THS-TT

HIGH SENSITIVITY METAL DETECTOR FOR INDUSTRIAL USE

VERY HIGH SENSITIVITY TO ALL METALS

HIGH IMMUNITY TO ENVIRONMENTAL INTERFERENCE

KEY FEATURES

- **Very high Sensitivity** to all magnetic and non-magnetic metals, including stainless steel

- **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

- **BT 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

CEIA®

www.ceia.net

ISO 9001 CERTIFIED

QUALITY CONTROL AT ITS FINEST

The **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

✔ **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.

OVERALL DIMENSIONS (mm)

METAL DETECTOR ANTENNA

DIGITAL CONTROL PANEL

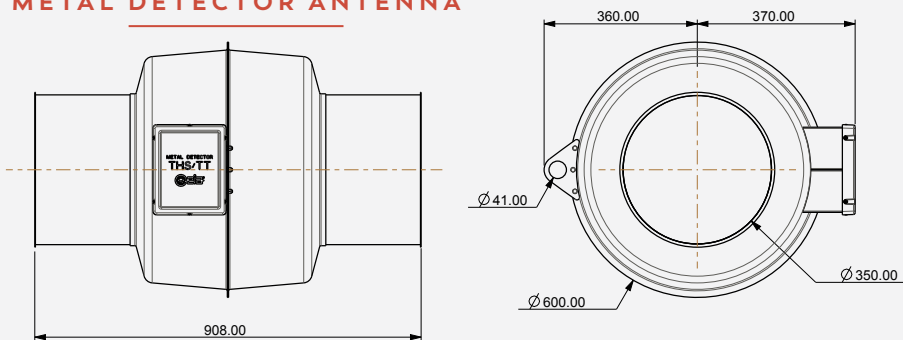**MODERN, RUGGED AND USER FRIENDLY PROGRAMMING**

- 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
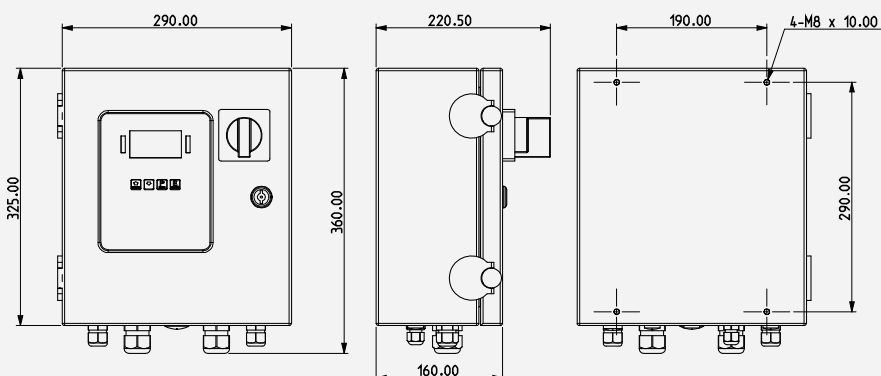

METALLIC MASS DETECTION

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.

CEIA reserves the right to make changes, at any moment and without notice, to the models (including programming), their accessories and options, to the prices and conditions of sale.

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.

