

Deptrum® Veinshine 03

Product Specification

V3.1 - 2026/09/30

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1 Revision History

Revision	Description	Date	Revised by
V3.1	Official release	2026/09/30	Yan Qizhan

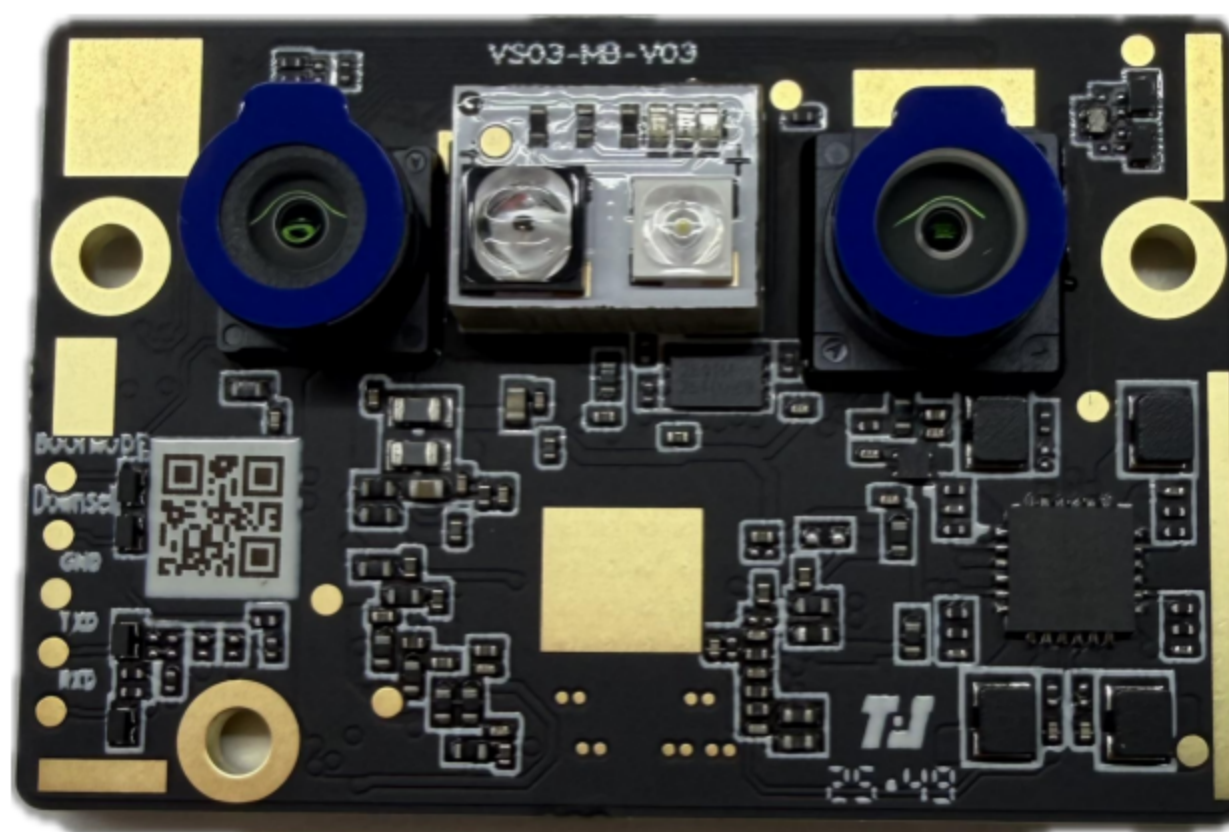


Figure: Product appearance

2 Product Overview

Product Introduction The Deptrum® Veinshine 03 IR palm-vein camera adopts high-precision optical technology, combined with a high-performance ISP and AI module. Based on a unique software AE algorithm, it achieves efficient palm detection and closed-loop auto exposure of palm images under various environmental conditions (including low-light environments), delivering palm-vein images.	Product Features • IR palm-vein imaging • IR fill-light system • Built-in PalmAE • On-module palm-scan algorithm • 5 ~ 12 cm palm-scan working distance
System Requirements Palm-vein image processing and algorithms are executed within the camera module, including liveness detection and feature extraction; the host PC only needs to run feature matching.	Applications • PalmID identity recognition and access control • Smart door access • Turnstile control

