

Deptrum® Pisca 1200

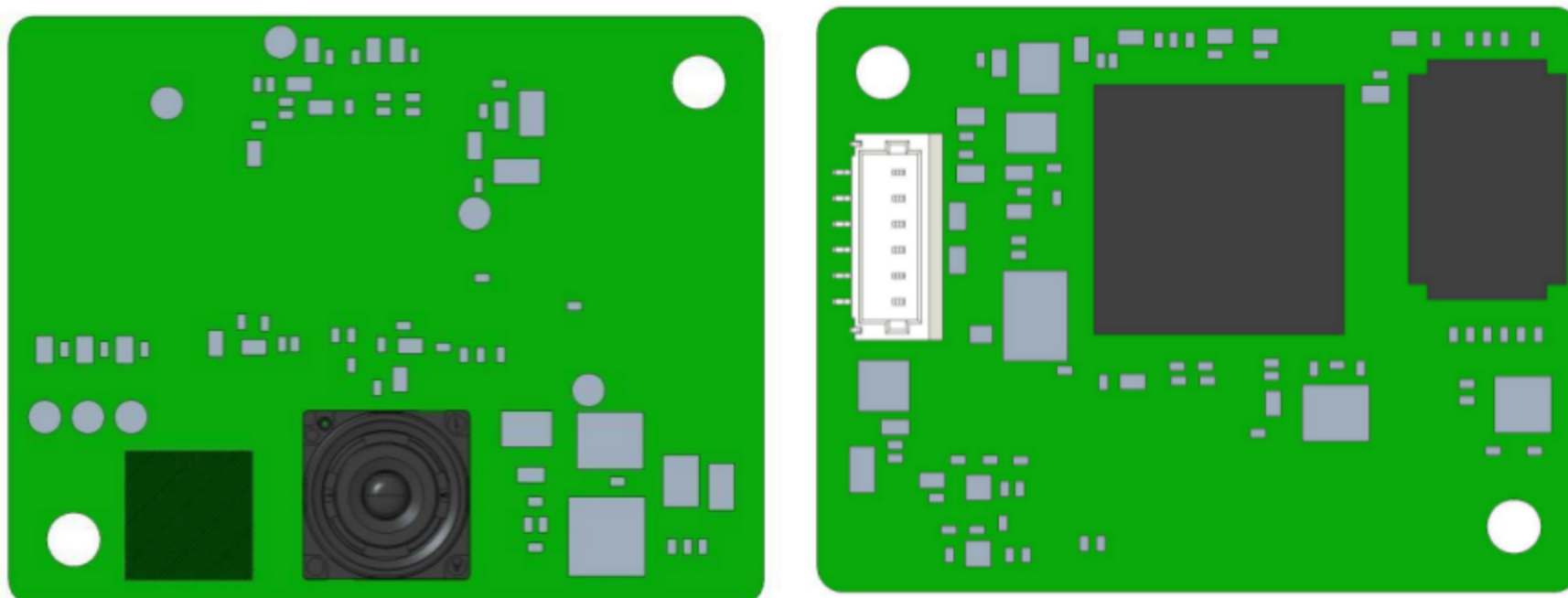
Product Specification

V0.2 - 2026/09/30

Author: tao.hu@deptrum.com

1 Revision History

Version	Description	Date	Reviser
V0.2	Official release	2026/09/30	Hu Tao



Pisca 1200 Module Appearance

2 Product Overview

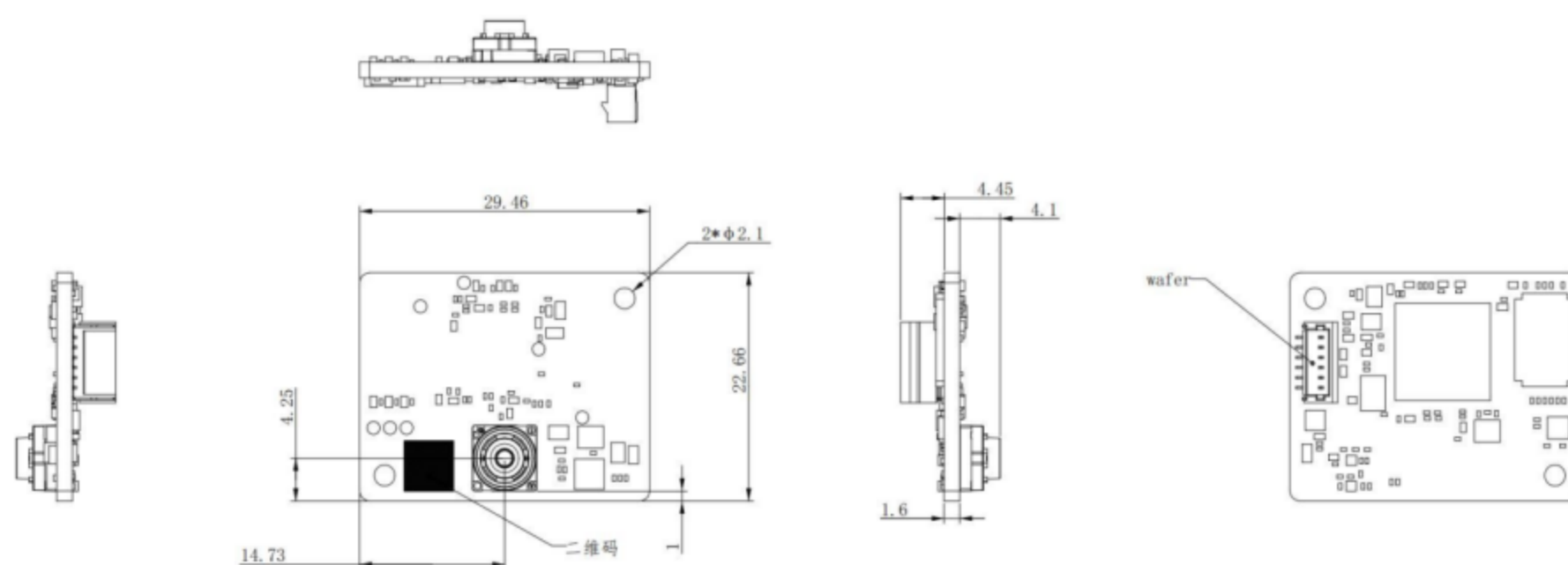
Product Introduction Deptrum® Pisca 1200 series depth cameras use underwater monocular AI technology to capture underwater images. Combined with the built-in AI recognition model, they deliver intelligent underwater perception and accurately recognize targets such as pool debris, steps, and drain covers.	Product Features - Distance estimation based on underwater monocular technology - Supports a 3 ~ 100,000 lux illuminance range with the robot's fill-in illuminator - Built-in AI recognition model supporting recognition of leaves, drain covers, pool lights, piled sand and gravel, steps, and more - Closed-loop compute; no computing power required from the host device
System Requirements Closed-loop compute design: AI inference is completed within the module, requiring no computing power from the host device.	Applications Underwater robot recognition and obstacle avoidance

3 Core Specifications

