ANPR solutions for ITS applications

- Tolling
  - Axle Counter
  - Free-Flow
  - Step & Go tolling
  - Low Emission Zone

- Vehicle tracking
  - Homeland Security
  - Parking
  - Access control
  - ANPR Mobile

- Enforcement
  - Speed enforcement
  - Red light enforcement
  - Bus lanes enforcement

www.tattile.com
• Embedded Technology: OCR and image processing are embedded in the ANPR (ALPR) Camera (no need of extra PCs or software licenses)
• Multicore Processor
• Multi transit/second management capability
• Optional Features:
  - Embedded brand, color and model recognition
  - Embedded optical vehicles classification
  - HD video streaming
  - Auto trigger
  - Optical speed estimation

On field service
• Tattile’s Field Application Engineers (FAE) are fully dedicated to assist our partners during Design, Installation and After sales
• Worldwide on-field service available for partners

One step forward
• Tattile’s OCR is developed by our internal software team (in-house development)
• Tattile offers more than 110 in-house developed OCR libraries
• New OCR libraries can be developed and fasted upon request
• Tattile can handle more than one OCR library onboard each ANPR (ALPR) camera; for instance, 28 European countries are embedded in one single library
• New OCR libraries available for the US market
• Third parties OCR transferable on-board (no processing on external PC required)
Top Performance Hardware

Embedded multicore processors
Embedded FPGA
Scalable device
High sensitivity sensors
LITE and GPS available as options
SSD from 128GB up to 1TB according to customer needs
Smart design
IP68 protection grade
Extended temperature range (-40°/+60°C | -40°/+140°F external temperature)

The hardware system has been designed using a modular approach able to receive different processors ensuring future CPU evolutions for state of the art performances.

Modular Platform designed to include various sensors in order to match all the applications required by the most challenging scenarios.

Scalable HW architecture to include different FPGA modules and to ensure high-speed image processing in extreme situations.

Use of FPGA grants a huge processing capability for real time image processing and ANPR (ALPR) analysis.

SSD from 128 GB up to 1TB (Smart family).

Modular architecture allows an easy customization of the HW platform according to the complexity of the application.

Devices able to detect and read non-reflective licence plate, without any external illuminator.

Extra sensitive sensor mounted on Smart 2HD’s context camera ensures quality images also in low light conditions (from 25 Lux).

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Top Performance Software

Add-on software

Tattile’s add-on software libraries allow transforming a simple ANPR (ALPR) camera into a big data collector, providing a wide range of information for different purposes such as security, traffic analysis, smart cities, data classification, pollution estimation and traffic statistics.

All add-on software can be uploaded even if the camera is already installed.

- **BCCM** - Brand, Class, Color and Model recognition
- **Inspector** - Traffic data management system

<table>
<thead>
<tr>
<th>Feature</th>
<th>SMART</th>
<th>BASIC</th>
<th>ANPR Mobile</th>
</tr>
</thead>
<tbody>
<tr>
<td>HD Speed Traffic Light</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Short Range Long Range Vega</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>BCCM Brand Recognition</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Model Recognition</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Vehicle Classification</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Vehicle Color</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Inspector/ Traffic data system</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Access control</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Self triggering based on image analysis</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Optical speed estimation</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
</tbody>
</table>

- **Standardized interface allows future system upgrades without significant reworks**
- **Automatic grabbing parameter selection to adjust image acquisition according to external light conditions**
- **Transit notification with customizable metadata, encryption and signature algorithms**
- **High performances software and scalability**

**Linux OS platform**

**Proprietary high performance plate reader algorithm**

**Camera software can be fully upgraded from a remote connection**

**Easy to use and configure with an integrated web interface**

**SDK available for easy integration**

**Optional integration with third-party software running on-board to extend device capabilities**

**Tattile’s add-on software libraries allow transforming a simple ANPR (ALPR) camera into a big data collector, providing a wide range of information for different purposes such as security, traffic analysis, smart cities, data classification, pollution estimation and traffic statistics**.

