

Deptrum[®] Libra 3000

Product Specification

V0.2 - 2026/09/30

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1 Revision History

Version	Description	Date	Revised By
V0.2	Initial official release	2026/09/30	Hu Tao



Figure: Product rendering (front view)

2 Product Overview

Product Introduction

The Deptrum® Libra 3000 series depth camera uses binocular 3D imaging technology to capture the three-dimensional structure of objects and spaces. With a built-in high-performance ISP and depth computing engine, it achieves ultra-high-precision binocular depth reconstruction and outputs high-frame-rate RGBD images.

System Requirements

Depth computation is fully self-contained within the module, requiring no compute resources from the host PC; two output interfaces are supported: GMSL2 / FAKRA and USB Type-C 2.0.

Product Features

- High-performance binocular dense depth reconstruction from 10 cm to 5 m
- 65 mm baseline
- Supports an illuminance range of 0 ~ 100,000 lux
- Supports fill-in illumination for low-light conditions
- Supports GMSL 2.0 and USB 2.0 output

Applications

- Embodied AI head camera
- General-purpose binocular camera

3 Core Specifications

Libra 3000 Specifications		
Module Parameters	Overall Dimensions	90 × 25 × 32.99 mm
	Baseline	70 mm
	Interface	GMSL2 / FAKRA; USB Type-C 2.0
	Operating Temperature	-10°C ~ +55°C
	Operating Humidity	0% ~ 95% RH, non-condensing
	Operating Illuminance	500 ~ 100,000 lux (minimum effective

		illuminance for 3D reconstruction without the fill-in illuminator)
	Power Supply Requirements	> 1.5 A @ 5 V DC (power supply via GMSL / USB port supported)
	Power Consumption	Average power consumption Avg < 3.5 W
	IMU	Integrated high-performance IMU, > 200 Hz, hardware-synchronized with the camera
Image Performance	Depth Data Format	Raw 16
	Depth Range	10 cm ~ 5m
	Depth Accuracy	< 1% @ [10 cm~1 m]; < 1.5% @(1 m~2 m); < 2% @(2 m~5 m);
	Depth Resolution / Frame Rate / FOV	640 × 540 @ 30 fps / H115° × V99° (±3°) @ 50 cm
	Left/Right RGB Resolution / Frame Rate / FOV	1,280 × 1,080 / 30 fps / H115° × V99° (±3°)
Firmware Capabilities	Firmware Upgrade	Remote OTA supported
System Compatibility	System Compatibility	x86, Armv8

4 Module Dimensions & Structure

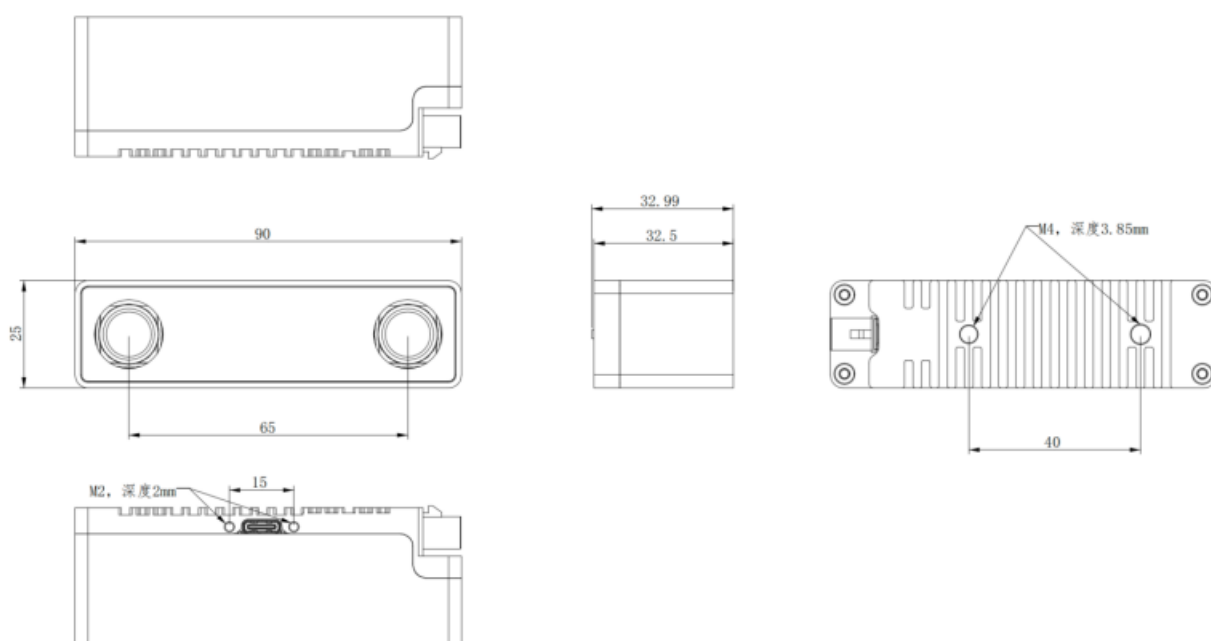


Figure: Module dimension drawing (90 × 25 × 32.99 mm)

