

INTELLIGENT WALK-THROUGH WEAPON DETECTION SYSTEM MODEL: WMD100

Overview

Intelligent Walk-through Metal Detection System/IMDS created by Polimek is a Groundbreaking Metal threats Detection System, designed for faster screening of passing people, even with their backpacks, purses and bags, etc. for the detection of a large variety/ number of Metal Threats, such as regulated knives, firearms, flammable and explosive containers, pipes and other prohibited metal items.



“INTELLIGENT” , is the typical characteristic relative to legacy walk through metal detectors. INTELLIGENT is powered by Patented “Metal Classification Detection” technology. It can intelligently identify, classify and not alert for common personal metal items instead of filtering small metals by reducing the sensitivity, thus distinguishing the metal contraband from the daily necessities and only alarming the metal contrabands.

Intelligent Walk-through Metal Detection System/IMDS is made up of a patented metal-classifying detection and analytic system, a visual camera and edge-computing embedded host with artificial intelligence technologies, a monitor tablet and the control cloud platform. The system can be set up outdoors and easily transported for event security or conveniently situated permanently in an indoor space.

The IMDS is designed to scan people walking at average speed through the detector system one-way or two-way. The system optionally displays "CLEAR" if no threat is detected or "Object Detected" and conceal zone if the system detects a potential threat on an individual.

Key Features

Intelligent Metal-classified detection and daily necessities filtering the everyday carry items such as mobile phones watches, cigarettes, lighters, keys, coins, belt buckles and others illustrated as below, will be detected and distinguish alarm items will be filtered, or set for “WARNING”



- Weapon Contraband alarm based on metal classification detection and identification

The detected weapon contraband items will be identified and classified as five categories: “tools, knives and guns” , “aluminum cans” , “tinplate” , “copper/aluminum tube” and “other contraband” .

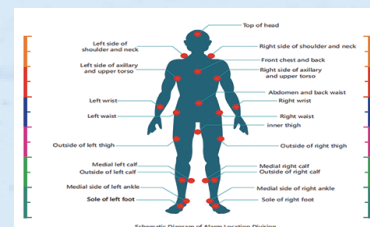
The contraband alarm information will contain the metal material and shape, it will be displayed on the interface of monitor tablet and sent to the control cloud platform.



- High-accuracy weapon contraband detection performance and low false alarms

The customer has the option to change the Security Standard settings in the IWDS or through walk-through weapon detector according to their threat matrix. In addition, the sensitivity can be changed up or down (three levels) according to the use case and customer goals. The sensitivity can be easily increased for added security, however, the nuisance rate of false alarms will likely increase. In terms of the nuisance rate of false alarms, we have observed that in the average crowd, a rate of about 5%. So, in a group of about 100 people going through, generally, about 5 will set off the alarm (for a range of reasons).

- Configured with more than 25 detection and alarm zones, it can detect concealed contra-bands on any part of the body, especially the easy-to-miss zone such as on the head, in the armpits, on the abdomen, on the inner side of thighs, and the inner side of calf, on the soles of the feet, the back of body etc.



- Not only the alarm can be defined as the concealed zone of body, the system can distinguish whether the metal items are concealed in the front or back of body, and show the alarm position separately.