**All add-on software can be uploaded even if the camera is already installed**.
Applications:
- Security
- Crime enforcement
- Tolling
- Smart City

Vehicle brand, class, color and model recognition algorithm running inside the camera.

License plate, brand, class, color and model create the so-called vehicle «fingerprint» in a single report.

All information provided by a single source

No extra cost for external software, processing server and integration time

Inspector is a scalable platform able to centralize the data acquired from different cameras distributed on the field.

The system is scalable and extensible to perform average speed enforcement control, security applications, traffic statistics and access control.

Inspector can analyse collected data according to configurable rules and undertake a number of actions based on the results: opening gates, sending emails, posting messages on variable message panels.

Inspector generates reliable reports; various research queries can be done.

Applications:
- Average speed enforcement
- Vehicles Research; transit movements control (reported vehicles) based on a configurable internal database or connecting to a database

Inspector does not need to be installed on client machines, the SW can easily be accessed with any browser; the multi-user software manages multiple connections and queries at the same time.

Safe login to the system using credentials (username and password), leaving the Possibility to set up different user profiles.

Possibility to embed the software in the user’s apps (or third parties) thanks to Web Service calls.

Applications:
- Origin destination
- Geo-referenced map indicating devices position
- Transit movements and traffic statistics generation, possibility to personalize statistics
- Access control

Inspector is a scalable platform able to centralize the data acquired from different cameras distributed on the field.

The system is scalable and extensible to perform average speed enforcement control, security applications, traffic statistics and access control.

Inspector can analyse collected data according to configurable rules and undertake a number of actions based on the results: opening gates, sending emails, posting messages on variable message panels.

Inspector generates reliable reports; various research queries can be done.
ANPR solutions
The Vega Smart Family

Automatic Number Plate Reader

The Vega Smart line is built on a high performance base allowing a high scalability, for high-end, multivehicle per second applications

With embedded license plate recognition, image analysis software, high resolution sensors, low power consumption and a web server on-board, the Vega Smart camera allows performing innovative applications

The camera can be integrated/connected to external devices and can receive vehicle’s class data from external classifier (bar code scanner, radio loops, etc.), tag identifier from RFID antenna and vehicle’s axle number data from external device

Stand alone: thanks to the local buffering of information, the system is able to work also in case of disruption of data connection

Camera designed to detect and recognize reflective and non-reflective license plate

New context camera color sensor capable of providing good quality images even in low light conditions (from 25 Lux)

Vega Smart Family Applications

- Multilane Free Flow
- Police enforcement
- Vehicle tracking and monitoring
- Border control
- Tax and insurance control
- Congestion charge, access control to limited traffic areas

Included Features and Options

<table>
<thead>
<tr>
<th>Vega Smart HD</th>
<th>Vega Smart UHD</th>
<th>Vega Smart Speed</th>
<th>Vega Smart Traffic Light</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multilane Processer</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Camera</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>colour Sensor</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cover Sensor</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Laser</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>6-550nm IR illuminator</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Radar</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>GPS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LTE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SSD</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Linux Os</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Traffic Light Violation SW</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>OCR</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Kemler/ADR recognition</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Autoiris</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Brand Recognition</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Color Recognition</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Model Recognition</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Optical classification</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Speed Estimation</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>HD Video</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Incl. = Included / Opt. = Optional
Vega Smart HD - Vega Smart 2HD
Automatic Number Plate Reader

The Vega Smart Line

It is built upon a highly performing base allowing outstanding scalability.

Options can be installed upon request.

Impressive capability to keep the device always updated.

