SELEA

ILU - BIC CONTAINER CODES READING

TARGA

DATASHEET

704 ILB

ACCURACY: up to 99% even in critical conditions.

FLEXIBILITY: thanks to its depth of field and adjustable lenses.

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

ANPR-OCR camera for recognizing codes on the back of containers (ILU-BIC).

CAMERA

Camera with B/W Global Shutter CMOS OCR sensor for container plate reading, **2 Megapixels**, 60 FPS frame rate fitted with a 5-55 mm varifocal lens with F1.4 aperture and C/CS mount.

- Optional **5 Megapixels** colour rolling shutter CMOS context sensor, fitted with a 12mm lens and IR filter for *panoramic view.*
- Optional colour context sensor CMOS Rolling Shutter, for *panoramic view* with **Full HD** resolution (**Night Vision**), fitted with 12 mm lens and IR filter.

CONTAINER CODE READING

OCR algorithm embedded directly into the camera that can read the ILU-BIC codes of containers automatically (free flow) without the need for external synchronization devices. It should be remembered that unlike other systems, Selea character reading cameras **are not based on** imprecise motion detection systems. The container code can also be read even when the vehicle is stationary (0 Km/h = no motion detection).

EMBEDDED 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.
- *Angle compensation:* to allow readings to be taken even at difficult angles.
- *Symbol elimination:* such as labels, badges, symbols or advertising.
- *Predictive character analysis:* probability based, to improve reading accuracy.
- *Magic spot:* which makes the code visible even if the image is dark.

SECURITY AND PRIVACY

Stored data can be encrypted for transmission. 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.
- FTPS (FTP over TLS/SSL) encryption.
- Micro SD memory encryption.
- Automatic deletion of data and images after specified period of time (privacy management).

STANDARD BUILT-IN FUNCTIONS

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

- 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 list) with independent actions for each list.
- Synchronized recording of metadata and captured code image.
- Integration and saving of context camera images.
- 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 the firmware from a web page.

ACCURACY

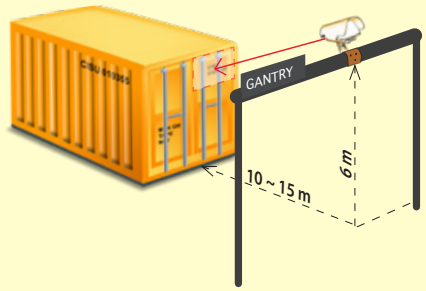
For container reading, the greatest accuracy is obtained when the vehicle is stationary. In the field, the camera ensures an accuracy of up to 99% of all readings, in all conditions, with the vehicle stationary.

INSTALLATION

Rear container plate reading on a single lane: the system will work best when the camera is installed as follows:

- **At the side**: recommended reading distance = 10~15 m; Mounting height = 4 m; Lane width = 5 m.
- **Centrally**: recommended reading distance = 10~15 m; Mounting height = 6 m; Lane width = 5 m.
- Reading the code **from above**: Height from container = 8 m.

Installation at the centre of the lane



Installation at the side of the lane

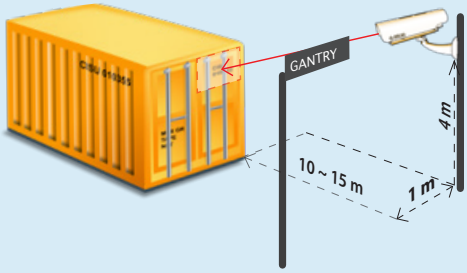
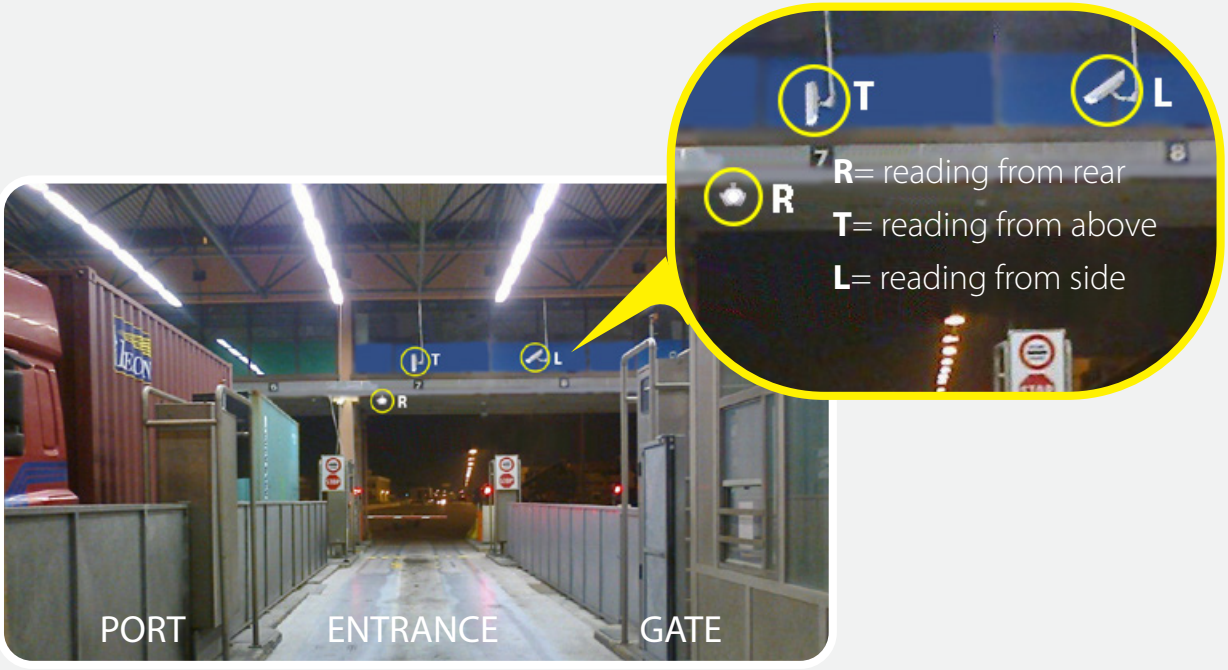


