AMT-PVS-50

High Precision Dual Camera Standalone Palm Module

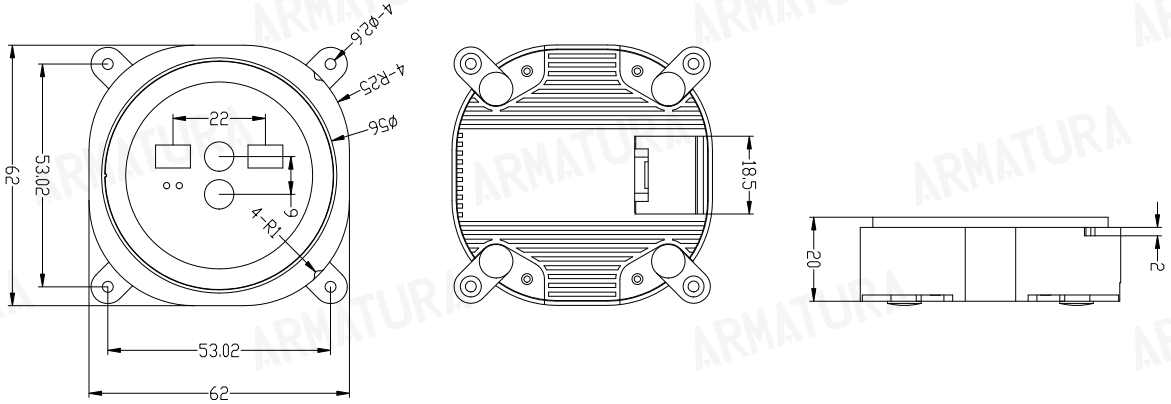
Overview

- AMT-PVS-50 is an intelligent computer vision module which utilizes visible light and near-infrared light (NIR) dual-cameras to capture palm images for high-accuracy biometric recognition.
- The AMT-PVS-50 module is engineered to adjust to a wide range of lighting conditions, spanning from low light levels as dim as 0.01 Lux to intense sunlight of up to 100,000 Lux. Its ability to adjust various lighting conditions ensures consistent and accurate recognition performance under varying lighting conditions in diverse environments.
- The dual-camera module provides a wide field-of-view (FOV) up to 145°, enhancing user experience for palm recognition operations.
- The module comes with multi-color LED lights that help users adjust palm positions and receive real-time visual feedback.
- The module is backed by a developer-friendly SDK that grants access to the extensive interfaces of the built-in algorithms and configurations on the module. This includes palm detection, liveness assessment and feature extraction functionalities.
- The module features a lightweight and compact design, along with a USB 2.0 interface, making it perfect for seamless integration with a wide range of third-party application hardware including but not limited to time attendance, access control, and physical identification 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 algorithm.
- MultiBio SDK 3.0 offers palm on host matching libraries as well.
- MultiBio SDK 3.0 provides developers and integrators with a quick and easy integration approach.

Module Dimensions and Connection PIN Specifications



General Information	
Processor	800MHZ Dual Core Cortex A53 Processor, 1.5 TOPs NPU
Memory	256MB RAM and 256MB Flash
Camera	1.3MP infrared camera; 1.3MP visible light camera
Interface	USB 2.0
Communication	UVC and HID Protocol
Power Supply	DC 5.0V/2.0A
Power Consumption	< 2W (standby); < 3W (operation)
Visual Indicator	Steady Green LED: Normal Status Steady Red LED: Authentication in Progress Steady Orange LED: Error/ Fault Steady White LED: Object nearby detected
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 to 85°C / -40°F to 185°F
Operating Humidity	15% ~ 95% RH (Non-condensing)
Dimensions	62.0(L) x 62.0(W) x 20.0(H) mm (±1mm)
Weight	97g
Certifications(s)	CE, FCC, RoHS, WHQL

Sensor		
Camera Type	Visible Light Camera	Infrared Light Camera
CMOS	1/5" CMOS, 1.3MP	
Optical Wavelength	440 nm ~ 650 nm	850 nm
Image Type	24-bit RGB true color	256 Grayscale Levels
Default Output Format	MJPEG	
Illumination Range	0.01 Lux to 100,000 Lux	
Exposure Mode	Auto Expose on Region of Interest (AE on ROI)	
Image Time Alignment	Maximum delay between frames: 10ms	
Image Spatial Alignment	±5 pixel	
Image Resolution (Pixel)	Raw: 1024W * 1280H Output: 720W * 1280H	Raw: 1024W * 1280H Output: 720W * 1280H
Shutter Type	Global shutter	
Field of View (FOV)	Horizontal: 116°, Vertical 95°, Diagonal: 145°	
Frame per second	25fps /30fps	
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
Palm Liveness Detection Time	<20ms (infrared-visible light mode; 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%

Note:
[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.
* FRR: False Rejection Rate
* FAR: False Accept Rate
* The performance test is based on the Armatura proprietary palm datasets.

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