Application
- Toll collection
- Free Flow
- Traffic monitoring
- Security

SMART HD SMART 2HD

Software features and Performance

<table>
<thead>
<tr>
<th>Feature</th>
<th>SMART HD</th>
<th>SMART 2HD</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>lane detected</em></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><em>max vehicle speed</em></td>
<td>250 km/h - 155 mph</td>
<td></td>
</tr>
<tr>
<td><em>detection rate</em></td>
<td>Up to 75 kHz</td>
<td></td>
</tr>
<tr>
<td><em>read success</em></td>
<td>&gt;95%</td>
<td></td>
</tr>
<tr>
<td><em>OCR</em></td>
<td>ANPR (ALPR) engine on board</td>
<td></td>
</tr>
<tr>
<td><em>third party OCR</em></td>
<td>optional</td>
<td></td>
</tr>
<tr>
<td><em>capture rate</em></td>
<td>Up to 75 fps</td>
<td></td>
</tr>
<tr>
<td><em>classification</em></td>
<td>NA optional</td>
<td></td>
</tr>
<tr>
<td><em>vehicle color</em></td>
<td>NA optional</td>
<td></td>
</tr>
<tr>
<td><em>vehicle brand</em></td>
<td>NA optional</td>
<td></td>
</tr>
<tr>
<td><em>vehicle model</em></td>
<td>NA optional</td>
<td></td>
</tr>
<tr>
<td><em>AES256</em></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><em>SHA2</em></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><em>compression</em></td>
<td>JPG</td>
<td></td>
</tr>
<tr>
<td><em>streaming</em></td>
<td>NA Video streaming via standard RTSP protocol</td>
<td></td>
</tr>
</tbody>
</table>

Configuration

- Web Server: Installation and configuration by Web Server on board
- TCP/IP Server: Configuration and monitoring through TCP/IP protocol (SDK provided)

Date and Hour

- Synchronization via NTP protocol, IEEE1588, GPS

Software Update

- Upgrading via Web Interface and SDK

Data Transmission

- FTP Client to FTP Server mode for remote data transmission; Multiple IP servers addressable
- TCP/IP: Tattile TCP/IP open protocol; (SDK provided)
- Standard protocols: XML; SNMP; NTCIP; DATEX2; UTMC; ONVIF; MODBUS

Serial Port

- Insulated RS485

Operating System

- Linux Operating System

Digital i/o

- 6 Optoisolated input - 4 Relay Output – 1 Strobe output

Connectors

- Waterproof circular connector

IP Protection

- Waterproof IP68

Ethernet

- GigaBit Ethernet 10/100/1000

Storage

- uSD up to 128 GB
- Optional HD/SSD

GPS

- Optional

LTE

- Optional

Technical Data

- Operating & Storage
  - Temperature: From -40° to +60° C - From -40° to +140° F
  - Humidity: Up to 95% non condensing
- Dimensions: 290 x 127 x 235 mm - 11.4 x 5 x 9.25 in (WxHxL)
- Weight: 5.5 kg - 12.12 lbs
- Power supply voltage: 24 Vdc
- Power consumption: 50 W (max)

<table>
<thead>
<tr>
<th>DVR Mode</th>
<th>SMART HD</th>
<th>SMART 2HD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free Run</td>
<td>Continuous processing, live video, vehicle detection, non-withdrawal plates</td>
<td></td>
</tr>
<tr>
<td>Triggered</td>
<td>Image captured, vehicle image stored if detected in trigger area</td>
<td></td>
</tr>
</tbody>
</table>

ANPR (ALPR) sensor

- 5 MPx color license plate

Control camera

- 2.8 Megapixel color CMOS

Encoder

- Tachograph
- Encoder

Lucas

- Digital I/O: 1 digital input - 1 digital output - 1 strobe output

Premium

- Premium encryption

NMEA

- NMEA output

Network

- 2 Ethernet ports, 10/100/1000 Mbps

Part Numbers

- Vega Smart HD: F01760
- Smart HD: F01767
- Smart HD Non Reflective Plates: F01768
- Vega Smart Color HD: F01762
- Smart Color HD: F01763
- Smart Color 2HD: F01765
- Vega Smart 2HD: F01761
- Smart 2HD: F01768
- Smart 2HD Non Reflective Plates: F01769

