HID® U.ARE.U™ Face Module

The HID U.ARE.U Face Module enables best in class facial recognition, identification and verification, with industry leading passive liveness security in order to verify that the person in front of the camera is real. The face module is based on fusion artificial intelligence (AI) that combines multispectral imaging (MSI) with modern AI and machine learning algorithms to provide superior facial recognition and Presentation Attack Detection (PAD) in environments with widely changing light conditions, from bright light to limited or no light conditions.

By combining multiple cameras in a single device, the HID U.ARE.U Face Module provides the highest level of matching performance and accuracy for customers that require the best user experience. The HID U.ARE.U Face Module is ideal for applications in the banking and financial industry including ATM and branch offices, retail, healthcare, hospitality, time and attendance and physical access control.

ADVANCED PRESENTATION ATTACK DETECTION (PAD) TECHNOLOGIES

Facial recognition security needs to protect systems from spoofing attacks such as using mobile phone displays, tablets and monitors, photographs, paper puppets or 3D masks while accepting legitimate individuals wearing eyeglasses and face masks. While single camera systems can have strong independent anti-spoofing capabilities, they can also suffer from these specific attacks that become widely known to defeat PAD and liveness algorithms.

The HID U.ARE.U Face Module benefits from a multispectral imaging approach spanning visible to Near-Infrared (NIR) lighting. It supports a combination of camera sensing technology (RGB, active structured 3D depth sensing, high resolution periocular and 2D NIR facial flood projection) and PAD algorithms to determine whether the image is an actual spoofing attack or a legitimate user. By incorporating advanced machine learning PAD algorithms, the HID U.ARE.U Face Module is positioned to achieve a high resilience against spoof attacks conforming to the industry standard (ISO 30107-3).

HIGH PERFORMANCE IN CHALLENGING LIGHTING

By utilizing a combination of RGB and NIR, the HID U.ARE.U Face Module can address the challenges of total darkness or bright light for indoor use with variable light conditions. Options are available for NIR-only or NIR/RGB combined.

MATCHING AT THE EDGE

The HID U.ARE.U Face Module has the ability to do facial matching and AI processing at the edge for on-board facial recognition, liveness detection, presentation attack detection, template extraction and matching.

DESIGNED TO FIT YOUR REQUIREMENTS

The HID U.ARE.U Face Module has a USB interface and can use the HID U.ARE.U Face Software Development Kits (SDKs) to interface with your systems and applications. Alternatively, the camera has an Ethernet interface with a integrated camera API that allows it to be directly addressable from the internet without the need for a separate SDK. As an option, the camera can be used with HID's ArcID Biometric Server and ArcID Device Manager to support a wide variety of server managed use cases.

FUNCTIONALITY:

- Integrated multispectral camera system
- 3D structured depth projection
- Does not require external light source
- Face detection
- Automatic face capture
- Automatic image quality check
- Presentation Attack Detection (PAD) conforming to ISO 30107-3 standard
- Face template extraction
- Face template match
- Match on device with local identification database
- Neural processing unit for fast and reliable operation
- Top ranking in NIST Face Recognition Vendor Test (FRVT)
- Unattended operation
- Multi-face detection
- Continuous authentication
- Compact module available for fast integration
- Optional HID ArcID™ Biometric Server connectivity with matching, identification and database synchronization capabilities

HID

HID U.ARE.U Face Module

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Product Name	**HID U.ARE.U. Face Module**
Camera Sensing Technology	• Multi-Spectral RGB-IR Day/Night Sensing • Active Structured 3D Depth Projector with 2D Flood Illuminator @ 940 nm
Image Sensor	• 8 MP 1.4 um NIR Enhanced BSI Technology • Full HD Video Outputs (1920x1080, 3x Streams Visible, NIR, Depth)
Modalities	• Enroll and Match on Device • 1:1 and 1:N Authentication On Device • Passive HD Video Surveillance (UVC over USB or MJPEG over Ethernet) • Continuous Face Recognition @10 fps with PAD Authentication @4 fps • Multi-Face Logic Support
Ambient Lighting	• 0-20 Klx (NIR) • 2-10 Klx (RGB)
Working Distance	• 20-150 cm / 7.87-59 in. (Face Recognition) • 40-100 cm / 15.75-39.37 in. (Face Recognition with PAD enabled)
Face Recognition Performance	User Configurable FMR 1e-4, 1e-5, 1e-6
Field of View (camera mounting dependent)	Portrait Mode 76° V x 36° H
On-board Database Capacity	0-100K facial templates for 1:1 or 1:N matching
Supported Formats	PNG, JPG
Communication Interface	• USB 2.0 (USB-C connector) • Fast Ethernet (10/100Mbps, RJ45 connector)
Power Consumption	• Idle: 3W • Active Face Capture: 5W
Power Supply	• USB interface: 5V/3A • RJ45/Phantom interface: 12V − 48V/300mA − 1150mA
Dimensions:	88 L x 42 H x 41 D mm (~3.5 L x 1.65 H x 1.61 D in.)
Operating Temperature	• USB powered: Ambient temperature 0° C - 50° C (32° F - 122° F), non-condensing • RJ45 Phantom powered: Ambient temperature 0° C - 45° C (32° F - 113° F), non-condensing
Storage Temperature	-25° C - 60° C (-13° F - 140° F), non-condensing
Supported Operating System	Windows® 7, Windows® 10, Windows® 11, Linux® 32/64-bit, Android®
Optional Solution Components	• HID U.ARE.U Face SDKs • HID ArcID Biometric Server • HID ArcID ID Proofing Server • HID ArcID Device Manager • HID Biometric Professional Services
Presentation Attack Detection	ISO 30107-3 Level 1 (Level 2 pending)
Certifications	CE, UKCA, FCC, RoHS, WEEE, UL, CB, IEC 60825-1 Class 1, IEC 61000-4-2 Level 3
Security Features	• Secure Boot • Secure Key Storage • Mutual Authentication • Cipher Suites for Template/Channel Encryption including AES, TDES, etc. • Secure Firmware Updates

Data subject to change without notice