



Departures

Arribades  
Arrivals  
Llegadas

1 2



**TYPE B**  
STANDARD 3  
CERTIFIED

**TYPE A**  
STANDARD 3  
CERTIFIED

**TSA**  
QUALIFIED

# EMA SERIES

## LIQUID EXPLOSIVE DETECTOR



### KEY FEATURES

- Accurate automatic inspection of sealed and unsealed LAGs (Liquids, Aerosols and Gels) in ~ 5 sec. (Type B) and ~ 4 sec. (Type A\*)
- Certified to screen liquids in clear, colored and opaque plastic and glass, metal and metallized containers
- Compact size and ergonomic design
- No maintenance required
- Very low combined Nuisance Alarm Rate: < 0.4%
- \* Optional
- No-ionizing source or part in movements

**NSNs:** 6665-151805235 / 6665-151805236



[www.ceia.net](http://www.ceia.net)

**THREAT DETECTION THROUGH ELECTROMAGNETICS**



The EMA is a compact device designed for the analysis of liquid containers and their contents with the goal of **detecting the possible presence of explosive precursors and explosive liquids.**

When the operator places the bottle in the inspection cavity, its presence is automatically detected and **the analysis is performed in ~ 5 seconds.**

## GENERAL DESCRIPTION

The EMA is a compact device designed for the analysis of liquid containers and their contents with the goal of **detecting the possible presence of explosive precursors and explosive liquids.**

The content of the bottles is analyzed without the need to open the container as **the detection uses simultaneous multiple sensing technologies.**

**The housing of the analyser**, which is extremely robust, durable and easy to clean, is made of AISI 304 Stainless Steel and anti-friction plastic.

The Analyser consists of a main body, a control panel and an analysis compartment. In case of open containers such as cups and thermos flasks, it is possible to carry out the analysis by means of the type A integrated analyser (optional), using small disposable plastic sample cups to be inserted into an external probe.

## INSPECTION OF BOTTLES OR CONTAINERS

- Independently of their shape
- Made of different materials
- In a wide range of capacity



### EXTERNAL PROBE

(optional for loose liquids inspection - EU Type A)

## EMA TYPE B OPERATIONAL SEQUENCE



The operator inserts the container to be checked and leaves it in the inspection cavity.



The analysis is activated automatically. The display shows the analysis progress.

The detection capability of the certified CEIA EMA LAGs\* analyzer exceeds current European requirements as it is able to detect additional dangerous substances.



## CEIA EMA AND LEDS REQUIREMENTS

**Type B Liquid Explosive Detection Systems** are intended for the inspection of individual liquid containers with the purpose of detecting explosives and their precursors, according to the current Regulation Authority requirements (EU Reg. No 185/2010).

As containers can be made of different materials and can have different shapes and volume, the use of multiple simultaneous physical principles is necessary for a reliable and secure screening.

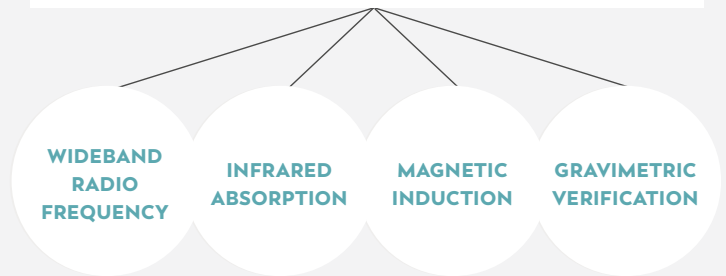
The EMA analyser family design started in 2003; since then the number of sensors have increased in order to comply with the increasing requirements of the liquid threats to be detected and on the kind of containers to be inspected. The comprehensive set of sensors installed on the equipment makes the EMA liquid analyzer a **unique system that provides very high security and can be set for future detection requirements.**

The EMA includes an **EU Standard 3 Certified type A analyser** (optional) to screen loose liquids, open containers or following to an alarm on the type B section. A disposable cup allows sampling and measurement of a minimum quantity of liquid to be analysed.