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Vega Smart Speed
Automatic Number Plate Reader

- Real time detection of infringements with OCR on board
- Embedded multi tracking radar
- No post-processing required
- Detection of vehicles exceeding average speed or punctual speed limits
- Ability to recognize every plate passing under the camera and not only violators. This is very useful for security or statistical purposes
- All transit plates are recorded and available for:
  - Speed enforcement (spot/average)
  - Tax and insurance control
  - Vehicle tracking
  - Traffic monitoring

Part Numbers
- Vega Smart Speed: F01766

Software features and Performance

- Lane Detection: 2
- Max Vehicle Speed: 250 km/h - 155 mph
- Working Distance: Up to 35 m - Up to 115 ft
- Detection: 99%
- Reading: >95%
- OCR: ANPR (ALPR) engine on board
- Third party OCR: optional
- Capture rate: Up to 75 fps
- Classification: optional
- Vehicle Color: optional
- Vehicle Brand: optional
- Vehicle Model: optional
- AES256: Yes
- SHA2: Yes
- Compression: JPG
- Streaming: Video streaming via standard RTSP protocol
- Configuration: Web Server
- Installation and configuration by Web Server on board
- TCP/IP Server
- Configuration and monitoring through TCP/IP protocol. (SDK provided)
- Date and Hour: Synchronization via NTP protocol, IEEE1588, GPS
- Software Update: Upgrading via Web Interface and SDK
- Data Transmission: FTP
  - FTP Client to FTP Server mode for remote data transmission. Multiple FTP servers addressable
  - TCP/IP
    - Tattile TCP/IP open protocol; (SDK provided)
    - Standard protocols: XML; SNMP; NTCIP; DATEX2; UTMC; ONVIF; MODBUS
- Serial Port: Insulated RS485
- Connectors: Waterproof circular connector
- IP Protection: Waterproof IP68
- Ethernet: GigaBit Ethernet 10/100/1000
- Storage: uSD up to 128 GB
- Optional HD/SSD
- GPS: Yes
- LTE: Optional

Op. Mode
- Free Run: Continuous processing with automatic vehicle detection, even without plate
- Triggered: Image capture and processing triggered by Ethernet command or digital signal

System
- ANPR (ALPR) camera
  - 5 MPX BW
- Context camera
  - 2.3 Megapixel color CMOS sensor
- Illuminator
  - 12 high power LEDs, InfraRed @ 850 nm
- Lenses
  - C-Mount. Many focal lengths available
- Operating System
  - Linux Operating System
- Digital i/o
  - 6 Optoisolated input - 4 Relay Output – 1 Strobe output
- Connectors
  - Optoisolated input
- Power supply voltage: 24 Vdc
- Power consumption: 50 W (max)

Dimensions
- 404 x 127 x 235 mm - 15.9 x 5 x 9.25 in (WxHxL)
- Weight: 7.4 kg - 16.31 lbs

Technical Data
- Temperature: From -40° to +60° C - From -40° to +140° F
- Humidity: Up to 95% non condensing
- Weight: 7.4 kg - 16.31 lbs
- Power consumption: 50 W (max)

Application
- Enforcement
- Traffic monitoring
- Security
Vega Smart Traffic Light

Automatic Number Plate Reader

The new concept to safeguard the intersection.

Smart Traffic Light allows the red light status identification through image analysis. Red light violation detected by image analysis (without external sensors), no external device required and reduced installation and maintenance costs.

The system is able to manage different kinds of traffic installations (one or two lanes, one traffic light each lane or every two lanes).