4.1 Module Description

The Libra 3000 module consists of a housing, right RGB camera, glass cover, left RGB camera, GMSL interface, rear cover, and Type-C interface. It supports dual-interface output via GMSL2 and USB 2.0, and is suitable for embodied AI head camera and general-purpose binocular camera applications.

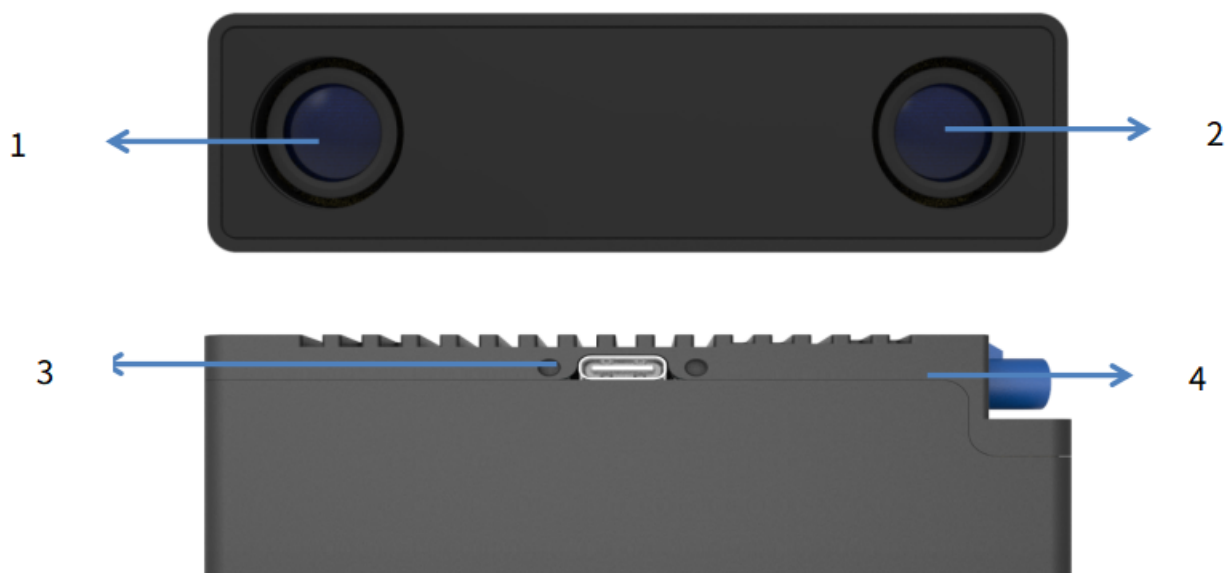


Figure: Module layout diagram (numbers correspond to the System Components table)

System Components	No.
Right RGB Camera	1
Left RGB Camera	2
Type-C Interface	3
GMSL Interface	4

5 Environment & Reliability

Item	Parameter	Specification
Operating Environment	Temperature	-10°C ~ +55°C
	Humidity	0% ~ 95% RH, non-condensing
	Illuminance	500 ~ 100,000 lux
Storage Environment	Temperature	-40°C ~ +65°C
	Humidity	10% ~ 90% RH, non-condensing

6 Software Development

Customers can use the Deptrum Stream SDK for secondary development. The SDK supports Windows/Linux/Android platforms and x86_64, ARMv7, and ARMv8 architectures, with performance optimizations specific to embedded architectures. For detailed usage

instructions, refer to the documentation included with the SDK.

7 Disclaimer

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8 Technical Support

Support is available through the following channels:

- Email support: please send your specific 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, as this may damage internal components and degrade accuracy; improper handling may cause damage to internal elements.
- Do not attempt to modify or disassemble this device in any way, as this may damage the module and degrade accuracy.

- The module heats up after a period of use, which is normal. Heat dissipation measures can be applied to the back of the module.
- Do not store the module in high-temperature, high-humidity environments, as this may degrade module accuracy or cause depth reconstruction failure.