GLOBAL PROOF

powered by SELEA

ANPR SOLUTION

ONE LANE | STEEL | DUAL LANE | MOBILE | PARKING

99.8% accuracy

iZero™

COLUMN and BOX

DATASHEET

Technical specifications document.

TCP/IP Column and Box type number plate reading camera (ANPR - OCR) for vehicle access control applications, providing high performance together with an elegant design that make it suitable for buildings such as: Hotels, Tourist Villages, Residential complexes, Campsites, Automated Car Parks, Shopping Centres, Airports, Exhibition Centres and entrances to Company premises.

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Main features

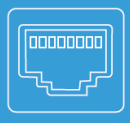
Integrated OCR number plate reading megapixel sensor with unequalled character reading accuracy (99.8%).

Column complete with relay for activating the gate/barrier.

Internal memory capable of handling thousands of personal number plates (MicroSD memory slot).

Three types of power supply available (220Vac, 12 Vdc, POE standard 802.3af)

Fast installation as it doesn't require calibration.



Equipped with various types of communication interfaces (Ethernet, Wiegand, RS485/232, OSDP).

USB connector for Wi-Fi. dongle and internal memory expansion of up to 1 TB

Made of aluminium and suitable for both indoor and outdoor use (IP66)

Integration with well-known access control systems such as: FAAC, SKYDATA, PARKEON, HONEYWELL, SIEMENS and many others ...

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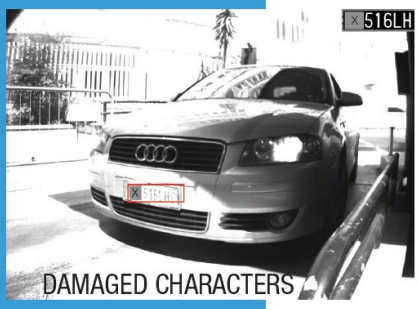
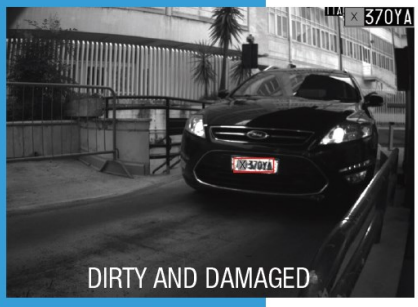
Why don't those that claim to have a good **product prove it?**

Field evidence **is worth more than 1000 words**.

Unlike those who just use slogans to brag about their products, we are using real images to demonstrate what this products are capable of doing in critical situations when installed in the field. This means that the customer knows exactly what to expect from this product: i.e. no surprises, no problems and no waste of time. The original images below demonstrate the accuracy and reliability of this products with dirty, deformed and damaged number plates. Access control applications require high reading accuracy and reliability. **Accuracy is one of the most important features** of an access control number plate reading camera.

ZOOM in to enlarge the image and view the condition of the number plates in greater detail. The OCR reading taken by the camera can be seen in the upper right corner.





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Technical datasheet

- **CAMERA**
  Camera with OCR number plate reading sensor CMOS Global Shutter, **2 Megapixels**, frame rate 54 Fps, B/W fitted with 3.6 mm fixed lens and M12 mount.
- **ANPR-OCR**
  Triple OCR algorithm embedded directly into the camera that can read number plates automatically (free flow) i.e. without the need for external synchronisation devices. It should be remembered that unlike other systems, these character reading cameras **are not based on** imprecise motion detection systems. The number plate can also be read even when the vehicle is stationary (0 Km / h = no motion detection).
  The OCR recognizes the characters of the Latin alphabet and some of the Arabic alphabet (Iran-Iraq, Morocco, Turkey and others). The camera is able to recognize the *nationality* of the vehicle without having to work with syntax limitations or constraints of syntax libraries of over 28 Member States of the European Community such as: *Austria, Belgium, Bulgaria, Cyprus, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, the United Kingdom, the Czech Republic, Romania, Slovakia , Slovenia, Spain, Sweden, Hungary and non-EU countries such as Albania, Azerbaijan, Belarus, Bosnia and Herzegovina, the Vatican City, Florida, Georgia, Iceland, Kazakhstan, Kosovo, Macedonia, Moldova, Monaco, Montenegro, Nigeria, Norway, San Marino, Serbia, Switzerland, Turkey, Ukraine,* as well as character sets from countries such as Canada, Iran, South Africa and others; for a total of **over 50 countries**. The camera can work both with and without syntax and *without losing accuracy* when switching from one mode to another. In syntax-free mode, the camera offers the advantage of having no nationality limits, apart from constraints imposed by the character sets that the OCR is able to recognise. You can choose between operating modes that use syntax, which is useful where a well-defined syntax exists (such as in Italy) - and that don't use syntax (syntax free) like in most European countries, without the loss of reading accuracy.
  The system recognises a wide range of vehicle types from cars to goods vehicles, mopeds and motorcycles, Law Enforcement vehicles, Military vehicles and Ambulances. It can read both front and rear number plates. Reading accuracy of up to 99.8% in various environmental conditions.
- **EMBEDDED ALGORITHMS**
  In addition to the OCR number plate recognition algorithms, other algorithms are installed on the camera that have been developed to make number plate reading as reliable and as error-free as possible. In addition to the OCR algorithms, these include:
  - *Dirt elimination*, to eliminate issues associated with dust, snow, mud and insects on the body of the number plate
  - *Angle compensation,* to allow readings to be taken even at sharp angles
  - *Symbol elimination,* such as labels, badges, symbols or advertising
  - *Predictive character analysis*, probability based, to improve reading accuracy
  - *Magic spot*, which makes the number plate visible even if the image is dark.
- **SECURITY AND PRIVACY**
  The stored data is encrypted to emphasize the importance that we placed on data protection to comply with GDPR regulations. Data and image security are ensured by:
  - HTTPS encryption
  - FTPS (FTP over TLS/SSL) encryption
  - Micro SD memory encryption
  - automatic deletion of data and images after specified period of time (privacy management).

