ADVANCED ENGINEERING UK TECHNOLOGY

vantage
keeping you safe

AI-BASED INTELLIGENT METAL DETECTION SYSTEM

VP-MD30ZAI01-H11

30 ZONES WALK THROUGH METAL DETECTOR WITH DISPLAY

FEATURES

- State-of-the-art “Metal Classification Detection" intelligent technology to filter out daily necessities like phones, keys, and belt buckles while identifying contraband metal items and threats like, knives, guns etc. with unparalleled accuracy
- Adheres to NILECJ-STD-0601.00 level 1 and 2 security standards for high accuracy and lower rate of false alarms
- Up to 30 detection zones ensure precise location of concealed contraband, even in difficult-to-detect areas like inner limbs
- Real-time audio and visual alerts, alongside detailed detection data displayed on 18.5 inch display monitor
- Embedded AI ensures advanced features like face capture, real-time analytics and integration with security platforms
- Seamless networking with cloud-enabled system allows centralized management and third-party integration
- Portable and flexible design for quick setup indoor or semi-outdoor environment lightweight construction to easily transport for temporary installations

CE FC RoHS

TECHNICAL SPECIFICATIONS

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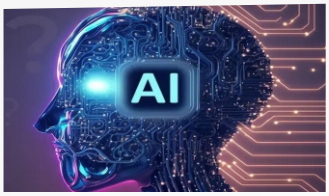
Parameter	Specifications
Embedded AI Processor	4-core ARM Cortex-A7; 2.0 TOPS NPU
Operating System	Linux
Camera	Built-in dual cameras
Image Scanning System	Progressive scan CMOS image sensor
Camera Resolution	Full HD 1920x1080 pixels
FOV	Diagonal >90°,Horizon>75°,Vertical>60
Memory	2GB RAM, 16GB Flash
Interface	1 x Ethernet RJ45, 2 x USB, 1 x RS232, 1 x LVDS LCD Interface
Other Network Interface	4G & Wi-Fi communication (optional)
AI Based Algorithm	Threat analysis with graphical representation, face capture & recognition and face database comparison
Detection Zones	Up to 30
Throughput Rate	≥ 40 person per minute (depending upon queue management)
Detection	Uniform pin-point detection from top to bottom without blind spots in all zones, intelligently distinguish between threats and daily necessities
Alarm	Audio alarm, LED indication & graphic display upon detection of threats, ferrous, non-ferrous, metal and alloys
Zone Indicator	LED array on the detector panel and LCD display graphic
Display	18.5 inch (optional 23.8 inch) full HD monitoring LCD display and integrated 7 inch LCD touch panel for programing
Accuracy	>98%
False Alarm Rate	<5%
Traffic Counter	Display number of passers-by and alarms - 'IN', 'OUT', 'NET' and 'ALARM'
Auxiliary Gates Integration	Restricts opening of tripod turnstile, flap barrier, swing gates and door locks etc. in case metal alarm is triggered
Sensitivity	255 adjustable sensitivity levels for various threats and metal objects
Password Protection	Supported
Operating Frequency Range	0—99 Bands
Self-Diagnostic & Calibration	Power on initiates system diagnosis and self-calibration
Interference Suppression	Digital filtering by signal processor
Stand-by Mode	Supports infrared technology to automatic start-stop
Cable Management	Aviation plug for secured connection
Equipment Protection	Robust structure for rugged environment
Construction Material	High density Aluminum frame + wooden panel
Environment Protection Rating	IP55
Operating Voltage	AC 110-220V; 50/60 Hz
Power Consumption	Max. 50 W
Working Environment	-20° C∽65° C
Working Humidity	< 95%, non- condensation
Passage Dimensions	2000mm (H) x 700mm (W) x 600mm (D)
Overall Dimensions	2200mm (H) x 850mm (W) x 800mm (D)
Certification	CE, RoHS

*Exact products and specifications shown may vary by geographic region and are subject to change without notice. Weights and measurements are approximate and may vary.

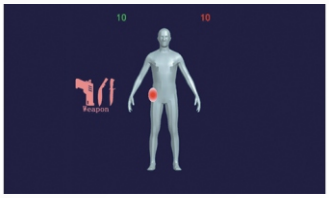
Redefining Security with AI-Based Intelligent

Walk-Through Metal Detection System

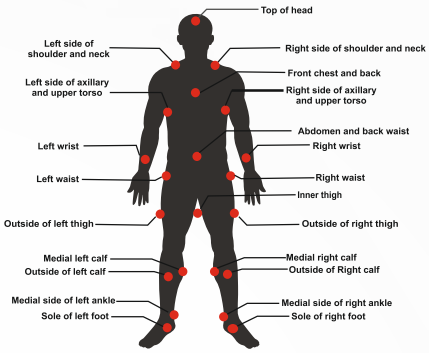


AI Metal Detection

Zone-wise Alarm Display



Accuracy



Schematic Diagram of Alarm Location Division

Threat Classification

Efficiency

Most Advance & Powerful Metal Classification Detection Technology

The system integrates electromagnetic induction and eddy current technologies to analyze material, shape, and posture. It matches items against a database to identify contraband while ignoring regular items.

Visual Feedback & AI-Powered Edge Computing

AI algorithm processes detection data locally for rapid analysis. Displays detected items shape, material, and location on a monitor. Captures and stores facial images of individuals for verification. Supports real-time integration with cloud platforms for incident reporting and analytics.

Welcome to the Future of Intelligent Security

Efficient, Accurate & Smart Detection Solutions for a Safer World

Distinctions of intelligent metal detection system over traditional metal detectors

- Redundant alarm triggers can't be avoided when pedestrians pass with regular accessories such as cell phone, belt buckle, watch etc. All of that cause a high rate false alarms.
- Extremely slow traffic flow due to screening each person due to alarm for every passer-by with regular items. Increasing burden on the security staff to initiate physical frisking of every person

- The detection results cannot be correlated with the identity of the passer
- Security records are not saved. Stand-alone work mode do not support networking & data platform

Traditional Metal Detection System

- Intelligent metal-classification detection technology can easily distinguish between personal accessories and potential threats with AI based zone-wise pin-point graphical display of the hidden contraband items
- Increase efficiency by alerting only for prohibited metals upon filtering out regular items.

- Embedded AI technology performs face capture and verification, maintaining threat report of each passer-by to create a database for security purpose.
- The detection system supports network software platform for database management. The reports can be fetched from the records for analysis

Intelligent Metal Detection System

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