

INDUSTRIAL METAL DETECTION SYSTEMS



- Superior Detection Capabilities
- Maximum Configurability
- Full compliance with HACCP and GMP criteria
- FDA Title 21CFR Part 11 Compliant
 - ✓ Data Security
 - ✓ Data Integrity
 - ✓ Data Traceability



CEIA THS 21

INDUSTRIAL METAL DETECTION SYSTEMS

Best Metal Detection Solution for compliance with FDA Title 21CFR110 requirements on manufacturing, packing or holding human food

Subpart E (Production and Process Control) of the FDA Code Title 21 CFR110 requires that effective measures shall be taken to protect against the inclusion of metal in food. CEIA THS 21 Metal Detection Systems offer detection, construction quality and reliability characteristics that make them the most suitable and effective solution to automatic elimination of metal contaminants.

FDA 21 Part 11 Compliant

The THS 21 Metal Detector Series is a high-sensitivity, high-precision measuring instrument. The response from the device is used to directly command ejection of the contaminated product and to check that it has in fact been eliminated. **The data relating to each detection and ejection are stored in an events memory** and certify production quality, the inspection itself and programming operations, as well as the periodic functional test phases using standard test samples.

FDA Code Title 21 Part 11 prescribes rigorous criteria for access to programming and computer data protection which have been fully adopted in the CEIA THS 21 Series firmware. User access is only possible via specific login with User Name and Password, under the control of the System Administrator, who programmes the user profile and associates with each user the functions available to him/her. The requirements regarding Security, Integrity and Traceability are therefore satisfied.

New Global Auto-Learn System provides simultaneous maximum sensitivity to all metals starting from a single learning transit

The THS 21 Series employs an exclusive Autolearn system for food products which allows optimization of the detection sensitivity to all metals with the maximum speed and precision, equivalent to hundreds of conventional learning transits: results in levels of precision and efficiency never before obtained.



Continuous embedded Self-Calibration control for maximum repeatability and performance consistency over time and with environmental changes

By means of specific signals sent to the transmission and reception chain of the Metal Detector, **constant monitoring of the detection characteristics is carried out, with consequent constant compensation for any variations caused by environmental factors**. The result is system stability and constancy in detection performance and product effect neutralization.





Continuous Auto-Test function ensuring maximum Production Safety

Special electronic stimuli are sent to the transmission and reception chain of the THS 21 Metal Detector Series, causing variations in the detection signals which are not visible to the user but which provide checks on detection characteristics, analogous to those obtained with manual transits of test samples. These variations are compared with the reference values stored in the factory at the time of the calibration test.

This produces an **automatic certified check of the system's sensitivity**; any deviations from permitted tolerances are followed by a signal and the recording of the anomaly.



Automatic measurement of the installation Quality and Environmental Compatibility

THS 21 Series introduces new tools for the installation and maintenance technicians which allow them to measure the environmental compatibility of the Metal Detector. These are functions which would otherwise have required the intervention of external instrumentation, now implemented in the microcomputer control of the device itself.

The measurements include **general mechanical and electromagnetic environmental compatibility, specific electromagnetic compatibility and the automatic examination of the degree of metal interference from the conveyor belt**. This latter function becomes even more important when the high level of sensitivity of the THS 21 Metal Detector Series is taken into consideration.

Modern, rugged and user friendly interface

- Industrial rate design
- Rapid data entry with extended keyboard
- Easy to read, high-contrast graphic display
- Rugged, antivandalic stainless steel keyboard

The THS 21 Metal Detector Series keeps the full compatibility with programming and parameter selection procedures already implemented in earlier versions of the THS. In addition, there is a **new organic graphic display with extremely high contrast (3000:1) and a viewing angle up to 180°**, and an extended alphanumeric keypad for quick keystrokes.

■ Quick Access Function

A new function, simply activated by pressing a dedicated key, **allows the most frequently-used functions to be directly recalled**. These functions are programmable by the operator, and maintain the access protection criteria according to FDA Title 21 Part 11 requirements.

■ Large Product Memory: 500+ entries with easy alphabetical sorting and pattern matching

A capacious incorporated memory allows over 500 products to be stored, each identifiable by a specific alphanumeric string. The products are automatically listed in alphabetical order, and **searches are facilitated by the progressive recognition of the characters selected on the keypad**.