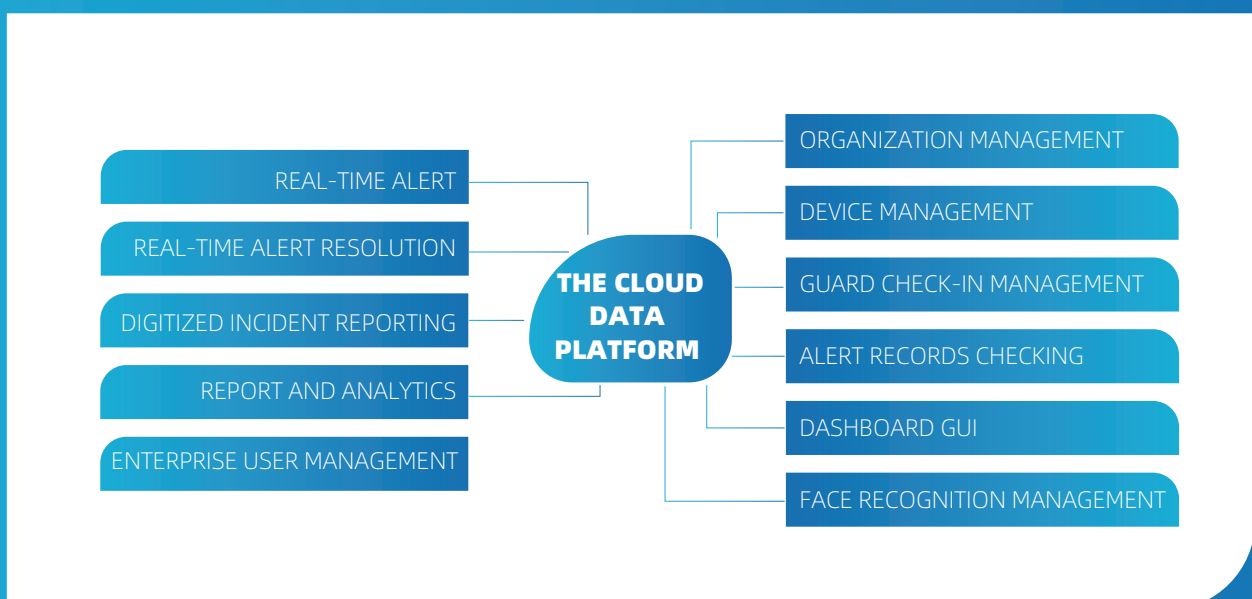


- Trigger alert notification by sound and light, and display the shape and materials, even concealment posture of the alarmed item in the form of graphics and text on the monitor tablet.

- Multi-zone alarm mode can be enabled, then the alarm interface will display two alarm information simultaneously if the system detected two metal items.



- Support quick setting and parameter adjust via the “SET” LCD with touch panel.
- Through alarm monitoring tablet, the user can view the real-time video, alarm information on the body figure image including alarm zone, alarmed objects material and shape graphic, captured photo, pass and alarm count etc.
- The system configure an embedded AI edge-computing host which supports alarm data collection and storage, video input and AI algorithm running, connection with monitor tablet and cloud platform.
- The system configures one or two HD camera, supporting to display the real time video and capture the photo of passing person which will be bundled together with according detection result.
- Alert notifications can be sent in real-time to a Security Operation Center, monitor tablet or mobile phone App, computer-based browser from cloud platform, Video Management System (VMS), Access Control System, and more, the alert system can also be further integrated with other business software. Most clients choose to send proactive alerts after they have been confirmed by the guards running the system to a predetermined escalation path if someone walks in with a weapon contraband. The alert contains the location, date/time stamp, contraband material and shape, image and capture photo. Related connection devices can be linked with the system, such as Infrared temperature measurement CAM, HD surveillance IP camera, face recognition terminal and control gate etc.
- The system supports the control cloud platform.
- The edge-computing host transmits the alert data to Cloud Platform which offers analytics to help you understand your Weapon Detection System and gives you the flexibility to add 3rd parties connections.



SPECIFICATION

TYPE	CONTENT	SPECIFICATION
Metal Detection System	Allowed Passing Speed	1-2 person(s)/second
	Detection Rate	Higher than 98%
	False Alarm Rate	Lower than 5%
	Pass Count	support
	Sensitivity Set	support
	Working Mode set	support
	Self-Diagnosis	support
	POST(Power-on-Self-Test)	support
	Setting LCD	7.0inch LCD with Touch Panel
	Physical	Physical Size:2200 mm(H)x850 mm(W)x800mm(D)
Channel Size: Width 700mm; Height 2000mm; Depth 600mm		
Weight: 120kg		
Power Supply Voltage:110-220V;Frequency:50/60HZ		
Edge-computing Host	Processor	4cores ARM Cortex-A7; 2.0 TOPS NPU Processor
	RAM	2G
	Flash	16G
	O/S	Linux
	CAM	1/2 HD Cam,1920*1080pixels
		FOV Diagonal:>90°, Horizon>75°, Vertical>60
	Monitor Tablet LCD	18.5inch 1920*1080
	Interface	1 Ethernet RJ45
		2 USB
		1 RS232
		1 LVDS LCD Interface
		1/2 CAM Interface
	Communication	Ethernet 100M
		4G(Optional)
		WiFi (Optional)
	AI algorithm	Face Capture and Recognition
		Face Database Comparison
		3D Depth Analytics
	Capture Photo	Distance between two eyes is higher than 30pixel; Horizontal rotation angle of the face should be within ± 30°Pitch angle within ±20°;tilt angle within ±30