



# NanoFace®

Facial Recognition System by EyeLock

Ultra-compact, wall-mountable, high-speed biometric solution for today's demanding access control, time & attendance, and ID management applications.

## Product Description

For over a decade, EyeLock's name has become synonymous with biometric accuracy, data privacy, speed, and affordability. Our NanoFace™ facial recognition solution builds on that legacy, and we are proud to add NanoFace to our family of biometric solutions.

NanoFace™ by EyeLock is an advanced biometric facial recognition solution that provides highly accurate face recognition in a compact and very cost-effective system. Employing the latest of high-performance ARM processors, NanoFace features an embedded facial recognition module with its own imaging and algorithm co-processor for ultra-fast capture, processing, and authentication of facial images.

This architecture allows for the utilization of the latest and highest ranked facial algorithms by NIST®. The NanoFace solution not only provides a fully touchless and contactless user experience, but its core matching accuracy, range and speed is unparalleled!

In authentication mode, capture speeds are virtually "walk-through" with authentication speeds under one second. This ultra-fast speed makes authentication almost instantaneous and there is nothing like this product this facial recognition solution on the market today.

The NanoFace system is compact, with overall dimensions under 4" x 8" x 1.5" (100 x 200 x 36 mm), and can easily be mounted on any wall, desktop, kiosk or turnstile.

The NanoFace™ user interface is effortless and intuitive with a colored box around the face that indicates various identifiable situations. Subject's face can be found at up to 36" in distance (up to 2 meters) with an active capture range of 9" to 36" (0.4 to 2 meters).

NanoFace incorporates a highly innovative digital zoom feature that enlarges the subject's face image during capture, and automatically tilts the display centering as the subject moves within the capture volume.

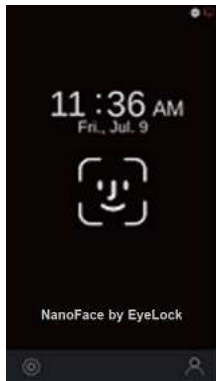
The on-board white and NIR illuminators expand the deployment flexibility of NanoFace, making it the ideal choice for advanced facial recognition solutions across a diverse range of access control and time & attendance installations.

If you are looking for a fast, highly accurate and affordable method to authenticate your employees or customers using biometrics, NanoFace from EyeLock is a solution that needs to be considered.

## Simple and Intuitive Subject Positioning

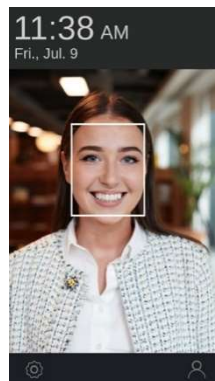
NanoFace detects and displays the subject's face over 72 inches! (that's 2 meters) from the system on the high-resolution color display. The subject will simply and naturally walk toward the face capture range within the 72 inches. Once the system recognizes their face, the result will be displayed immediately with colored indication box over the subject's facial image.

## Access Control Authentication and Verification



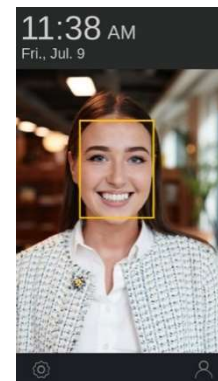
### LAUNCHER VIEW

Home Page for start-up and administrator control.



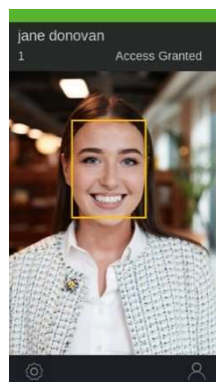
### FACE DETECTION STARTS

White box around face shows which subject has been detected and is being actively processed



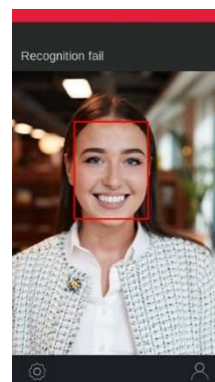
### FACE RECOGNITION STARTS

Display color box around face indicates normal face (yellow) fake face (orange), or masked face (green)



### IDENTIFICATION SUCCESS

Subject is recognized and authorized: name and ID are shown.



### IDENTIFICATION REJECTION

No match against internal, on-board data base.