\*LAGs: Liquids, Aerosols and Gels

## OPERATING PRINCIPLE

### MULTIPLE SIMULTANEOUS SENSING TECHNOLOGIES



When the operator places the bottle in the inspection cavity, its presence is automatically detected and the analysis is performed in ~ 5 seconds.

The fields generated in the inspection cavity are weak in intensity and non-ionizing, therefore completely safe for the liquids and for the operator.

The fields interact with containers and with their content. The entire volume is analysed in order to verify its conformity with allowed liquids. After a few seconds, the unit provides an **OK** or **Alarm message** without requiring any data interpretation by the operator.

Calibration is carried out automatically by the unit.



If the container content is identified as conforming, the **OK message** and a green light are displayed. A short “double beep” is emitted by the internal speaker.



If the container content is not conforming, a **YELLOW** or **RED** light and an **ALARM message** (“**Not allowed product**”) are displayed. A series of prolonged “beeps” is emitted by the internal speaker.

# SPECIFICATIONS

|                     |  |  |
|---------------------|--|--|
| <b>KEY FEATURES</b> | Integrated Type B and Type A Standard 3 certified System |  |
|                     | Automatic inspection of any type of containers           |  |
|                     | Minimum installation space                               |  |
|                     | Minimum operator training required                       |  |
|                     | All solid state  | No mechanical parts in movements<br>No-ionizing or laser sources |

|                                    |   |
|------------------------------------|---|
| <b>MULTIPLE SENSING TECHNOLOGY</b> | Wideband Radio Frequency (R.F.) - Infrared (IR) |
|                                    | Magnetic Inductive - Gravimetric                |

|                                   |  |
|-----------------------------------|--|
| <b>INSPECTION CHARACTERISTICS</b> | Commercial Bottles of any shape and materials including plastic, glass and metal |
|                                   | Type A sample cups volume: 10 ml   |
|                                   | Initial Start-up time: 15 sec. max   |
|                                   | Analysis type: automatic   |
|                                   | Analysis time: 5 sec. typical (type B) and 4 sec. typical (type A)               |

|                              |  |
|------------------------------|--|
| <b>DETECTABLE SUBSTANCES</b> | Explosive precursors and explosive liquids |
|------------------------------|--|

| <b>ALARM SIGNALLING</b> | <b>LIGHT COLOUR</b> | <b>DISPLAY MESSAGE</b>    | <b>MEANING</b> |
|-------------------------|---------------------|---------------------------|----------------|
|                         | GREEN               | OK                        | Allowed liquid |
| YELLOW                  | Not allowed product | Alarm of medium intensity |                |
| RED                     | Not allowed product | Alarm of high intensity   |                |

|  |  |
|--|--|
| <b>ACOUSTIC ALARM</b>                  |  |
| <b>THREAT CLASSIFICATION AVAILABLE</b> |  |

|                           |  |
|---------------------------|--|
| <b>OPERATOR INTERFACE</b> | Easy to read high-contrast graphic display                   |
|                           | High durability stainless steel function keys                |
|                           | Programmability of all the parameters protected by passwords |

|   |  |
|---|--|
| <b>FUNCTION AND CALIBRATION CONTROL</b> | Automatic calibration, continuously running  |
|   | Manual verification of calibration, performed by the operator through Pass/No-Pass reference test pieces (according to the operational procedures) |

|                                 |                            |
|---------------------------------|----------------------------|
| <b>COMMUNICATION CAPABILITY</b> | RS-232 serial interface    |
|                                 | Ethernet network interface |

|   |  |                             |
|---|--|-----------------------------|
| <b>REMOTE CONTROL AND ETHERNET NETWORKING FUNCTIONS</b> | Available through the CEIA NetID Management software | Programming                 |
|   |  | Statistical Data Collection |
|   |  | Maintenance                 |
|   |  | Firmware upgrade            |