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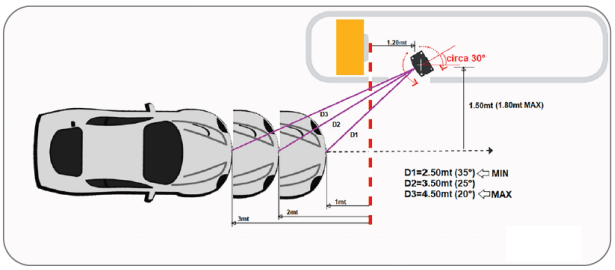
- **STANDARD BUILT-IN FUNCTIONS**
  The camera has the following built-in functions:
  - Embedded Linux Operating System
  - Double FTP server and double IP notification server
  - Dynamic FTP notification forwarding customization
  - IP notification customization
  - Multiple user management using HTTPS protocol protected access credentials for accessing the camera
  - List management (white/black, no list ...) with independent actions for each list: function available only for the FULL version.
  - Synchronized recording of metadata and captured code/number plate image.
  - Integration and saving of context camera images
  - Privacy management with automatic deletion of image data after a specified period of time.
  - Integration with third party VMS video surveillance software solutions
  - Save data on a local server or remote NAS
  - HTTPS security management
  - FTPS (FTP over TLS/SSL) security management
  - E-mail forwarding security using TLS/SSL protocol
  - Multiple action alarm management.
  - Live and check control function for checking the operation of the entire system.
  - Possibility of updating firmware from a web page
- **ACCURACY**
  Unlike other systems, the cameras character reading **does not depend** on the activation of the motion detection system. So this camera can read when a vehicle is stationary.
  In the field, is guarantees an accuracy of:
  - up to 99.8% on number plate reading with the vehicle stationary for a standard installation of up to PAN ≤ 30°. For the box version TILT ≤ 25°; H=1.5m max.
  - up to 99% of number plate reading transits at up to 20 km/h for a standard installation: PAN ≤ 30°
- **INSTALLATION**
  For reading plates on a single lane, the system will work best when it is set up to read number plates at a distance (D) of more than 2 m and less than 4 m (3 meters recommended). For the Box version, it is recommended to install it at a height no greater than 1.5 m. The width of the access should be a maximum of 3.5 m for both versions.



- **INTERNAL MEMORY**
  The FULL version camera is fitted with an internal 8 GB (16 GB optional) *High Endurance* (-40 ~ + 85°C) industrial microSD SLC memory card as standard, which is used for entering number plates (white/black list) and for saving the captured images. When the memory is full, the camera will automatically delete the oldest files to free up space for new ones (Fi.Fo method). If the data connection is lost, the camera automatically stores all transits. When the connection is restored, the camera automatically updates the operations centre database when no transits are taking place. The memory can be expanded using the USB interface provided to connect storage disks of the capacity currently available on the market (> 1TB optional)

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- **VIDEO OUTPUT**
  The camera is able to send images of the number plate in JPEG format and as a video stream from the number plate reading sensor in RTP/RTSP, Mpeg4 and H264 video formats.