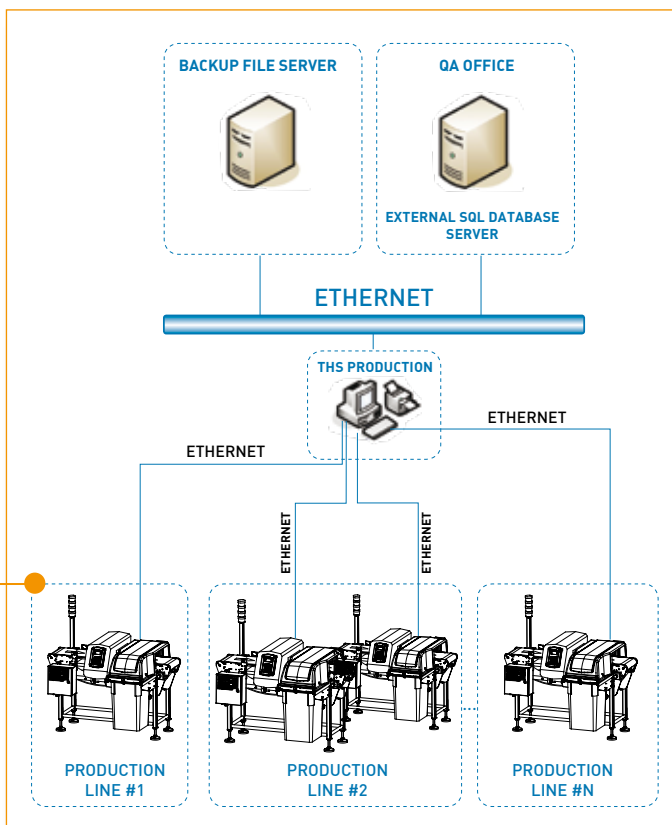
Bluetooth Connectivity



In the THS 21 Series, local connection to the maintenance technician's computer no longer requires physical access to the interior of the detector or the use of unwieldy connection cables. Instead, the connection is made directly via a **Bluetooth device incorporated into the Control Power Box module, without physical contact, with a consequent saving of time and greater safety for technical and operational personnel.** The Bluetooth connection can be used for programming, monitoring of the signals via the CEIA MD-Scope program and the transfer of the data contained in the Metal Detector's events memory.

Sophisticated Network Communication Capabilities

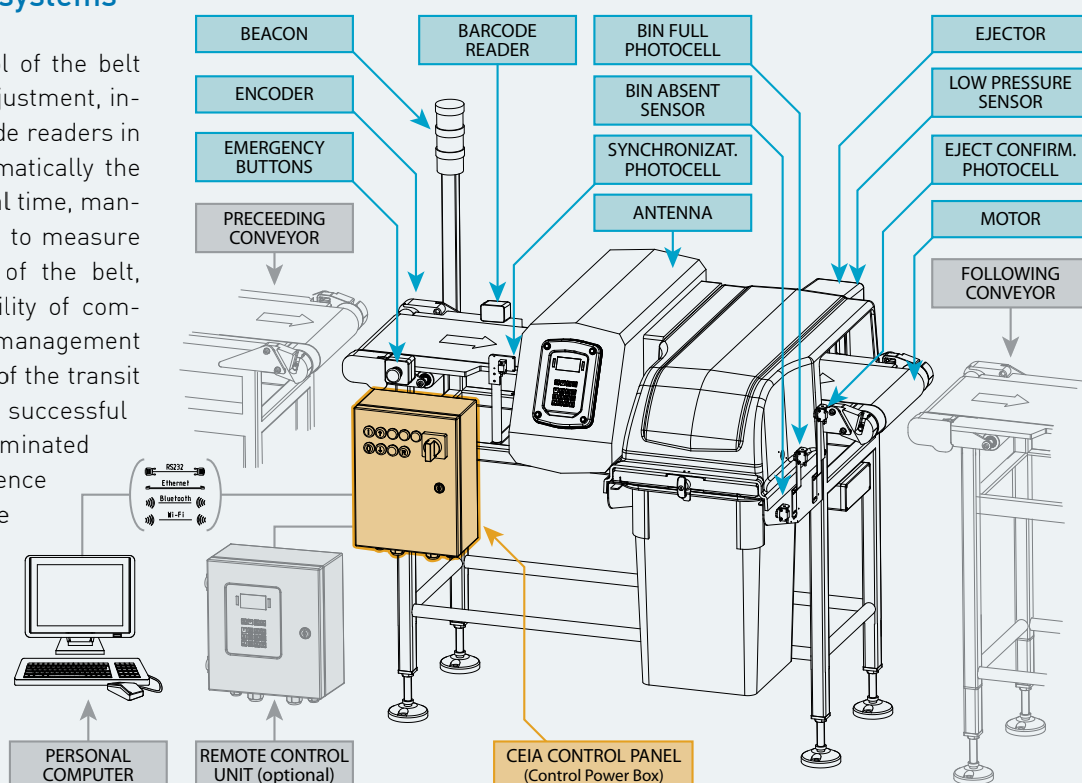
THS 21 Metal Detectors Series offer a wide range of interface capabilities: the standard version includes two asynchronous RS-232 serial connections, which can be used to integrate with the host system or process controllers, and a Bluetooth interface. A series of optional modules for connection to industrial busses or Ethernet networks are also available on request.



