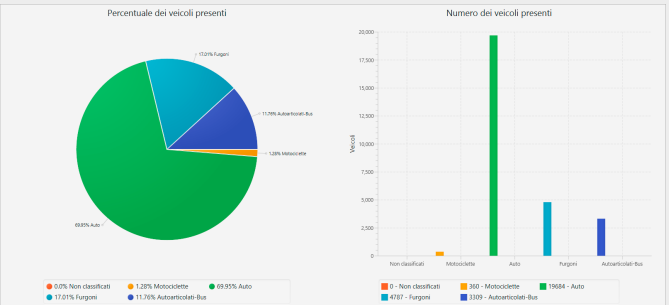
ARM UNIT TEC Traffic Electronic Classifier

Classifier unit ARM based on storage and local monitoring vehicle by vehicle with the following features:

- CPU ARCH ARM at 1GHz Cortex-A8
- Video Output: HDMI resolution 1280 x 1024 max (microHDMI)
- Temperature: -40° C + 70° C
- Power: 10-28 VDC, <2 VA
- Memory SDRAM: 512 MB 800 MHz DDR3L
- Flash EMMC 4 GB 8 bit
- SD MicroSD Slot
- Port data: 1xRS485, 3xRS232, 2xUSB
- I2C Bus for Sensor
- Real time clock: Battery backed real time clock ± 5 ppm precision
- LAN: Ethernet 10/100
- Wifi, Bluetooth, GPRS, 3G: Optional
- Input: 8 Optoisolated 200 mA@24 VDC
- Relay Output: 3 NO-NC 3A@24 VDC 3A@120 VAC
- Analog inputs: 2
- Storage capacity of more than 100 Million vehicles, vehicle by vehicle
- Web server inside for direct communication or connection via LAN

Corsia	+	Velocità [km/h]	Lunghezza [m]	Headway [s]
0		27	3.14	16
1		57	0.75	24
1		56	8.29	0
0		54	4.64	1
1		49	3.33	11





SENSOR

VISION-SENS

- Traffic Counting & Classification
- Lane Queue monitoring
- Intersection O/D monitoring

STORAGE UNIT

- **TEC-Stationary** Data acquisition units on the ARM platform with Web-Server inside in outdoor IP65 VTR case (425x325x180 mm) designed for pole mounting including power supply and electric panel 230 VAC-12 VDC
- **TEC-Stationary-PL** Like TEC-Stationary, including charger and backup battery 12 VDC 18 Ah for overnight charging through the public lighting
- **TEC-Stationary-FTV** Like TEC-Stationary, including power Photovoltaic Kit, composed of charge controller, battery 12 VDC 18 Ah and 20 W photovoltaic panel fitted for pole mounting.

COMMUNICATION UNIT

TEC-SMacs® GPRS interface for ITS platform TMacs-SMacs

TRAFFIC DATA ON WEB

TEC-SMacs® is a Cloud and modular ITS software platform for managing, controlling and monitoring traffic.

TEC-SMacs® offers an advanced web tool for remote consultation of traffic data collected from their stations in the dedicated Macs Analysis module.

Macs Analysis is the module that processes and manages the data obtained from the detection unit for the study of traffic trends. It's available real-time monitoring with trend of traffic flow [veh/h], TGM [veh/g] average daily traffic, vehicles number, average speed [km/h], 15th percentile [km/h], 85th percentile [km/h], average flow [veh/h], average density [veh/km]. All data are compared on an hourly, daily and on average last week.

It is also possible to perform historical searches on one or more lanes of vehicular depending on the classification scheme and the period chosen. It's available the download reports of studies carried out and save the data in csv and excel.

TEC-SMacs® communicates with the Web Server via GPRS modem or Ethernet port.

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