

InSight® Duo – Simultaneous Iris and Face Biometric System



Effortless user experience

- 2 meter nominal standoff distance
- Fully automated face and iris imaging
- On-demand face capture for multiple poses
- 4 second cycle time for dual-iris and face capture

Versatile system architecture

- 1-to-N iris matching using networked server
- 1-to-N iris matching against onboard database
- 1-to-1 iris matching against smart card

Well-suited to enrollment or authentication in

- Aviation Security
- Border Security
- National and Regional ID Cards
- Law Enforcement and Criminal Justice

The AOptix *InSight*® Duo is the first biometric system to simultaneously capture ISO compliant iris and face images, adding a recognition quality, standards-based face record to the unparalleled uniqueness of iris recognition.

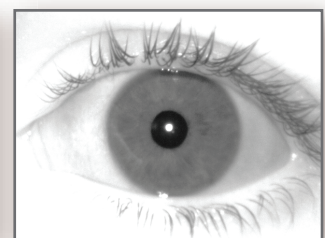
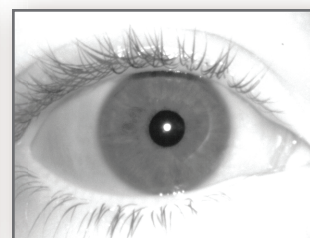
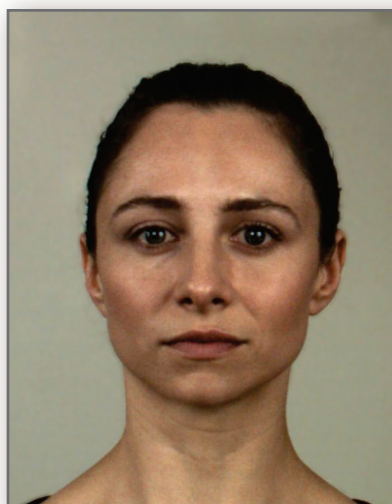
Combining iris and face biometrics into one automated capture process, the *InSight*® Duo delivers extraordinary performance without compromising the high throughput delivered by the original *InSight* system. Despite enhanced functionality, a unified network interface and a single compact footprint make *InSight* Duo easy to integrate. Furthermore, the *InSight* Duo continues to provide an ADA-compliant capture volume for effortless, high quality imaging of the iris and face, whether a subject is in a wheelchair or above 7 feet (2.15 meters) tall.

The *InSight* Duo, like the rest of the *InSight* family, is well suited to high throughput environments even with non-technical or non-acclimated users. Even as the first iris recognition system with fast-face capture at a two meter stand-off, simultaneous dual-iris and face capture is achieved in merely 4 seconds. In addition, stand-alone face images can be captured on demand, allowing for a variety of poses of the same subject.

The *InSight* Duo, like the rest of the *InSight* family, is well suited to environments requiring high throughput, high confidence authentication. Simultaneous dual-iris and face capture is achieved in 4 seconds, even for non-technical or non-acclimated subjects. In addition, the *InSight* Duo supports capture of stand-alone face images on demand, allowing for a variety of poses of the same subject.

The *InSight* Duo is designed around open standards to promote interoperability and ease of integration. With encrypted communication based on SOAP over HTTPS, the *InSight* Duo provides an open architecture for integration with existing backend systems and remote management through a secure web-based interface.

By adding a face recognition quality image capture to the *InSight* iris recognition system, the Duo offers dramatic performance and versatility in a single, integrated unit. Rapid collection of a dual modality record enables flexible usage of either biometric, allowing for seamless migration from legacy face recognition systems or utilization of both biometrics for standards compliance, outlier handling, or even biometric fusion.

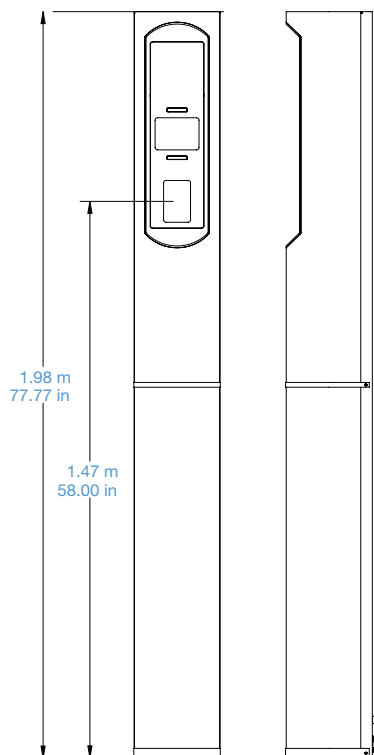


With on-board image quality checks, the *InSight* Duo consistently captures high quality iris and face images. Both iris and face images are sharp and centered regardless of where in the designated capture volume the subject stands.

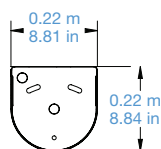
Model Numbers

Standard Model	Cord Connected	Description
AB1121A	AB1121AC	<i>InSight Duo</i> iris imaging system with ISO Face option
AB1121B	AB1121BC	<i>InSight Duo</i> iris recognition system with on-board encoding, matching, database functionality, and ISO Face option
AB1122C	AB1122CC	<i>InSight Duo</i> iris recognition system with on-board encoding, matching, database functionality, ISO Face option, and physical access control connectivity

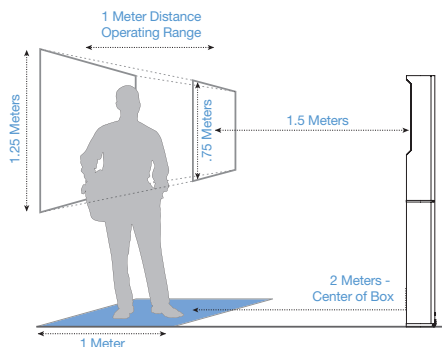
Mechanical Drawing



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 (iris)	.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
Capture volume (ISO quality face)	.25 cubic meters 0.3 m (1 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), dependent on mounting height ADA compliant – Works with individuals in wheelchairs or standing up to 2.0m (6 ft 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: 2 iris + ISO face	4 seconds, including on-board image quality and encoding functionality
On-board biometric storage	Optional - 10,000 users (left and right eye template) Face images not stored on-board
Iris illumination	820-860 nm (850 nm peak) near-infrared light; LED-based illuminator is eye safe at all distances
Face image capture	ISO 19794-5 standard ICAO for full frontal face, token face
User interface display	14cm 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

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
ISO 19794-5

Encryption Features

For communications: Generates self-signed 1024-bit certificates for PKI.
Capable of importing standard P12 certificates of any key length.



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