|  |   |
|--|---|
| <b>DEGREE OF PROTECTION: IP 20 (IEC 60529)</b> |   |
| <b>WEIGHT</b>                                  | 17 kg (type B only) - 17.5 kg (type B and type A) |
| <b>DIMENSIONS (WxDxH)</b>                      | 470 mm x 317 mm x 330 mm (type B only)            |
|  | 545 mm x 317 mm x 330 mm (type B and type A)      |
| <b>POWER SUPPLY</b>                            | 115/230V- ±15%, 50/60 Hz ±10%, 15W                |

|                                  |   |
|----------------------------------|---|
| <b>MAIN ELECTRONICS FEATURES</b> | High integration SMT  |
|                                  | 32-bit flash-based microcontrollers   |
|                                  | 32-bit DSP  |
|                                  | Low power and high reliability  |
|                                  | Very low power inspection field, confined in the analysis compartment, completely safe for both the operator and the liquid |
|                                  | No ionizing radiation or radioactive sources  |
|                                  | No laser sources  |

|                                 |   |
|---------------------------------|---|
| <b>MAIN MECHANICAL FEATURES</b> | Constructed entirely in AISI304 Stainless Steel |
|                                 | Anti-fingerprint surface treatment              |
|                                 | Rugged and Durable                              |
|                                 | Compact and Aesthetically pleasing              |

|                                     |  |
|-------------------------------------|--|
| <b>INSTALLATION AND MAINTENANCE</b> | Automatic adjustment to environmental conditions         |
|                                     | No initial or periodic calibrations required             |
|                                     | Firmware upgradeable via RS232 or Ethernet interface     |
|                                     | No periodical maintenance or consumables required        |
|                                     | Built-in automatic calibration and self-diagnosis system |

|                   |  |
|-------------------|--|
| <b>CONFORMITY</b> | Conforms to the currently applicable International Standards for Electrical Safety and EMC |
|-------------------|--|

|                                 |  |
|---------------------------------|--|
| <b>ENVIRONMENTAL CONDITIONS</b> | Operating temperature: 0°C to +40°C                          |
|                                 | Storage temperature: -10°C to +60°C                          |
|                                 | Operating Relative humidity: 0 to 95% (without condensation) |
|                                 | Storage Relative humidity: 0-98%, without condensation       |

|                          |                                 |
|--------------------------|---------------------------------|
| <b>NATO STOCK NUMBER</b> | 6665-151805235 - 6665-151805236 |
|--------------------------|---------------------------------|

## ACCESSORIES / OPTIONS

|                        |  |
|------------------------|--|
| <b>TYPE A ANALYZER</b> | EMA is designed for the analysis of LAGs in their original container. In case of open containers such as cups and thermos flasks, it is possible to carry out the analysis by means of an optional type A analyzer, using small disposable plastic sample cups. The external probe is installed on the right side of the device. Analysis time: 4 sec. |
|------------------------|--|



|  |  |
|--|--|
| <b>EMA MOBILE STATION (P/N 110455)</b> | Robust Stainless-Steel Cart, specially designed for optimal use of EMA. Wheels and locking brakes allow comfortable mobile deployment. |
|--|--|



|                            |  |
|----------------------------|--|
| <b>1</b> Transport handles | <b>5</b> Floating wheels + brake (4)   |
| <b>2</b> Lockable drawers  | <b>6</b> MBSU-2: Independent, compact size, long life power supply with embedded fast charger (optional) |
| <b>3</b> AISI 304 frame    |  |
| <b>4</b> Frame protection  |  |



CEIA - Zona Industriale 54, 52041 Vicinaggio - Arezzo (ITALY)  
 T +39 0575 4181 • E infosecurity@ceia-spa.com • W www.ceia.net

