

# InSight™ VM – 2 Meter Iris Recognition System



## Effortless user experience

- 2 meter nominal standoff distance
- Fully automated subject acquisition and iris imaging
- Large capture zone of .75 cubic meters
- 2 second single eye image capture cycle time

## Versatile system architecture

- 1-to-N matching using networked server
- 1-to-n matching against onboard database
- 1-to-1 matching against smart card
- Ethernet, Wiegand, and RS-485 interfaces

## Well-suited to enrollment or authentication in

- Border Security
- National and Regional ID Cards
- Aviation Security
- Government and Commercial Access Control
- Law Enforcement and Criminal Justice

The AOptix Technologies *InSight™ VM* iris recognition system brings style and substance to biometrics. The *InSight VM* combines a slim, leading edge design with a patented Adaptive Optics approach to iris recognition that is fast, easy-to-use, and accurate.

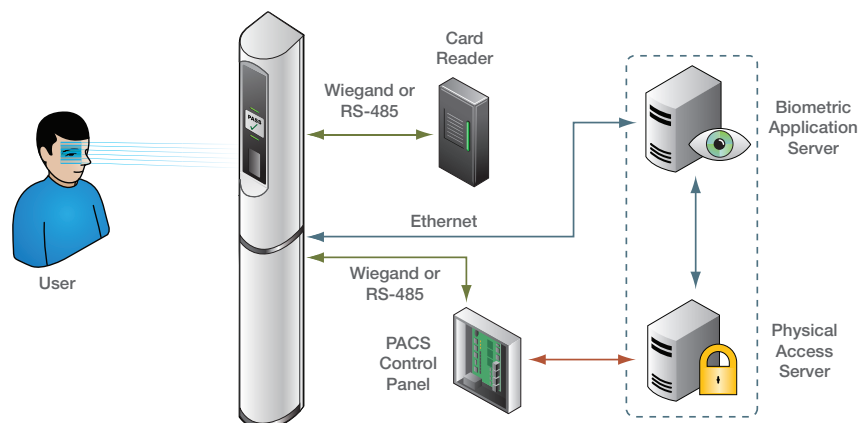
Throughout its industry-leading .75 cubic meter capture volume, the *InSight VM* automatically finds and captures pristine iris biometric images from cooperative subjects in only 2 seconds per eye. Since the volume is so large, virtually everyone from ADA-specified wheelchair height to over 7 feet (2.15 meters) tall can position themselves with minimal effort. The combination of system speed and usability delivers high throughput in both enrollment and recognition scenarios, even for non-acclimated subjects.

Using an advanced image quality measurement and assessment toolkit, the *InSight VM* is designed to reduce FTE and FTA while increasing overall accuracy and usability. Captured iris images exceed the image quality standards set forth in ISO 19794-6, and intuitive, helpful user feedback is provided in cases where the captured images do not pass the system's strict standards for quality. Furthermore, the *InSight* imaging design provides a consistent iris diameter regardless of a user's position in the capture volume, a method proven to improve matching accuracy.

The *InSight VM* is designed around open standards to promote interoperability and ease of integration. With encrypted communication based on SOAP over HTTPS, it provides an open architecture for integration with existing backend systems. Additionally, administrators can remotely manage the *InSight VM* through a secure, web-based interface. The *InSight VM* optionally includes a robust set of Wiegand and RS-485 interfaces to facilitate integration with a wide variety of card-based physical access control systems.

This iris imaging functionality and communications protocol are identical to the *InSight SD* system, allowing for full interoperability of AOptix systems and standardized use of network management tools in any deployment. However, the *VM* is only 8.8 inches (22 cm) wide, enabling deployments in applications such as immigration control, access control, and eGates. Physical integration is simple, since the unit is fully self-contained and its base plate readily attaches to the floor or flow control device.

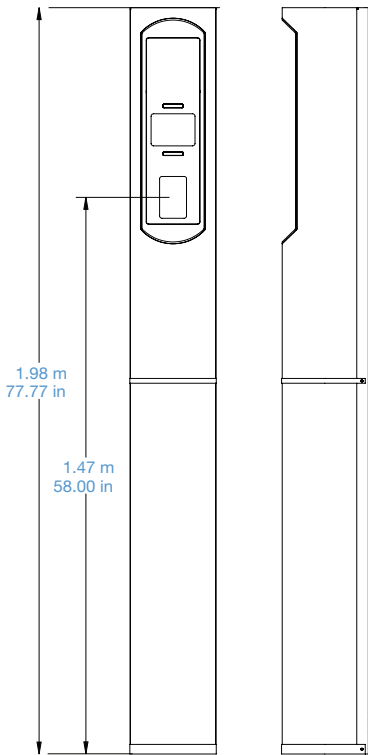
## System Interfaces / System Architecture