Control Power Box: unequalled integrated connectivity performance

THS 21 Metal Detectors Series have been designed to manage all the functions required by the transport systems

These include control of the belt motor, with speed adjustment, interfacing with bar-code readers in order to select automatically the chosen product in real time, management of encoders to measure precisely the speed of the belt, checking the availability of compressed air, ejection management with synchronization of the transit and verification of the successful ejection of the contaminated product, the presence and occupied volume of the contaminated product container, and synchronization with adjacent transport systems.





CEIA THS 21

INDUSTRIAL METAL DETECTION SYSTEMS

Fully HACCP and GMP compliant, CEIA Metal Detectors are ISO 9001 certified and constructed of FDA approved materials.

Control Panels for THS 21 are listed according to UL 508A and CSA-C22.2 No. 14-05

CEIA THS/MS21

MULTI-SPECTRUM METAL DETECTOR
FOR QUALITY CONTROL

- Very high sensitivity to all magnetic and non-magnetic metals, including stainless steel
- High immunity to environmental interference
- AISI 316L stainless steel construction to IP69K protection level
- Automatic learning & tracking of product effect



CEIA THS/FB21

CONVEYOR BELT SYSTEMS
FOR THS 21 METAL DETECTORS

- Integrated controls for line speed and rejection
- Full compliance with HACCP and GMP criteria
- All parts completely reversible and modular
- Easy to maintain and inspect
- High level of electronic and mechanical reliability



CEIA THS/MB21

MODULAR CONVEYOR BELT SYSTEMS
FOR THS 21 METAL DETECTORS

- Integrated controls for line speed and rejection
- IP69K compliant for high pressure washdown
- Full compliance with HACCP criteria
- Easy to maintain and inspect
- Digitally adjustable belt speed



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CEIA THS 21

INDUSTRIAL METAL DETECTION SYSTEMS

CEIA THS/G21

FOR FREE-FALLING PRODUCT APPLICATIONS

- Very high sensitivity to all magnetic and non-magnetic metals, including stainless steel
- Designed to inspect powders, liquids, granules and other loose materials in pipes
- AISI 316L stainless steel construction to IP69K protection level
- Automatic learning & tracking of product effect



CEIA THS/PL21

FOR LIQUID AND VISCOUS PRODUCTS

- Standard pipe sizes available to suit all applications
- AISI 316L stainless steel construction to IP69K protection level
- High immunity to environmental interference
- Easy to clean and inspect
- Minimum installation space required



CEIA THS/PLV21

INTEGRATED SYSTEM WITH EJECTION VALVE FOR LIQUID AND VISCOUS PRODUCTS

- Fast acting reject device for a limited quantity of rejected product
- AISI 316L stainless steel construction to IP69K protection level
- Full compliance with HACCP and GMP criteria
- Automatic learning & tracking of product effect
- Standard pipe sizes available to suit all applications

CEIA THS/FFV21

INTEGRATED SYSTEM WITH EJECTION VALVE FOR GRANULAR AND POWDER PRODUCTS

- Fast and efficient: achieve fast ejection speeds and accuracy, with the minimum amount of rejected product
- AISI 316L stainless steel construction to IP69K protection level
- Full compliance with HACCP and GMP criteria
- Pipe in antistatic material, certified for contact with food products



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