



TARGA

205



SINGLE LANE: reading number plates on one lane.



SAVING: Cost-efficient and high-performing solution.



DUAL SENSOR: OCR for number plate reading and color context sensor.

DATASHEET

ANPR-OCR number plate reading camera for urban security. Suitable for municipalities and city centres.

■ CAMERA

Double sensor camera:

- OCR *number plate reading* sensor CMOS Global Shutter, **2 Megapixels**, frame rate 60 Fps, B/W fitted with 25 mm fixed focus lens with F1.2 aperture and C/CS mount.
- Context sensor Colour CMOS Rolling Shutter, **5 Megapixels** with 12mm fixed lens and IR filter for *panoramic view*.

■ ANPR-OCR

Triple OCR algorithm embedded directly into the camera that can read the number plates automatically (free flow) on single lanes, without the need for external synchronisation devices. It should be remembered that unlike other systems, Selea 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 98% in various environmental conditions, even for dirty number plates.

■ ALGORITHMS

In addition to the OCR, other algorithms are installed on the camera, that have been developed to make number plate reading as reliable and as error-free as possible, such as:

- *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.

■ INTEGRATION

The camera can **only be used with** CPS, a software developed in-house by Selea, which being an open platform is able to integrate standard third party ANPR-OCR cameras made by the best known brands on the market.

■ SECURITY AND PRIVACY

The stored data is encrypted. TARGA-CPS is ISDP 10003:2018-certified to emphasize the importance Selea has placed on data protection and to comply with GDPR regulations. Data and image security are ensured by:

- HTTPS encryption.

■ STANDARD BUILT-IN FUNCTIONS

The camera, with embedded Linux OS, has the following built-in functions:

- Multiple user management using HTTPS protocol protected access credentials for accessing the camera.
- Synchronized recording of metadata and captured code/number plate image.
- Save data on a local server or remote NAS.
- HTTPS security management.
- 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 SELEA cameras character reading **does not depend** on the activation of the motion detection system. So the camera can read even when a vehicle is stationary. The camera is also able to read number plates at speeds higher than 140 km/h, bearing in mind that the higher the speed the more the accuracy will depend on the actual environmental conditions and the condition of the number plate (dirty, non-reflective etc.).

On roads Selea guarantees an accuracy of:

- up to 98% of number plate reading transits, in all conditions, for speeds from 0 km/h (vehicle stationary) to 100 km/h for the standard system: PAN $\leq 30^\circ$; TILT $\leq 25^\circ$; H ≤ 4 m.
- 100% accuracy according to UNI 10772:2016 class A parameters for rear, two-line, motorcycle and moped number plates.

■ INSTALLATION

Single lane number plate reading. The system will work best when it is set up to read rear number plates. The recommended reading distance is 20 m; Mounting height = 3 m; Lane width = 4 m; TILT = 15° .

■ VIDEO OUTPUT

The camera:

- can transfer captured number plate images in JPEG format with a resolution of 2 megapixels for OCR and 5 megapixels for context.
- can video stream data read by the number plate reading sensor and the panoramic context sensor in HD, 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 reflectance of the number plate. This avoids underexposed or overexposed images, which improves number plate reading and recognition accuracy. The recommended lighting distance for maximum reading accuracy for dirty or non-reflective number plates is between 10 and 21 metres.

■ DATA INTERFACE

The camera is a web-server device, i.e. a device that allows the images to be viewed 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, RTP/RTSP and DHCP.

■ DATA COMMUNICATIONS

- Save data directly to local server or remote NAS.
- Context images synchronised with number plate reading images.
- Multiple action alarm management.
- Alarm-triggered transmission of the image associated with the captured number plate to remote devices (such as MOTOROLA and HYTERA mobile radio communication equipment, PC, Tablet etc.) with *vocal reception* of the number plate.

■ 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 operate using a 12 Vdc or a PoE+ power supply ("T" option) including a high power injector. Absorbed power max. 9 W.

