STP MFSC

- 2 Lanes coverage
- Infrared + color (bispectral) single head camera
- Plate reading up to 250 km/h in free-run
- Integrated IR illuminator with stroboscopic LEDs
- 5 Mpixel resolution (context + OCR)
- OCR library on board with 41 countries in Europe, 13 Asia, 6 Africa, 5 South America and special plates such as Trailers, Kemler ADR, Kemler ADR Empty, Tram
- Daytime classification of vehicles by type in 11 + 1 (Cars, Trucks, Trucks with trailers, Motor vehicles, Motorcycles, Mopeds, Buses, Mini vans, Big vans, Flatbed trucks, Caravans, unknown)
- Night classification of vehicles by type in 4 classes +1 (trucks, buses, cars, motorcycles and unknown)
- Daytime classification of vehicles by color in 11 classes + 1 (black, white, grey, red, blue, yellow, green, orange, pink, purple, cyan, unknown)
- Vehicle brand classification (around 100 brands supported)
- Model classification of vehicles in transit - Rear view (about 400 models supported)
- Gate AID algorithms for traffic control (stationary vehicle, wrong-way vehicle, slow traffic, queue)
- Transit speed estimation function
- Black & White lists
- ONVIF Profile S
- Local NVR function for storage continuous recording of camera video streaming and creation of micro movies on vehicle transits
- Cloud ready
- Compatible with the Vigilate v-SUITE general supervision platform
- UNI 10772:2016 Class A certified camera - 7 meters road width, 2 lanes, front and rear number plates, motorcycles, up to 30° side slip

DESCRIPTIONS

Analysis and recognition STP MFSC is the 5Mpixel OCR, 2 MPixel Context intelligent camera, specifically designed to be integrated into the SmarTekPole product, able to control and manage all the problems of a road crossing both for safety and traffic control aspects. The product has a powerful Optical Character Recognition (OCR) library complete with 27 European countries, various non-EU countries, Arabic characters and special plates for the Italian market such as: Trailers, Kemler Codes and Special plates (Police, Army, Ambulances, Civil protection ...) to operate a professional license plate reading. Various other neural algorithms then contribute to giving further information relating to the vehicle whose license plate was read such as: the vehicle class, colour, brand, model (optional). The product also features a powerful suite of A.I.D. professionals capable of generating alarms or warning events relating to the state of traffic such as: the presence of queues on the road section, slowed-down traffic, vehicle against hand, presence of smoke/fog on the passage, pedestrian in the street, presence of objects on the roadway. STP MFSC is also able to produce statistical reports relating to count, type, average traffic speed, level of occupancy of the controlled road.

Data Data, alarms, statistics, images and video streaming can be stored directly locally on the HD SSD, sent to the customer's supervision system or sent to the supervision platforms contained in the Vigilate v-SUITE. The device has FTP, XML-RPC (over HTTP) and serial transmission protocols.

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EN ISO 9001:2015
ISO/IEC 27001:2022
ISO/IEC 27017:2015
ISO/IEC 27018:2019

v-SUITE

Vigilate - PSIM
(Physical Security Information Management)

ONVIF | S

VIGILATE

TECHNICAL FEATURES

Optical group

Sensor (OCR + COLOR)	5 MP (2560 x 1936) CMOS COLOR + IR (bispectral) global shutter sensor
Frame rate	Up to 75 fps
Optics	Standard varifocal lens, 8-50 mm

Illuminator

Integrated IR illuminator	n. 8 LED IR (CLASS 1M CEI EN 69825-1 ED. 4, 850 nm IR LED)

HW features

Processor	Quad-core + HW video encoder unit + Neural coprocessor
Memory	16 GB e-MMC Flash
RAM	4 GB
S.O.	Linux
Storage Disk	HD SSD 128 GB (up to 2 TB)
I/O	N. 2 input opto-isolated N. 1 output relè N. 1 fast output strobo 12-24 VDC N. 1 output open-collector 12-24 VDC
Ports	N.1 USB port N.1 RS-485 port N.1 10/100/1000 Mbps Ethernet port

SW features

Operating mode	Continuously acquisition (free-run) On request (by SW trigger or HW trigger) Both modes can draw on the two local lists that can be configured locally or by remote synchronization with the FTP server
Real-time diagnostics	CPU temperature Mainboard temperature IR illumination module operation Lighting module current peaks Capture status of physically connected sensors Input current level (power port) Input voltage level (power port) Camera tilt angle Internal humidity level CPU consumption RAM consumption Storage disks status Utilization of the 4 physical cores (CPU monitoring) Check status of operational threads Monitoring of analysis times and operating status of active algorithms Generation of any alarms (local and possibly remote) in the face of anomalies detected
Supported sending protocols	TCP (in binary, XML, string formats) TCP Milestone FTP (imgs + text data in *.txt/*.csv) RPC-XML over HTTP / HTTPS (BASIC or EXTENDED message) Custom Protocol (message configurable via template and sendable by HTTP POST / HTTPS POST /TCP protocols) Serial (on RS 485 port) Wiegand (need to install SC20 converter) Xentinel message (over HTTP) v-SUITE message (over HTTP / HTTPS)
Supported communication protocols	TCP/IP UDP HTTP HTTPS FTP FTPS RTP/RTSP openVPN ONVIF (S- profile) NTP SNMP
Data protection	Possibility to activate the management of the web configurator by HTTPS connection FTPS encryption on TLS/SSL protocol AES-256-ECB encryption for data and images saved locally and/or sent via the supported protocols Image hash using SHA-512 algorithm and possible encryption of the signature itself using AES-256-ECB Totally GDPR compliant storage management with periodic deletion of the history

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ISO/IEC 27017:2015
ISO/IEC 27018:2019

	Cockpit masking function (in case of front detection of vehicles) in order to ensure respect for privacy Possibility to connect the camera inside an openVPN with certificate installed directly on board Advanced management of the firewall on the machine with the possibility of disabling access to the local servers present on the machine (FTP server, ONVIF server, SNMP server, service ports)

Power Supply

Supported power supply	24VDC (2,5 A) or +12VDC (5 A) or UPoE 60W class 6
Consumption	12W typically

General characteristics

Dimensions	450 x 140 x 150 mm
Weight	2,6 Kg
Operating temperature	- 30°; +60°
Humidity	Up to 90%
Protection	IP67 - class IK10 (on request)

Certifications

OCR library:	Certified high reliability, the library has been validated several times by UNI 10772:2016 class A for all vehicle classes
Classification algorithms:	The percentages of correct classification depend on compliance with the installation geometry but are above 90% regardless of the external environmental conditions
AID algorithm:	The instantaneous speed estimation by video analysis and consequently the AID algorithm with the various supported features are highly reliable as demonstrated by numerous field tests in the presence of approved systems for speed estimation for sanctioning purposes.

Regulations

Regulations complied with	EN 55032:2015, EN 55035:2017, EN 50561-1:2013 EN 62368-1 (EN 62368-1:2014+A11:2017) EN 60068-2-14:Nb 2011-11 EN 60068-2-78:2013-11 EN 62471:2010 EN60529:1991+A1:2000+A2:2013 UE Regulation 2016/679 (GDPR)

UNI 10772:2016
library validated several times

MADE IN ITALY

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