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AMT-PIX-20
Standalone Near-Infrared Palm Module

Armatura palm algorithm has successfully undergone rigorous testing under the ISO/IEC 19795-2 standard, conducted by the highly respected iBeta Quality Assurance. The results demonstrate exceptional performance, positioning Armatura as a frontrunner in the biometric industry.
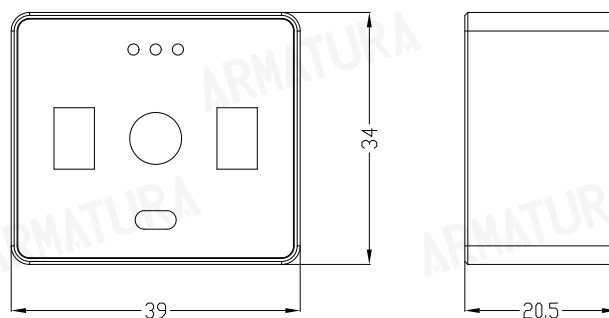
Overview

- Near-Infrared (NIR) camera with built-in NIR lighting captures vein patterns beneath the palm at 960×1280 (raw) and 720×1280 (output) resolution, delivering consistent results regardless of any environment lighting.
- Built-in algorithms detect the palm, extract the vein template, and block spoofed prints or displays. On-device processing: liveness detection <20 ms (IR–visible and IR modes), template extraction <25 ms, 1:1 comparison <30 ms; performance measured at FRR 0.17% @ FAR 0.001% and the template format is compliant with ISO/IEC 19795-2.
- Intuitive LED indicators (green, red, blue, white) guide users for optimal palm placement and provide instant visual feedback on recognition status.
- Compatible with the MultiBio SDK, supporting development on major platforms including Windows, Android, and Linux (on request).
- Ultra-compact and lightweight design with a USB 2.0 interface for effortless integration into time attendance systems, access control devices, identity verification terminals, and other hardware applications.

Software Development Kit (SDK)

- Supported by Armatura MultiBio SDK 3.0
- MultiBio SDK 3.0 supports Windows XP, 7, 10,11 (x86 & x84) and Android 5.1 & above operating system. Linux version is supported on request.
- MultiBio SDK 3.0 simplifies the hardware communication through standard UVC and HID protocols and provides programming interfaces to access module's built-in palm recognition algorithm.
- MultiBio SDK 3.0 offers palm template on host matching libraries as well.
- MultiBio SDK 3.0 provides developers and integrators with a quick and easy integration approach.

Module Dimensions

Unit: mm

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General Information

Processor	800 MHz Dual Core Cortex A53 Processor, 1.5 TOPs NPU
Memory	256MB RAM and 256MB Flash
Camera	1.3MP visible light camera
Interface	USB 2.0
Communication	UVC and HID Protocol
Power Supply	DC 5.0V/2.0A
Power Consumption	< 1.3 W (standby); < 2.5 W (operation)
Visual Indicator	Four-color status LEDs: Red (Failed); Blue (Standby); Green (Success); White (Processing)
Supported OS	Android 7, 8, 9, 10; Windows 7, 10, 11; Linux (on request)
Operating Temperature	-10°C ~ 55°C / 14°F ~ 131°F
Storage Temperature	-40°C ~ 85°C / -40°F ~ 185°F
Operating Humidity	15% ~ 95% RH (Non-condensing)
Dimension	39(L) x 34(W) x 20.5(H) mm (±1mm) / 1.53" (L) x1.34"(W)x0.81"(H)(±0.04inch)
Certifications	CE, FCC, RoHS, WHQL, ISO/IEC 19795-2

Sensor

Camara Type	Infrared Light Camera
CMOS	1/5" CMOS, 1.3MP
Optical Wavelength	850 nm
Image Type	256 Grayscale Levels
Default Output Format	MJPEG
Illumination Range	0.01 Lux to 100,000 Lux
Image Time Alignment	Maximum delay between frames: 10ms
Image Spatial Alignment	±5 pixel
Image Resolution (Pixel)	Raw: 960W * 1280H Output: 720W * 1280H
Shutter Type	Global shutter
Frame of View (FOV)	Horizontal: 116°, Vertical 95°, Diagonal: 145°
Frame per second	15fps
Distortion Rate	＜2%

Built-In Algorithms	
Biometric Recognition Method	Palm
Recognition Distance	5cm-15cm
Authentication Mode [1]	1:1, 1:N
1:N Capacity [2]	30,000 (on-host)
Palm Liveness Detection Time	<20ms (Infrared light mode)
Feature Template Extraction Time	<25ms
Comparison Time	<30ms
Posture Adaptability	Yaw≤ 30°, Pitch≤ 45°, Roll≤180°, Bend≤ 20°
Accuracy	FRR=0.17% when FAR=0.001%

[1]: the authentication modes are supported by Palm Match SDK running on hosting device.

[2]: 1:N Capacity is tested by Palm Match SDK on hosting device.

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