3 Core Specifications

Veinshine 03 Product Specifications		
Module Parameters	Overall dimensions	40.0 × 26.6 × 11.4 mm
	Camera	IR + barcode-scanning camera
	Interface	USB 2.0 wafer connector / pin-to-pin interface
	Palm-scan working distance	5 ~ 12 cm
	Barcode-scanning working distance	5 ~ 12 cm, supports basic QR code scanning

	Operating voltage	5 V
	Supply current	> 0.5 A @ 5 V
	Module power consumption	1.2 W average
Palm-vein recognition performance	Palm recognition pass rate	98% @ 5,000 ID
Algorithm performance	Palm-scan angle	Pitch $\leq 30^\circ$, roll $\leq 30^\circ$, yaw $\leq 360^\circ$
	Host compute requirement (recommended)	$\geq 4 \times A7 @ 1.6 \text{ GHz}$
	Algorithm deployment	Supports on-module front-end algorithm, local deployment, and cloud deployment
Firmware & SDK capabilities	Image processing	Built-in high-performance ISP / built-in PalmAE / IR feature extraction algorithm
	Security	Palm feature data encryption
	OTA support	Supports USB upgrade
	System compatibility	Supports Android 7 / 8 / 9 / 10 / 13; supports Windows 10 / 11

4 Module Dimensions & Structure

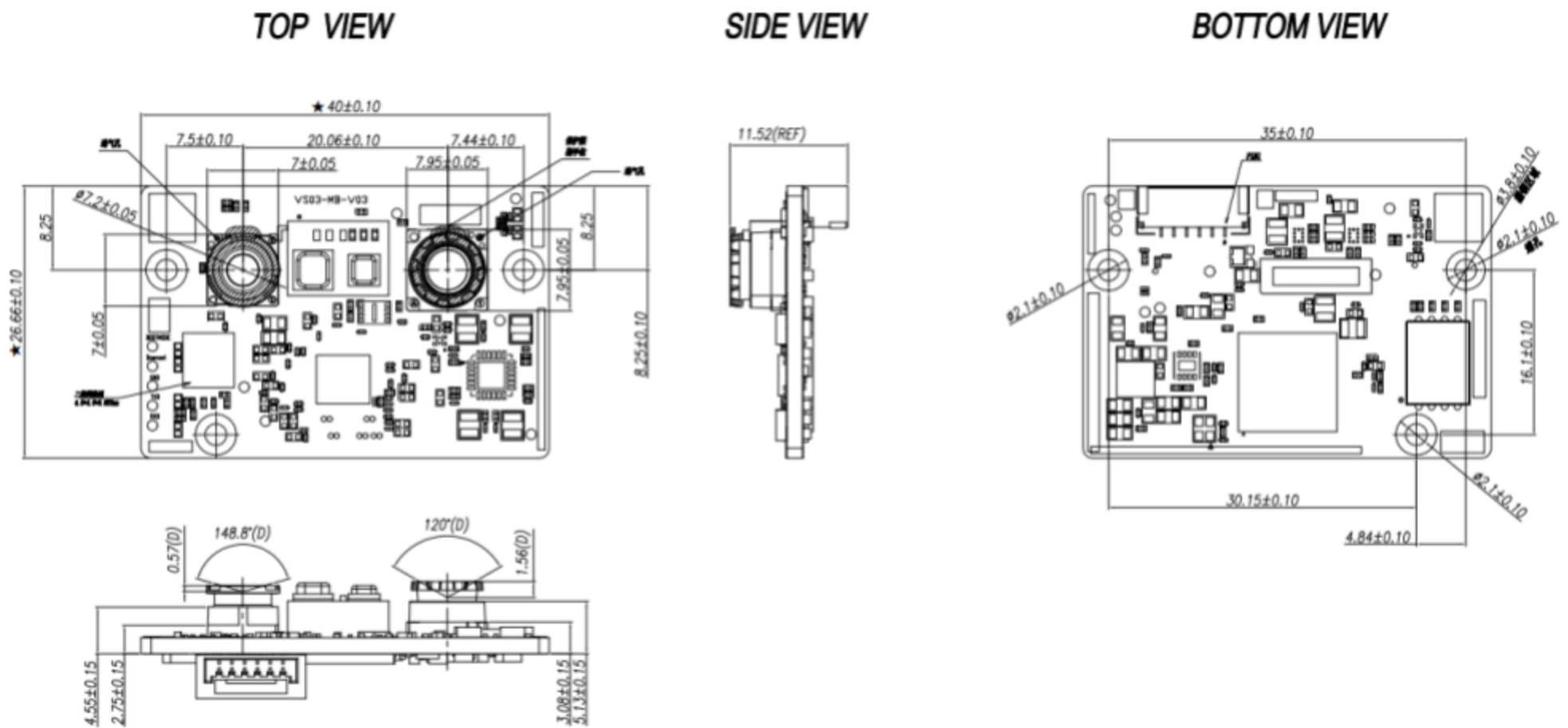


Figure: Dimension drawing

4.1 Product Description

The Veinshine 03 module consists of a barcode-scanning camera, indicator light, IR camera, IR fill light, white fill light, and PCB substrate. Its compact structure facilitates integration into host devices such as door access systems and turnstiles. The overall dimensions are $40.0 \times 26.6 \times 11.4$ mm