Ability to recognize every plate passing under the camera and not only violators. This is very useful for security or statistical purposes. All transit plates are recorded and available for:
- Red light enforcement
- Tax and insurance control
- Vehicle tracking
- Traffic monitoring

Application
- Enforcement
- Traffic monitoring
- Security

- Part Numbers
  - Vega Smart Traffic Light
  - F01764
  - Smart Traffic Light
  - F01769
  - Smart Traffic Light Non Reflective Plates
Vega Basic Family

Mainly targeted to stop & go tolling, parking and access control systems, with a maximum input power of 13W, the Vega Basic line features a Power-over-Ethernet (POE) interface for minimizing the installation and maintenance time.

- New generation full HD sensor for reading reflective and non-reflective plates
- A multicore processor on board with Linux operating system
- Extra compact size to reduce the installation impact
- The Vega Basic is easy to install and does not require an external IR lighting
- Vandal proof connectors

Vega Basic Family Applications

- Stop & Go tolling
- Parking
- Access control
- Urban road tracking
- Congestion charge
- Access control to limited traffic areas
- Axle counting

Vandal proof connectors

Included Features and Optionals

<table>
<thead>
<tr>
<th>Vega Basic Short range</th>
<th>Vega Basic Long range</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multicore Processor</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>OCR Bw sensor</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>OCR Color sensor (color version)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Context color sensor</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Micro SD</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Linux Os</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>OCR</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Kemler/ADR recognition</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Autoiris</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Speed Estimation</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Model Recognition</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Brand Recognition</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Color Recognition</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Incl. = Included / Opt. = Optional
Axle Counter

**Integrated axle counting system**

- **The new concept of axle counting based on Artificial Intelligence**

The Axle Counter is targeted to free-flow tolling applications. Its advanced embedded processing capability, based on Artificial Intelligence (AI), allows to detect and count vehicles' axles, at any time of the day and of the night.

- The Axle Counter gantry installation is made easy thanks to the Power-over-Ethernet (PoE) interface that provides a single cable connection to the camera for power and data transfer.

- Additionally, for optimal performances, the Axle Counter is triggered by different triggering sources, allowing flexible interfacing with existing devices and perfect integration with Tattile devices.

- The Axle Counter provides the resulting metadata together with the reconstructed image of the vehicle, giving evidence of the transit to the tolling operators.

- Its local storage capability allows operating stand-alone in case connectivity is not available.

**Software features and Performance**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Vehicle Speed</td>
<td>180 km/h - 112 mph</td>
</tr>
<tr>
<td>Installation height</td>
<td>6 m (typical) - 19.6 ft (typical)</td>
</tr>
<tr>
<td>Counting accuracy</td>
<td>&gt;95% over 3 classes</td>
</tr>
<tr>
<td>Capture rate</td>
<td>Up to 50 fps</td>
</tr>
<tr>
<td>AES256</td>
<td>Yes</td>
</tr>
<tr>
<td>SHA2</td>
<td>Yes</td>
</tr>
<tr>
<td>Data buffering and storage</td>
<td>Yes</td>
</tr>
<tr>
<td>Compression</td>
<td>JPG</td>
</tr>
<tr>
<td>Speed estimation</td>
<td>Optional</td>
</tr>
<tr>
<td>Configuration</td>
<td>Web Server, TCP/IP Server</td>
</tr>
<tr>
<td>Date and Hour</td>
<td>Synchronization via NTP protocol or optional internal GPS</td>
</tr>
<tr>
<td>Software Update</td>
<td>Upgrading via Web Interface and SDK</td>
</tr>
<tr>
<td>Data Transmission</td>
<td>FTP, TCP/IP (open protocol)</td>
</tr>
<tr>
<td>Op. Mode</td>
<td>Trigger Ethernet, Trigger Input</td>
</tr>
<tr>
<td>Image capture and processing triggered by Ethernet command with Tattile TCP/IP open protocol (SDK provided)</td>
<td></td>
</tr>
<tr>
<td>Image capture and processing triggered by digital signal start/stop</td>
<td></td>
</tr>
<tr>
<td>System image capture sensor</td>
<td>2 Megapixel grayscale</td>
</tr>
<tr>
<td>Illuminator</td>
<td>External illuminator InfraRed @ 850 nm</td>
</tr>
<tr>
<td>Lenses</td>
<td>C-Mount. Different focal lenses available</td>
</tr>
</tbody>
</table>