■ GENERAL

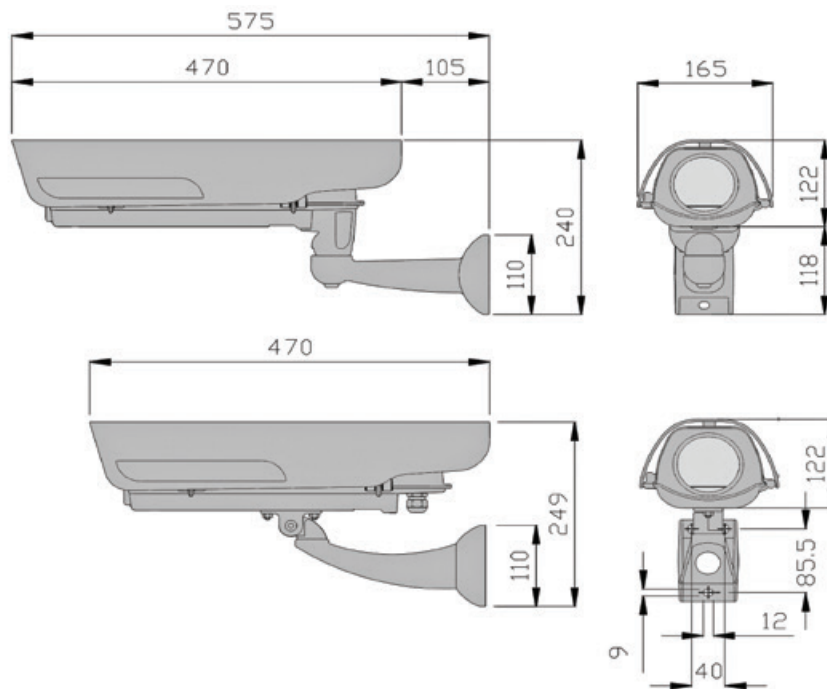
The camera is made of powder coated die-cast aluminium with an ABS weather-shield. It can operate in temperatures from -40°C to +65°C without the need for fans or heaters. Protection rating IP66. IP67 and IK10 on request. Its dimensions are: L=165 H=122 D=470 mm - Weight: 3 kg.



ACCESSORIES

The camera can be equipped with the following accessories:

- ▶ Power supply PoE+ (Power Over Ethernet Plus) standard 802.3at including a high power injector.



COMPARISON TABLE showing the main differences

● = included (built-in) ○ = optional (on request)	TARGA 205	TARGA 704	TARGA 805	TARGA 750	TARGA 850
Lanes	1	1	1	2	2
Built-in OCR sensor	2 Mpx	2 Mpx	5 Mpx	3,2 Mpx	5 Mpx
5 MPX colour panoramic sensor	●	○	●	○	●
Dangerous goods tables reading (Kemler)		●	●	●	●
Nationality recognition	●	●	●	●	●
Speed detection			○		●
Vehicle Type recognition			○		●
Colour recognition			○		●
Make & Model recognition (on board)			○		○
Memory expansion ports		●	●	●	●
Expansion ports of deep learning (AI) - future modules			○		○
White/Black list storage and backup		●	●	●	●
PoE+ power supply with power injector	○	○	○	○	○

SELEA SRL

Via Aldo Moro, 69
46019 Cicognara (MN)
ITALY
VAT: 01811290202

Phone +39 0375 88.90.91
Fax +39 0375 88.90.80

www.selea.com
infocom@selea.com

WHERE TO BUY

Selea has a network of authorised Distributors throughout the country with whom it establishes design and market protection policies.

SUPPORT

We provide both a pre-sales and after-sales technical support service to customers.

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About us

SELEA is specialized in the manufacture of number plate reading solutions, both for vehicle access control and for territorial security and traffic control. All of our products are developed and manufactured entirely in Italy. This means that our customers benefit from continuous and comprehensive technical support.

The experience accumulated in over 10 years of collaboration with various law enforcement agencies on video surveillance and license plate reading systems, give us today the opportunity to offer solutions capable of guaranteeing excellent results, and advanced tools for the **repression and prevention of crimes** (search for accomplices, stolen vehicles, vehicles without insurance/roadworthiness certificate, traffic analysis, and much more). These products can be part of an integrated urban security system, allowing the sharing of information between law enforcement and smart cities.

- **HARDWARE MANUFACTURING**
- **SOFTWARE DEVELOPMENT**
- **IN-HOUSE RESEARCH & DEVELOPMENT**
- **100% MADE in ITALY by SELEA**