- **IR ILLUMINATOR**
  The camera is fitted with an IR illuminator consisting of 6 high power 820 nm/47° IR LEDs that are compliant with the EN62471: 2008 standard on photobiological safety. The multiple exposure pulsed lamp is able to regulate the output power according to the lighting in the environment and the reflectivity of the number plate. This avoids underexposed or overexposed images, which improves number plate reading and recognition accuracy.

- **DATA INTERFACE**
  The camera is a web-server device, i.e. a device that allows the images to be viewed, the memory to be accessed and the parameters to be configured via a browser. It is fitted with a 10/100 Mbps standard 802.3 Ethernet/ IEEE port and uses well known standard communication protocols such as TCP/IP, UDP, HTTP, HTTPS, FTP, FTPS, RTP/RTSP and DHCP. In addition to the LAN interface, the FULL version camera also has a serial interface such as RS232, RS485 half duplex, Wiegand and OSDP.

- **DATA COMMUNICATIONS**
  - Save data directly to local server or remote NAS
  - Integration with third party VMS software solutions
  - Synchronized recording of metadata and captured number plate image.
  - Dynamic creation and updating of multiple lists (black/white): only for the FULL version
  - Multiple action alarm management
  - Double (triple on request) FTP and/or TCP/IP server.

- **I/O, INPUTS-OUTPUTS**
  The FULL camera (COLUMN or BOX version) is fitted with 0.3A 125 Vac or 1A 30 Vdc volt-free contact relays for opening the barrier/gate automatically. It also has 2 digital inputs for synchronization devices, if required.

- **INBUILT PROTECTION**
  The camera is protected against:
  - reverse polarity
  - voltage fluctuations greater than 30 Vdc
  - overloads with thermal protection
  - overvoltages (TVS) on USB and Ethernet ports

- **POWER SUPPLY**
  The camera is designed to use a 12 Vdc power supply. The FULL version has the option of being POE 802.3af powered, or powered using a built-in 230 Vac power supply for the column version. The absorbed power for all models is 8 W max.

- **GENERAL**
  The camera is made of die-cast aluminium with an ABS sunshield. It can operate in temperatures from -25°C to +45°C without the need for fans or heaters. Protection rating IP66.
  Its dimensions are:
  - COLUMN camera: L=83 H=500 D=88 mm Weight 1.8 kg.
  - BOX camera: L=83 H=125 D=88 mm Weight 0.9 kg.

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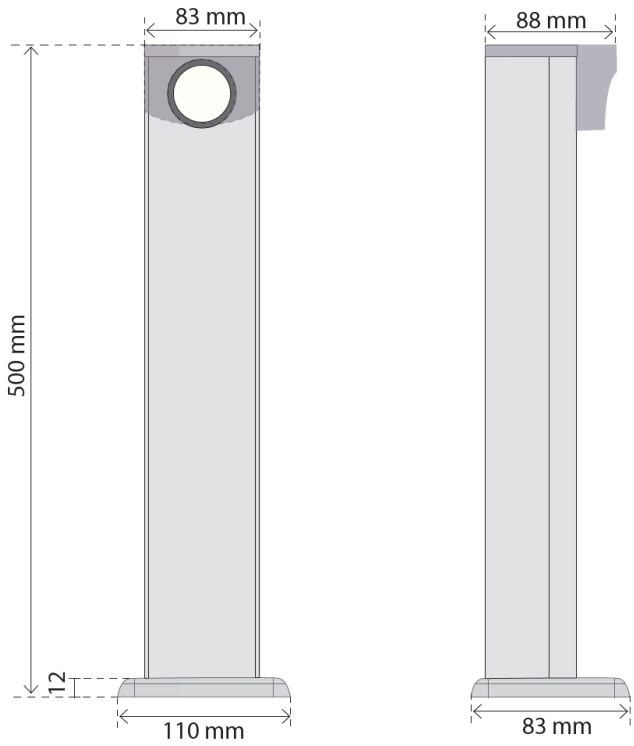
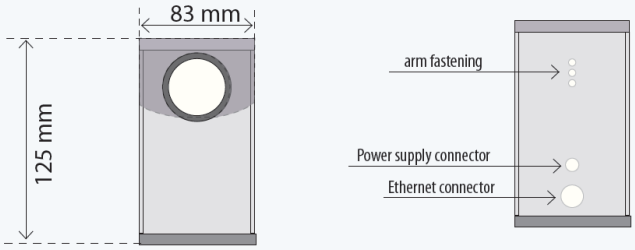
- **ACCESSORIES**
  The COLUMN camera is equipped with the following accessory:
  - 230Vac power supply to be installed in the column.

Column version



Box version



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