**Operating & Storage**

- Temperature: From -40° to +60° C - From -40° to +140° F
- Humidity: Up to 95% non-condensing
- Dimensions: 187 x 103,5 x 216 mm - 7.4 x 4.1 x 8.5 in (WxHxL)
- Weight: 5 kg - 11 lbs
- Power supply voltage: 24 Vdc, PoE+
- Power consumption: 15 W (max)

**Optional:**
- GPS module
- Speed estimation

**Contact:**
- www.tattile.com

**Part Numbers**

- Axle Counter System: F01900
- Axle Counter: F01912
- External IR Illuminator: F01913

**Technical Data**

- Onboard processing
- Local storage
- Power Over Ethernet
- Metadata and image output
Vega1

Automatic Number Plate Reader

The Vega1 is a dual channel camera built in a compact case.

It is mainly targeted to single lane vehicle tracking, traffic limited areas and priority lanes. Its high sensitivity image sensors are available for ANPR (ALPR) reading, video streaming even in extreme and low light conditions.

The Vega1 is compact, easy to install and does not require an external IR lighting. The extra compact case reduces installation impact.

Applications:
• Single lane road tracking
• Surveillance and access control
• Congestion charge
• Limited traffic areas, priority lanes

Optional functionalities:
• GPS
• Vehicle class
• Vehicle color
• Vehicle model

VEGA1 Software features and Performance

Lane Detected: 1
Max Vehicle Speed: 200 km/h - 124 mph
Working Distance: Up to 25 m - Up to 82 ft
Detection: 99%
Reading: >95%
OCR: ANPR (ALPR) engine on board
Third party OCR: optional
Capture rate: Up to 60 fps
Classification: optional
Vehicle Color: optional
Vehicle Brand: optional
Vehicle Model: optional
AES256: Yes
SHA2: Yes
Compression: JPG
Streaming: Color video streaming via standard RTSP protocol
Configuration: Web Server
Installation and configuration with onboard Web Server
TCP/IP Server: Configuration and monitoring through TCP/IP protocol. (SDK provided)
Date and Hour: Synchronization via NTP protocol, IEEE1588, GPS
Software Update: Upgrading via Web Interface and SDK
Data Transmission: FTP
FTP Client to FTP Server mode for remote data transmission; Multiple IP servers addressable
TCP/IP: Tattile TCP/IP open protocol; (SDK provided)
Standard protocols: XML; SNMP; NTCIP; DATEX2; UTMC; ONVIF; MODBUS
Serial Port: Insulated RS485
Op. Mode: Free Run
Continuous image capture and processing
Triggered
Image capture and processing triggered by Ethernet command or digital signal
System: ANPR (ALPR) camera
Up to 3 Megapixel grayscale sensor
Context camera
Up to 3 Megapixel color sensor
Illuminator
10 high power LEDs, InfraRed @ 850 nm
Lenses
C-Mount. Many focal lengths available.
Operating System: Linux Operating System
Digital i/o: 2 Inputs - 2 Outputs – 1 Strobe output
Connectors: Waterproof circular connector
IP Protection: Waterproof IP67
Ethernet: GigaBit Ethernet 10/100/1000
Storage: uSD up to 128 GB
GPS: Optional
LTE: Optional
Technical Data

Operating & Storage

Temperature: From -40° to +60° C - From -40° to +140° F
Humidity: Up to 95% non condensing
Dimensions: 187 x 103,5 x 216 mm - 7.4 x 4.1 x 8.5 in
Weight: 5 kg - 11 lbs
Power supply voltage: 24 Vdc or PoE+ 802.3at Type2
Power consumption: 15 W (max)

Part Numbers

Vega 1 F01870
Vega 1 Long Range F01872
Vega 1 Short Range F01873

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The Vega Basic Line is built around a small and compact case.