Image showing the position of cameras at the entrance to a port



INTERNAL MEMORY

The camera is fitted with an internal 16 GB *High Endurance* (-40°C ~ +85°C) industrial microSD SLC memory card as standard which is used for storing the readings of the recognized containers and the relevant image if the data connection is lost. When the memory is full, the camera will automatically delete the oldest files to free up space for new ones (Fi.Fo method). The memory can be expanded using the USB interface provided to connect storage disks of the capacity currently available on the market (≤ 1TB - optional).

INTEGRATION

The camera is compatible with the most widely used container code reading platforms, as the data is output in the standard international XML format.

VIDEO OUTPUT

The camera is able to transfer the captured container images in JPEG format.

IR ILLUMINATOR

The camera is fitted with an illuminator that is made up of 12 high power IR LEDs. The multiple exposure pulsed lamp is able to regulate the output power according to the available lighting and the reflectance of the container. This avoids underexposed or overexposed images, which improves number plate reading and recognition accuracy. The recommended lighting distance for maximum reading accuracy is between 10 and 15 metres.

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 camera also has serial interfaces such as RS232, RS485 half duplex.

I/O, INPUTS-OUTPUTS

The camera is fitted with 10A - 250 Vac, 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:

- voltage fluctuations greater than 30 Vdc.
- overloads with thermal protection.
- overvoltages (TVS) on USB and Ethernet ports.

POWER SUPPLY

The camera is fitted with a 230 Vac, and on request a 24 Vdc and PoE+ ("T" option) power supply including high power injector. Absorbed power max. 15 W.

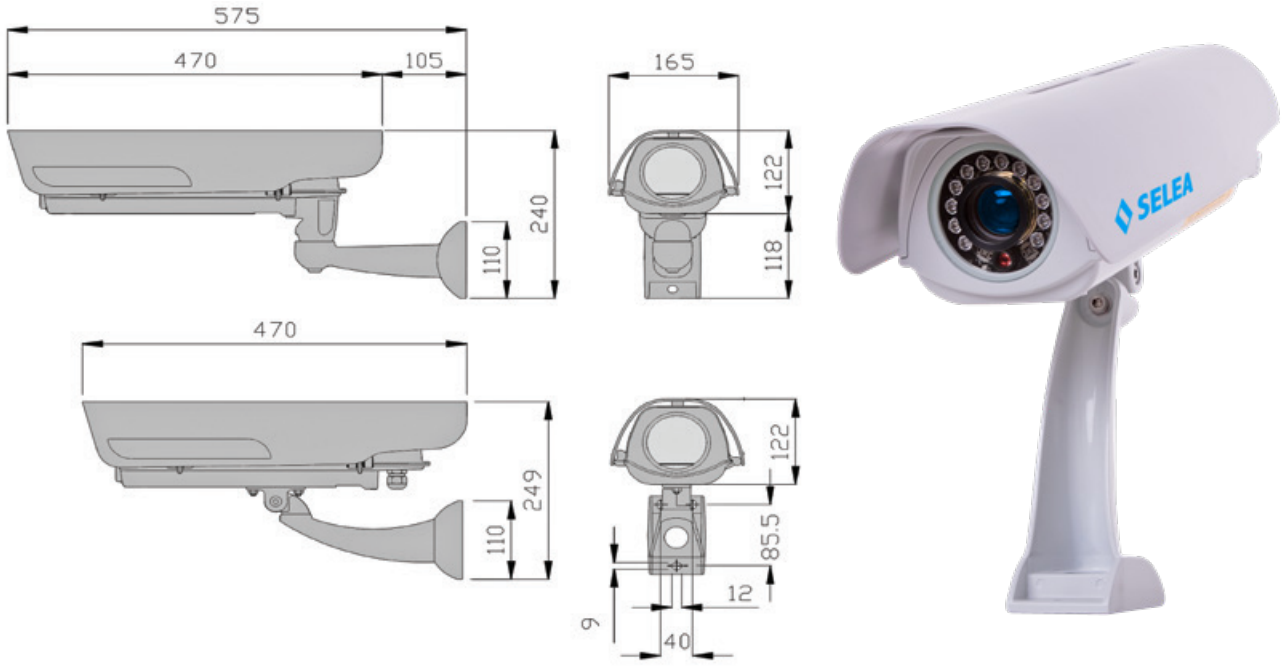
GENERAL

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:

D12	**C**olour sensor CMOS Rolling Shutter, 5 Megapixels resolution, fitted with a 12 mm fixed focus lens with an M12 mount. We recommend using the sensor only in daylight or with street lighting.
N12	**C**olour sensor CMOS Rolling Shutter, Night Vision with high sensitivity and Full HD resolution, fitted with a 12 mm fixed focus lens with an M12 mount. We recommend using the sensor even in poor public lighting conditions.
S	**I**ndustrial Ethernet Switch10/100 developed by Selea to be installed inside the camera, with 3 LAN ports, one of which with P.O.E. 802.3at to power any type of external IP camera or any type of Wireless, Wi-Fi or GPRS/UMTS device with a single network cable.
B	**P**ower supply from 10 to 32 Vdc.
T	**P**oE+ (Power Over Ethernet Plus) power supply including a high power injector.



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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.

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