FUNCTIONAL DIAGRAM
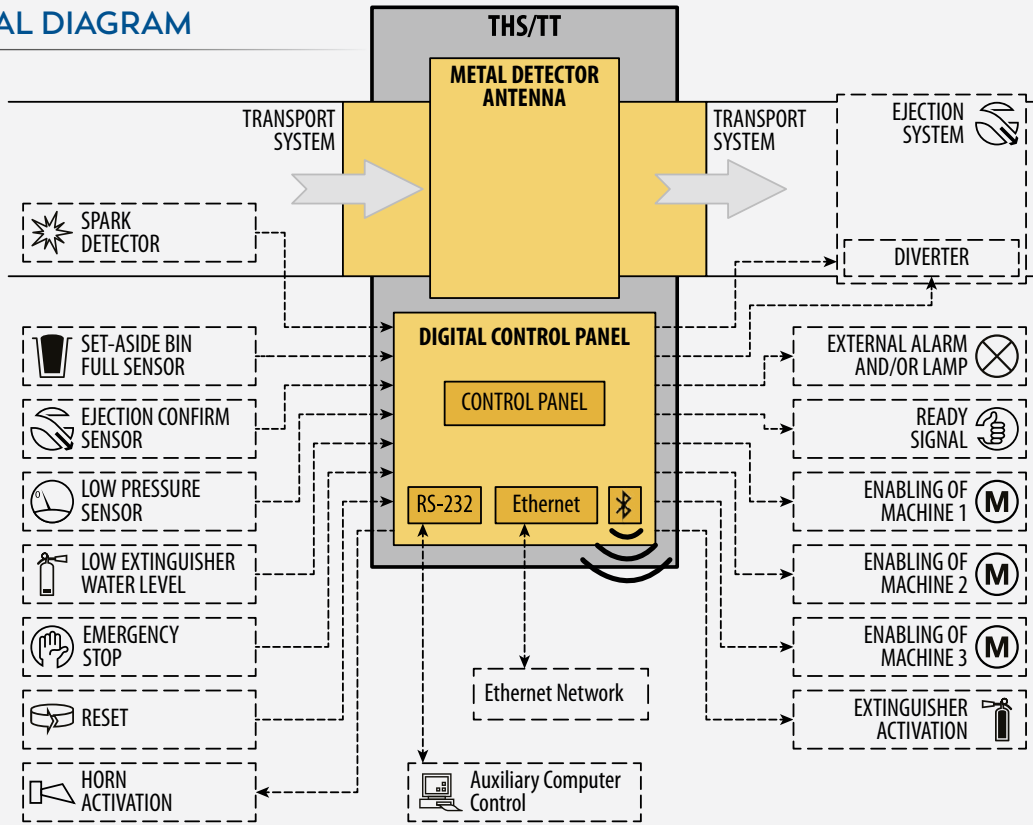
THS/TT PRINCIPLE OF APPLICATION
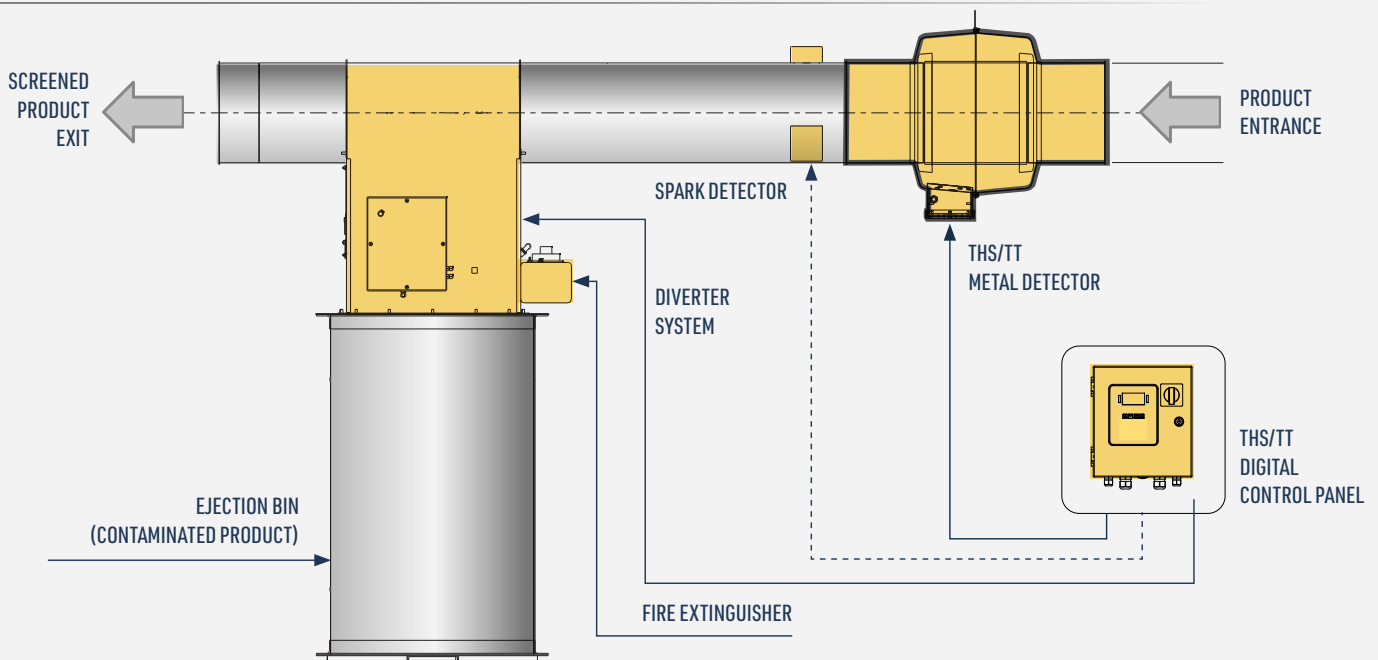
SPECIFICATIONS

GENERAL FEATURES	Very High Detection sensitivity	
	Full AISI 304 Stainless Steel construction	
	Complete mamagement 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	
EVENTS STORAGE	Complete monitoring of occurred events: Ejections • Test results • Programming accesses • Programming operations • Faults	
I/O INTERFACES	RS232, Auxiliary RS232, Bluetooth, Ethernet (option)	
SIGNALLING	Acoustic	Via internal buzzer
	Optical	Graphic display with bar-graph indication
		Light indicators on control unit — RED: Alarm or Fault / GREEN: Power on
PROGRAMMING	Local: Built-in keyboard and high-contrast display	
	Remote: through computer connected via Bluetooth or RS232 and managed with CEIA MDScope software	
SAFETY AND SECURITY	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
SELF-DIAGNOSIS SYSTEM	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	
SUPPLY	Control Power Box	Main voltage — 100-240 Vac
		Frequency and phase — 50/60 Hz - single phase
		Full load current (FLA) — 2.2 A
ENVIRONMEN-TAL DATA	Temperature	Operating: -10 to +55 °C
		Storage: -25 to +55 °C (+70°C for 24h max)
	Relative humidity	5 to 90 %, non-condensing
MECHANICAL STRENGTH	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

CONFORMITY

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

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

APPLICATIONS

TEXTILE, PAPER AND WOOD INDUSTRIES