## Key Features

| Feature   | User Advantages   |
|---|---|
| State of art optical design                                       | Optical design utilizes highest quality optics and employs a very fast shutter speed, allowing the system to exceed industry norms for image quality.                                 |
| Dual face cameras   | Two cameras—one in visible and one in NIR—optimize face detection in the lowest of ambient lighting conditions and provide for superior live face detection.                          |
| Wide angle face imaging   | Outstanding capture volume allows face recognition at distance range (stand-off) of 0.4 to 2.0 meters. Corresponding height range of 65 cm at subject-to-device distance of 2 meters. |
| Advanced real time subject tracking with simple user instructions | NanoFace accurately locates the subject face in real time.  |
| Intuitive user interface  | Modeled after latest smart-phone user displays, the user experience will be intuitive and effortless for almost all subjects.   |
| Face matching engine  | Integrated dual camera and algorithm co-processor to allow utilization of latest and most accurate face algorithm   |
| Display of authentication (matching) results                      | Automatic display of matching results, positioned adjacent to subject's face.   |
| Language support  | English, Korean, Simplified Chinese, Traditional Chinese, Japanese, Arabic, Spanish, Italian, Turkish, French   |
| Large on-board (embedded) face template data base                 | Stores up to 20,000 active face templates on-board in 1:N recognition (identification) mode.  |
| High speed face matching  | Up to 20,000 matches per second on-board.   |
| Fast authentication speed   | Typical 0.3 seconds in 1:N authentication mode from time subject is detected for typical data base size of 1,000  |
| Widest range of lighting conditions                               | Embedded illuminators in both white and NIR ranges expand use in adverse ambient lighting environments.   |

| Feature                          | User Advantages  |
|----------------------------------|--|
| Standard multi-band RFID reader  | MiFare, DesFire (EV1), FeliCa card support with standard embedded ISO/ IEC 14443 reader.   |
| Live face detection              | YES, included in proprietary algorithm   |
| Mask detection                   | YES  |
| Powerful and simple SDK          | Based on EyeLock’s proven high level SDK architecture and code, the NanoFace is simple to integrate. All APIs reside on host-side application in Windows C++, Windows C# (.NET) and Linux OS, so no device level programming is necessary. Reference code supplied with SDK.   |
| Full range of deployment options | Standard connections include Ethernet, dual Wiegand in/out, GPI, RS-485, dry contact relay, tamper detection, factory reset button.  |
| Access Control Integration       | NanoFace is fully integrated within EyeLock’s EIS biometric software. This provides integration into the most visible access control brands on the market today. Today, these include Lenel, Software House, AMAG, Kantech, Honeywell, Genetec, RS2, Open Options, Avigilon, Pacom and Sicunet with more on the way. |

## Technical Specifications

|   |   |
|---|---|
| CPU   | ARM octa-core   |
| Memory  | 2 GB RAM<br>8 GB Flash  |
| Number of cameras                                 | Two (2)   |
| Illumination                                      | One visible (white) and one near-infrared (NIR) LED for optimal face detection and operation in low ambient light conditions                        |
| Dimensions  | 100 x 200 x 36 mm   |
| Weight  | 450 g   |
| Display   | 5.0 inch (nominal), touchscreen   |
| Operating capture range                           | 40 cm to 200 cm   |
| User height range                                 | 145 cm to 210 cm (with system installed at 135 cm)  |
| Face extraction (encoding) and matching algorithm | YES, on-board algorithm functions included as standard.   |
| Recognition speed (1:N)                           | Within 1.0 second from time subject is detected against internal data base of 20,000 subjects. Typical 0.3 seconds with data base of 1,000 or less. |
| Enrollment speed                                  | Under 5.0 seconds   |
| Liveness face detection                           | YES   |
| Mask detection                                    | YES. Two modes: 1) refuses authentication if mask is not worn and event log saved; 2) authentication permitted but event log saved.                 |
| Data base size, on-board                          | Maximum 20,000 subjects in 1:N mode (authentication)  |
| Audio   | YES, front speaker  |
| Power requirement                                 | Nominal 15V DC, 2A. Voltage input range tolerance of 15 to 25V, minimum 30 watt. Universal power supply (100 to 240V AC input) included.            |
| RF card reader                                    | Standard ISO/IEC 14443 for MiFare, DesFire EV1 and FeliCa cards   |
| I/O connections                                   | RJ45 for Ethernet, Wiegand In and Out, GPI (3), dry contact relay, Tamper, Factory Reset, SIM Socket (optional)                                     |
| USB   | For service mode only   |
| Operating temperature range                       | 0 to 45° C  |
| Certifications                                    | ISO 9001, CE, FCC Class A, KC, UKCA   |

## Contact Information

Please contact EyeLock or your sales representative for more information about the NanoFace™ product or our award-winning Software Development Kits (SDK).

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Scan the QR code below to visit the NanoFace™ webpage for more sales and technical documents.



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