



# THS/TT

## Quality Control at its finest

HIGH SENSITIVITY METAL DETECTOR FOR INDUSTRIAL USE

### FEATURES

- Very high Sensitivity to all magnetic and non-magnetic metals, including stainless steel
- High Immunity to environmental Interference
- Wide Detection Speed range, from 1 m/s up to 50 m/s
- Metal object speed and mass sensing
- Compact and robust full AISI 304 stainless steel construction
- IP65 high degree of protection
- Easy installation and setting
- Fully Digital Programming
- High contrast graphic OLED display
- Password protected with separate user
- Bluetooth communication for setting and maintenance through external PC
- Autolearn function for automatic setting of the maximum sensitivity in dry and wet conditions
- High level of electronic and mechanical Reliability



METAL DETECTOR  
ANTENNA

DIGITAL CONTROL  
PANEL



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The **CEIA THS/TT Metal Detectors** detects metal contaminants accidentally present in pipelines (i.e. in pneumatic lines), with levels of sensitivity, immunity to interference and response speeds designed to satisfy the strictest Quality Control requirements

QUALITY CONTROL AT ITS FINEST

CEIA THS/TT Metal Detectors, designed for operation in high speed production lines, allow interception of all magnetic and non-magnetic metals, including high-resistivity stainless steel. **The system is composed of an electronic control unit and an antenna which is positioned in the path of the product to be inspected.**

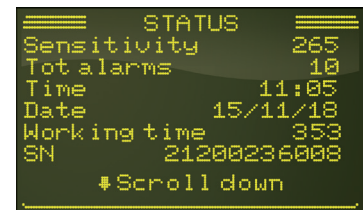
**The advanced antenna design**, completely manufactured in AISI 304 Stainless Steel, ensures high stability, high immunity and exceptional reliability.

**DSP** [Digital Signal Processing] of the Metal Detector Antenna signals allows a **very high degree of sensitivity** to be achieved for all metals.

**Microcomputer control and complete programmability** simplify installation, and in certain applications can offer the capability of operating as production line controller using suitable sensors and actuators.

MODERN, RUGGED AND USER FRIENDLY PROGRAMMING

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



Display of the status of the metal detector



METALLIC MASS DETECTION

The indication A represents the amount of signal in dB; a value of 0dB corresponds to a signal just above the alarm threshold; the measured speed [S] of the detected object is shown on the display. The value is expressed in meters per minute.

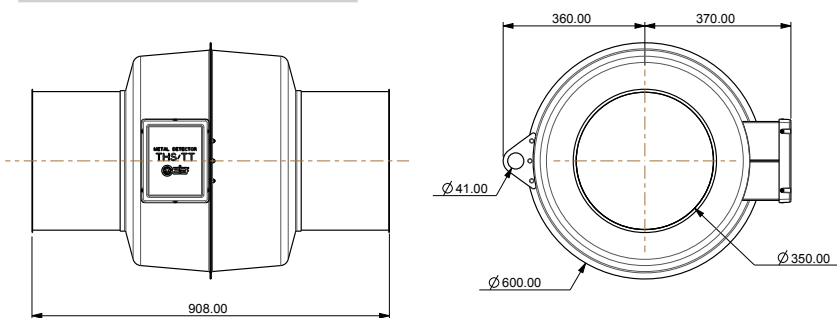


SELF DIAGNOSIS

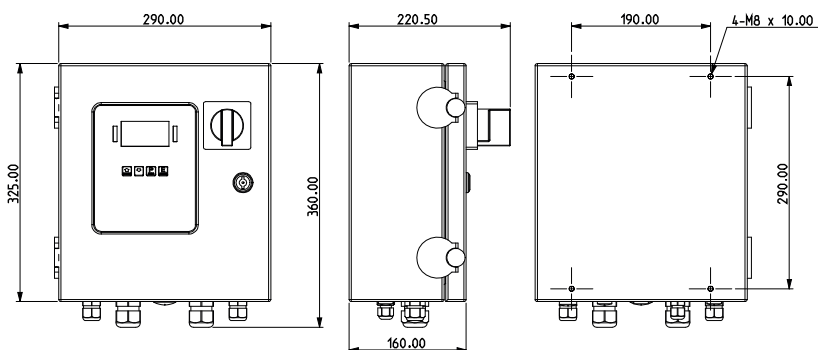
The problem encountered is shown on the display and an alarm signal is uttered requiring the intervention of the operator.