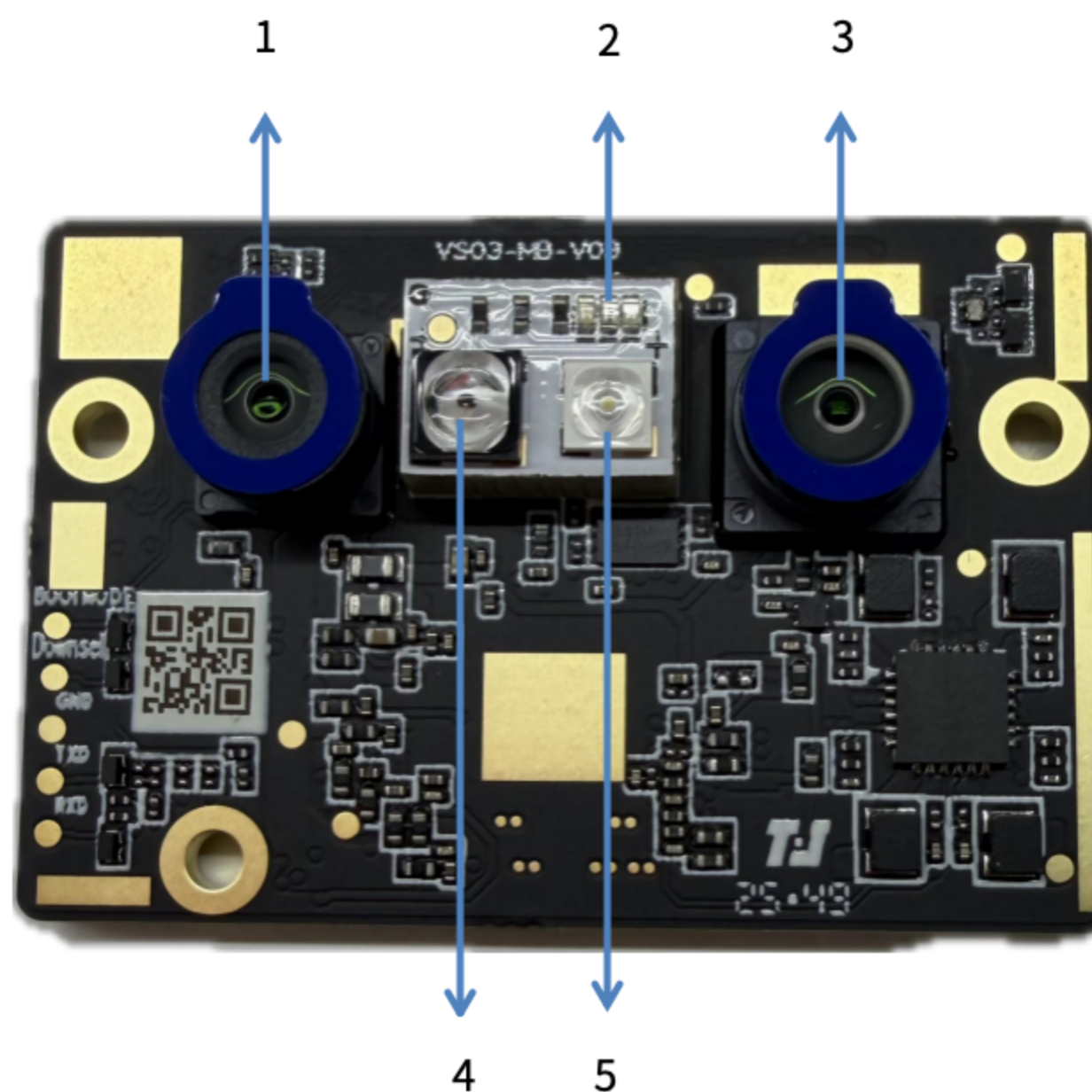


Figure: Veinshine 03 component numbering diagram (numbers correspond to the component table)

Product Components	No.
Barcode-scanning camera	1
Indicator light	2
IR camera	3
IR fill light	4
White fill light	5

5 Environment & Reliability

Item	Parameter	Specification
Operating environment	Temperature	-10°C ~ +50°C
	Relative humidity	10% ~ 95%, non-condensing
	Illuminance	0 ~ 10,000 lux (module must not be exposed to direct sunlight)
Storage environment	Temperature	-40°C ~ +85°C
	Relative humidity	10% ~ 95%, non-condensing

6 Software Development

Customers can use the Deptrum Palm SDK for secondary development. The SDK supports Windows/Linux/Android platforms and x86_64, ARMv7 and ARMv8 architectures, with targeted performance optimizations for embedded architectures. For detailed usage, please refer to the documentation included with the SDK.

7 Disclaimer

The device application information and other similar content described in this publication are provided for your convenience only and may be superseded by updated information. It is your responsibility to ensure that your application complies with the applicable specifications. Shenzhen Deptrum Technology Co., Ltd. makes no representations or warranties of any kind, express or implied, written or oral, statutory or otherwise, including but not limited to representations or warranties regarding usage, quality, performance, merchantability, or fitness for a particular purpose. Deptrum assumes no liability for consequences arising from this information or its use. Deptrum products shall not be used as critical components in life support systems without the written approval of Shenzhen Deptrum Technology Co., Ltd. No license is conveyed, implicitly or otherwise, under

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8 Technical Support

Support is available through the following channels:

- Email support: please send your questions to support@deptrum.com
- FAE support: please contact our sales team for FAE support arrangements

9 Precautions

- Do not heat this product with any other heat source.
- Do not drop or subject this product to impact, to prevent damage to internal components and degradation of accuracy; improper handling may damage internal components.
- Do not attempt to modify or disassemble this device in any way, as this may cause product damage and degrade accuracy.
- The product will heat up after a period of use; this is normal. Heat dissipation measures may be applied to the back of the product.
- Do not store the product in high-temperature, high-humidity environments, to prevent degradation of accuracy or functional failure.