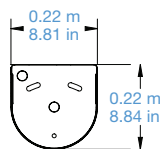
## Model Numbers

Standard Model	Cord Connected	Description
AB1011A	AB1011AC	<i>InSight VM</i> iris core imaging system
AB1011B	AB1011BC	<i>InSight VM</i> iris recognition system with on-board encoding, matching, and database functionality
AB1012C	AB1012CC	<i>InSight VM</i> iris recognition system with on-board encoding, matching, database functionality and physical access control connectivity

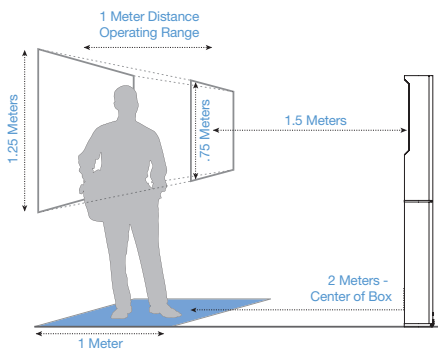
## Mechanical Drawing



## Mounting Footprint



## Capture Volume



## Functional Specifications

Parameter	Value / Functionality
Stand-off distance range	1.5 – 2.5 m (4.9 – 8.2 ft)
Capture volume	.75 cubic meters: 1 m (3.3 ft) deep 1 m (3.3 ft) high x 0.75 m (2.46 ft) wide at 2 meters stand off distance (mid-plane) Volume is a solid trapezoid, so cross section (high and wide) is proportionately smaller in front, and larger in rear of volume
User eye height	0.9 m (2.9 ft) to 1.9 m (6.2 ft) at mid-plane, dependent on mounting height ADA compliant – Works with individuals in wheelchairs or standing up to 2.0 m (W, 7 in.) at mid-plane Works with individuals to over 2.2 meters (over 7 ft.) tall in rear of capture volume
Image capture cycle time: 1 iris + associated face	2 seconds, including on-board image quality and encoding functionality
Image capture cycle time: 2 iris + face	4 seconds, including on-board image quality and encoding functionality
On-board biometric storage	Optional – 10,000 users (left and right eye template)
Iris illumination	820-860 nm (850 nm peak) near-infrared light; LED-based illuminator is eye safe at all distances
Face image capture	Face image captured (non-ISO standard) and associated with iris images in data record
User interface display	14 cm diagonal (5.7 in.) LCD, customizable; Multi-color user attention LEDs
Power consumption	650W (peak), 100W (standby)
Encryption	PKI for secure HTTP, On-board biometric databases encrypted when offline

## Interface Specifications

Interface	Description	Connection Type
Power	100-240V AC, 50 / 60 Hz Auto-switching	Screw terminal blocks, individually stranded maximum thickness 12 AWG wire
Ethernet	Cable compatibility: Category 5, 5e; 10/100/1000BASE-T Protocol: SOAP over HTTPS for data management; Web-based system configuration	8P8C "RJ45" 8-pin modular connector jack
Wiegand (Optional)	Input and output three wire terminals (e.g. to card reader and access control system), plus LED status indicators	Screw-terminal block capable of interfacing with individually stranded 16-24 AWG wire
RS-485 (Optional)	Two bi-directional three wire terminals (e.g. to card reader and access control system)	Screw-terminal block capable of interfacing with individually stranded 16-24 AWG wire
Alarm (Optional)	Two normally closed, voltage-free relays: Intrusion detection and power interruption	Screw-terminal block capable of interfacing with individually stranded 16-24 AWG wire

## Environmental Specifications

Parameter	Value
Operating Temperature	-20 to +45°C
Humidity	0 to 95%RH, non-condensing
Direct Sun Exposure	Not allowed (See AOptix Application Note regarding ambient light mitigation.)

This is a Class 1 Laser Product. However, the laser component is used for internal calibration, is not externally accessible, and is not used to image the eye in any way.

## Regulatory Approvals

FCC Certified, CE Marked, UL 60950 (Pending)

## Biometric Standards Compliance

ISO 19794-6

## Encryption Features

For communications: Generates self-signed 1024-bit certificates for PKI.

Capable of importing standard P12 certificates of any key length.

For data storage: 256-bit AES



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