OVERALL DIMENSIONS [mm]

METAL DETECTOR ANTENNA

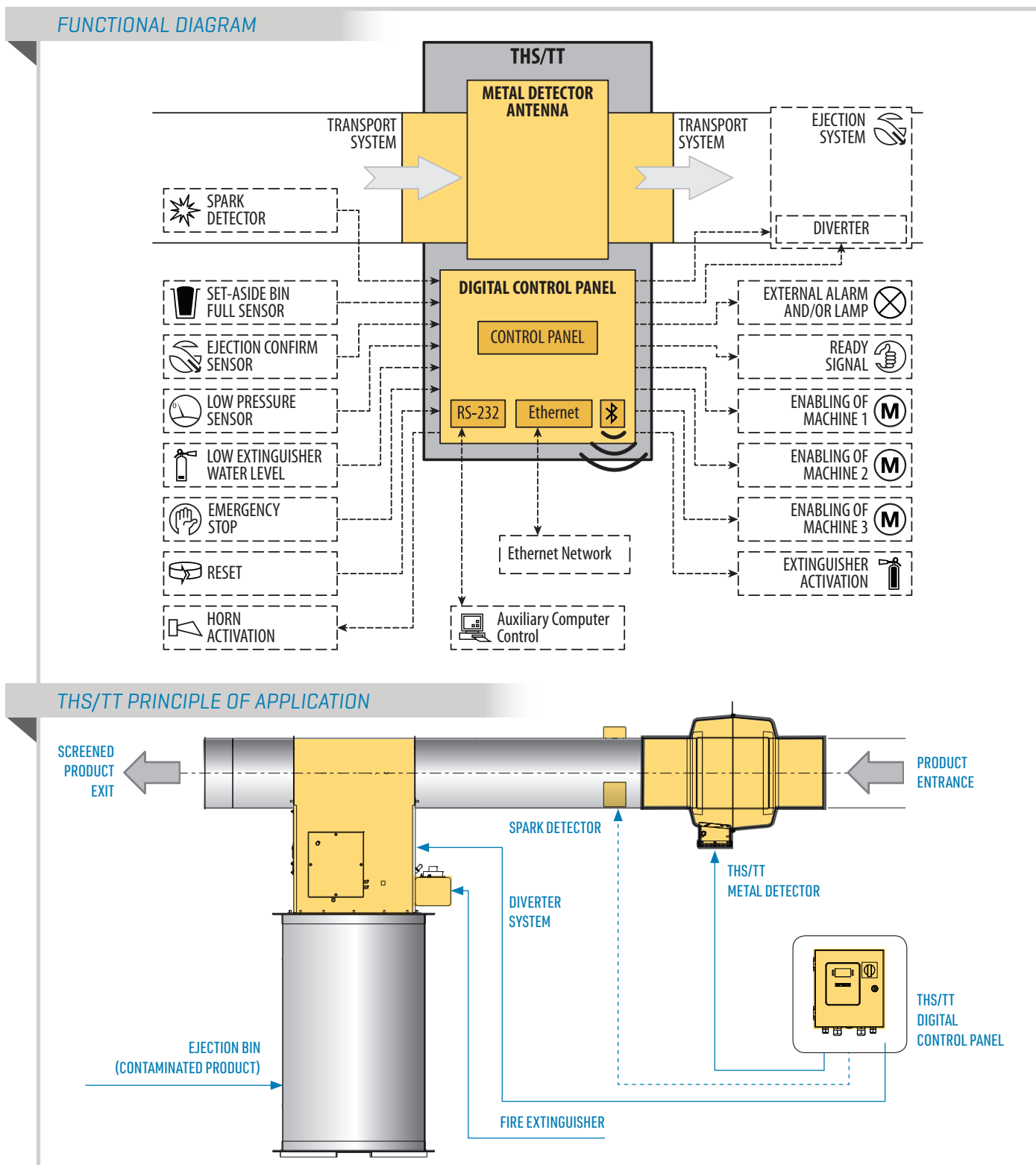


DIGITAL CONTROL PANEL



The functional diagram clearly shows the capability of the THS/TT to manage, in real time, all functions needed for metal and spark detection, as well as the ejection management of the contaminant and the control of the extinguisher system.

