

EMA series

Bottled Liquid Scanner

NSNs: 6665-151805235 / 6665-151805236



Type B
Standard 3
Certified



Examples of bottles 
that can be screened with EMA

- Certified according to ECAC performance requirements for **Type B** and **Type A** Liquid Explosive Detection Systems
- Accurate automatic inspection of sealed and unsealed bottles in ~ 5 seconds
- Certified to screen liquids in clear, colored and opaque plastic and glass, metal and metallized containers
- Compact size and ergonomic design



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Threat Detection through Electromagnetics

EMA series Bottled Liquid Scanner

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The EMA is a compact device designed for the analysis of bottles and their contents with the goal of detecting the possible presence of combustible, flammable and explosive liquids. When the operator places the bottle in the inspection cavity, its presence is automatically detected and the analysis process starts. The entire volume of the bottle is analyzed in order to verify its conformity with benign 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 results of the measurements correspond to the characteristics of innocuous liquids (e.g. soft drinks, water, wine, liquor), EMA returns the "OK" message and a green light.
- ✓ If the results of the measurements do not conform to the characteristics of innocuous liquids, EMA provides an acoustic and red light alarm and a message requiring further inspection of the content.

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

Specifications

WORKING DETECTION PRINCIPLE

- Wideband RF Complex Impedance measurement
- Multiple sensing technology

INSPECTION CHARACTERISTICS

- Commercial Bottles of any shape and materials including plastic, glass, metal with capacity ranging from 100 ml to 2000 ml
- Initial Start-up time: 15 sec. max
- Analysis type: automatic
- Analysis time: 5 sec. typical

DETECTABLE SUBSTANCES

- Combustible, flammable and explosive liquids

ALARM/NO ALARM AND DIAGNOSTIC SIGNALLING

Visual, with display indication:

- green "OK" • yellow "Diagnostic" • red "Alarm"

OPERATOR INTERFACE

- Easy to read high-contrast graphic display
- High durability stainless steel function keys
- Programmability of all the parameters protected by passwords

FUNCTION AND CALIBRATION CONTROL

- Automatic calibration, continuously running
- Manual verification of calibration, performed by the operator through Pass/No-Pass reference test pieces (according to the operational procedures)

COMMUNICATION CAPABILITY

- RS-232 serial interface
- Ethernet network interface

REMOTE CONTROL AND ETHERNET NETWORKING FUNCTIONS AVAILABLE THROUGH THE CEIA NetID MANAGEMENT SOFTWARE

- Programming • Statistical Data Collection
- Maintenance • Firmware upgrade

OVERALL DIMENSIONS

- 470 mm x 317 mm x 330 mm w/o external probe
- 545 mm x 317 mm x 330 mm with external probe

WEIGHT:

- 17 kg w/o external probe
- 17.5 kg with external probe

DEGREE OF PROTECTION: IP 20 (IEC 60529)

MAIN MECHANICAL FEATURES

- Constructed entirely in AISI304 Stainless Steel
- Anti-fingerprint surface treatment
- Rugged and Durable
- Compact and Aesthetically pleasing

MAIN ELECTRONICS FEATURES

- 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
- No radioactive sources

INSTALLATION AND MAINTENANCE

- 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

CERTIFICATION AND CONFORMITY

- **Standard 3** Certified according to ECAC performance requirements for Type B Liquid Explosive Detection Systems
- **Standard 2** Certified according to ECAC performance requirements for Type A Liquid Explosive Detection Systems
- Conforms to the currently applicable International Standards for Electrical Safety and EMC

POWER SUPPLY: 115/230V~ ±15%, 50/60 Hz ±10%, 15W

ENVIRONMENTAL CONDITIONS

- 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

NATO STOCK NUMBER:

- 6665-151805235 • 6665-151805236

EXTERNAL PROBE (OPTIONAL)

EMA is designed for the analysis of beverages 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 external probe, using small disposable plastic sample cups. The external probe is installed on the right side of the device. **Analysis time: 2 sec.**



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



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 SOUNDER



IF THE CONTAINER CONTENT IS NOT CONFORMING, A RED LIGHT AND AN ALARM MESSAGE ("NOT ALLOWED PRODUCT") ARE DISPLAYED. A BURST OF PROLONGED "BEEPS" IS EMITTED BY THE INTERNAL SOUNDER



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