POE allows a single wire connection.

Optionals can be installed upon request.

Impressive capability to keep the device always updated.

Available in BW and Color version.

### Software Features and Performance

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<thead>
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<th>BASIC SHORT RANGE</th>
<th>BASIC LONG RANGE</th>
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#### Configuration

- 2 MPx BW (Basic Short Range)
  - 2 MPx Color (Basic Long Range)
- 8 high power LEDs, InfraRed @ 850 nm (Illuminator)
- C-Mount Lenses (Many focal lengths available)
- Linux Operating System
- 2 Optoisolated input - 2 Relay Output – 1 Strobe output (Digital i/o)
- Waterproof IP67
- GigaBit Ethernet 10/100/1000 (Ethernet)
- up to 128 GB (uSD storage)
- Yes (Vandal proof Connector)

### Technical Data

- Operating & Storage: Temperature from -40° to +60° C, Humidity up to 95% non condensing
- Dimensions: 178 x 90 x 133 mm (WxHxL), Weight: 1.5 kg
- Power Supply Voltage: 24 Vdc, PoE
- Power Consumption: 12 W (max)

**Part Numbers**

- Vega Basic F01750 Basic Short Range
- Vega Basic F01752 Basic Long Range
- Vega Basic Color F01751 Basic Color Short Range
- Vega Basic Color F01753 Basic Color Long Range

**The Vega Basic Short Range** can read up to 8 meters-26 ft far at 70km/h-44 mph max speed.

**The Vega Basic Long Range** can read up to 25 meters-82 ft at 150km/h-93 mph max speed.

www.tattile.com
ANPR Mobile

ANPR Mobile is the latest generation system with Megapixel sensors that can scan up to 60 license plates per second, front and rear, in any light condition. It is part of the sophisticated Tattile ANPR/ALPR (Automatic Number Plate Reader) All On Board camera family, to read license plates in movement.

Wi-Fi data transmission from the unit to the pc/tablet

GPS on board

Embedded licence plate analysis (OCR on board)

Real time processing: up to 60 fps

Software Features

Technical Data

ANPR Mobile

License Plate Recognition

OCR

ANPR (ALPR) engine on board

Capture rate

Up to 60 fps

Web Server

Installation and configuration by Web Server on board

TCP/IP Server

Configuration and monitoring through TCP/IP protocol

Date and Time

Synchronization via SNTP protocol or GPS

Software Update

Upgrading via Web Interface and SDK

FTP

FTP Client to FTP Server mode for remote data transmission; two IP address management

TCP/IP

Tattile TCP/IP open protocol; two IP address management

Streaming

Video streaming via standard RTSP protocol

Operating Mode

Free Run

Continuous processing with automatic plate detection

Sensors

ANPR (ALPR) camera

1920 x 1080 Monochrome CMOS sensor

Context camera

1920 x 1080 Color CMOS sensor

Illuminator

Short range: 6 LEDs High power infrared @ 850nm

Medium/long range: 10 LEDs High power infrared @ 850nm

Lenses

2.8~12mm. Many focal length available

Controller

Waterproof microcontroller

Network

Fast Ethernet 10/100 and Wi-Fi 802.11

Storage

Up to 128 GB

Environment, Size, Power

Temperature

From -30° to +60° C / -22° to +140° F

Humidity

Up to 95% non condensing

Dimensions

178 x 76 x 141 mm - 7 x 3 x 5.5 in (WxHxL)

Weight

1,650 Kg - 3.63 lbs

Protection

Waterproof IP66/IP67

Power supply voltage

12 Vdc

Power consumption

15 W

Part Numbers

ANPR Photosensitive Array short range

ANPR MOBILE SYSTEM short range

ANPR MOBILE SYSTEM medium range

ANPR MOBILE SYSTEM long range

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