All functions are carefully supervised by an auto diagnostic safety system which ensures high reliability and detection of anomalies.





## SPECIFICATIONS

<b>GENERAL FEATURES</b>	Very High Detection sensitivity		
	Full AISI 304 Stainless Steel construction		
	Complete management of detection and ejection functions		
	Immunity to environmental interference		
	Data display type	Alphanumeric OLED, 4x20 characters	
	Local programming	4 keys, 3 with double function	
	Control Power Box according to Standards UL 508A and CSA-C22.2 No. 14-05	on request	
	Maximum detection speed	50 m/s	
	Automatic metal contaminant speed measurement with automatic ejection time calculation		
	Transit speed measurement range	from 0.1 to 50 m/s	
	Audio and visual detection indicators		
	Display of the signal level by means of bar-graph		
	Automatic Balancing		
	ISO 9001 certificated manufacturer		
	Adjustable sensitivity with dynamic range		
	Quartz-controlled operating frequencies		
	Autolearn and automatic tracking of the product effect		
<b>EVENTS STORAGE</b>	Complete monitoring of occurred events	Ejections	
		Test results	
		Programming accesses	
		Programming operations	
		Faults	
<b>I/O INTERFACES</b>	RS232, Auxiliary RS232, Bluetooth, Ethernet (option)		
<b>SIGNALLING</b>	Acoustic	Via internal buzzer	
	Optical	Graphic display with bar-graph indication	
	Light indicators on control unit	RED: Alarm or Fault	GREEN: Power on
<b>PROGRAMMING</b>	Local: Built-in keyboard and high-contrast display		
	Remote: through computer connected via Bluetooth or RS232 and managed with CEIA MDScope software		
<b>SAFETY AND SECURITY</b>	Protection degree	IP65 (Control Power box)	
		IP44 (Probe)	
	Electrical insulation	Galvanic isolation of the mains voltage	
		Compliant with international standards for safety and radio interference	
<b>SELF-DIAGNOSIS SYSTEM</b>	An internal self-diagnosis system continuously monitors Metal Detector functional efficiency. In the event of a fault, a message is shown on the control display and all alarm indicators are activated along with corresponding relays		
<b>SUPPLY</b>	Control Power Box	Main voltage	100-240 Vac
		Frequency and phase	50/60 Hz - single phase
		Full load current (FLA)	2.2 A
<b>ENVIRONMENTAL DATA</b>	Temperature	Operating: -10 to +55 °C	
		Storage: -25 to +55 °C (+70°C for 24h max)	
	Relative humidity	5 to 90 %, non-condensing	
<b>MECHANICAL STRENGTH</b>	Maximum pressure permitted in the product conveyor tube	0.05 Mpa	

## I/O INTERFACE

### INPUTS

#### DETECTION

- Spark Detector
- Ejection confirmation

#### SAFETY

- Low extinguisher water level
- Low air pressure
- Bin full
- Emergency
- External emergency
- Emergency Reset

### OUTPUTS

#### DETECTION

- Alarm relay
- Diverter
- Ejection relay
- Extinguisher

#### SIGNALLING

- Horn

#### AUTO DIAGNOSIS

- Machine Ready relay
- Machine enable 1 relay
- Machine enable 2 relay
- Machine enable 3 relay

## CERTIFICATION AND CONFORMITY

ELECTRICAL SAFETY STANDARDS  
(Low Voltage Directive 2006/95/EC)

ELECTROMAGNETIC COMPATIBILITY STANDARDS  
(Directive EMC 2004/104/EC)

## APPLICATIONS

TEXTILE, PAPER AND WOOD INDUSTRIES



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