eyeLock®

NanoFace-2N

Facial Recognition System

Compact terminal with ultra-fast subject finding and local authentication

Product Description

NanoFace-2N™ is an advanced face recognition terminal that provides highly accurate face recognition in a compact and cost-effective embedded system. Employing the latest high-performance ARM processor, the NanoFace-2N features an embedded face recognition module with its own imaging and algorithm co-processor for ultra-fast capture and processing of face images.

This architecture allows for the utilization of the latest and most powerful, but complex, face algorithms available. Now, the NanoFace-2N face recognition system not only provides a fully touchless and contactless user experience, but embedded solution matching accuracy is unparalleled! In authentication mode, capture speeds are virtually "walk-through" while very fast image and template processing times make authentication decisions seem instantaneous.

The NanoFace-2N system is compact, with dimensions of only 100 x 200 x 36 mm, and can readily be mounted on any wall, desktop, kiosk front-plate, or turnstile.

The user interface is effortless and intuitive. The subject's face can be found at up to 2 meters from the NanoFace-2N system, with an active capture range from 0.4 to 2 meters. The NanoFace-2N 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.

Eyelock's proprietary deep-learning based face-detector also enhances operation in a wide range of ambient lighting for deployment flexibility. User positioning instructions are clearly shown on the display to guide subject movements, while authentication and authorization decisions are presented immediately in clear notations around the subject's face.

The system also provides color-based cues for face finding, fake face detection, and mask detection, in addition to positive identification (or authentication), and identification rejection.

The on-board white and NIR illuminators expand the deployment flexibility of NanoFace-2N, making it the ideal choice for advanced face recognition solutions across a diverse range of access control and time & attendance installations.

Simple and Intuitive Subject Positioning

NanoFace-2N detects and displays the subject's face over 2 meters from the system on the high-resolution color display. The subject will simply and naturally walk toward the face capture range of 0.4 to 2 meters. Once the system recognizes the face, the result will be displayed immediately with a colored indication box over the subject's face image.

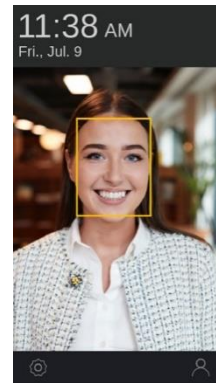## Access Control Authentication (Verification)
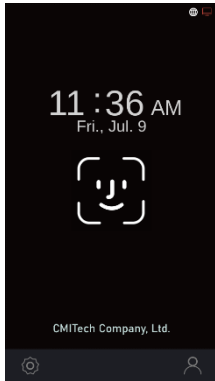
LAUNCHER VIEW

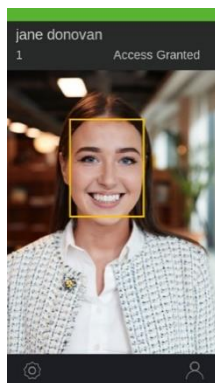Home Page for start-up and administrator control.
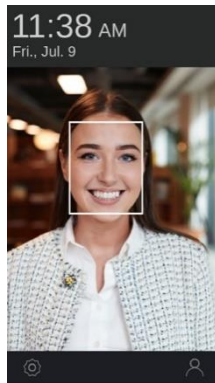
FACE DETECTION STARTS

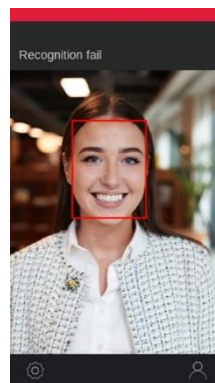White box around face shows which subject has been detected and is being actively processed

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.

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Key Features

Feature	User Advantages
State of art optical design	Optical design utilizes highest quality optics and 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.
Advanced real time subject tracking with simple user instructions	NanoFace-2N 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 virtually all subjects.
Face matching engine	Latest generation neural network-based encoding and matching algorithm delivers highest levels of matching accuracy. Includes integrated dual cameras with algorithm co-processor for fastest processing speeds.
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 50,000 matches per second on-board.
Widest range of lighting conditions	Embedded illuminators in both white and NIR ranges expand use in adverse ambient lighting environments.
Standard multi-band RFID reader	MiFare, DesFire, FeliCa card support with standard embedded ISO/ IEC 14443 reader.
HID™ compatible card reader	HID Ominkey™ embedded card reader optional, for compatibility with range of HID iClass™ cards
Live face detection	YES, included in proprietary algorithm
Mask detection	Yes

Feature	User Advantages
BLE	Please inquire
PoE (power over Ethernet)	Optional
Powerful and simple SDK	Based on Eyelock's proven high level SDK architecture and code, the NanoFace-2N 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 and out, GPI, RS-485, dry contact relay, tamper detection, factory reset button, SIM socket

Technical Specifications

CPU	Quad core ARM with NPU
Memory	2 GB RAM 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	420 g (without standard wall mount plate)
Display	5.0 inch (nominal), touch
Operating capture range	40 cm to 200 cm Configurable maximum operating distance
User height range	140 cm to 210 cm (with system installed at 120 cm)
Face extraction (encoding) and matching algorithm	YES, on-board algorithm functions included as standard
Authentication speed	Within 1.0 second
Enrollment speed	Within 5.0 second
Fake face detection	YES
Data base size, on-board	Maximum 20,000 subjects in 1:N mode (authentication)
Text Log	5,000,000
Image Log	10,000
Audio In/Out	Embedded microphone and built-in speaker
Power requirement	15 to 24 V DC, 2A. Maximum power consumption 30 watts. Universal power supply included.
RF card reader	Standard ISO/IEC 14443 A/B, MiFare, DesFire, FeliCa
HID iClass	Optional OMNIKEY chipset
BLE	Please inquire
I/O connections	RJ45 for Ethernet, Wiegand In and Out, GPI (3), dry contact relay, RS485, tamper, factory reset, SIM socket (optional), USB 2.0 host
OSDP compatibility	YES 1 channel master or slave through RS-485 port
PoE	Optional (IEEE 802.3af)
Power requirements	12V to 24 V DC, 1.2A Max 12.5W. Power supply included.
Operating temperature	-20° C to 50° C
Operating humidity	10% to 95% non-condensing
Certifications	ISO 9001, CE, FCC, KC, UKCA

Contact Information

Please contact EyeLock or your representative for more information about the NanoFace-2N product, NanoFace Software Development Kits (SDK) and other supporting software.

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