Pisca 1200 Product Specifications		
Module Parameters	Dimensions	29.46 × 22.66 × 10.15 mm
	Interface	UART
	Operating Temperature (underwater)	0°C ~ 40°C
	Operating Humidity	0% ~ 95%, non-condensing
	Operating Illuminance	3 ~ 100,000 lux (with the customer's fill-in

		illuminator)
	Power Supply	5 V ~ 12 V wide-voltage input
	Peak Current	< 0.5 A @ 5 V
	Device Power Consumption	Average power consumption of the host device < 0.6 W
Image Performance	Field of View (FOV)	$\geq H80^{\circ} \times V63^{\circ} (\pm 3^{\circ}) @ 50 \text{ cm}$
	Image Resolution / Frame Rate	1600 $\times$ 1200 @ 5 fps
AI Algorithm Performance (typical clear-water environment within 1 m above the pool floor in the field of view under normal illumination)	Debris Detection	Supports leaf and piled sand/gravel detection; outputs a flag and center (x, y, z) coordinates, heading
	Obstacle Avoidance	Supports drain cover detection; outputs a flag and center (x, y, z) coordinates, and heading
	Step Recognition	Supports inner step recognition; outputs a flag and center (x, y, z) coordinates, and heading
	Pool Ladder Recognition	Supports pool ladder recognition; outputs a flag and heading
	Recognition Rate	$\geq 95\%$ for leaves, piled sand and gravel, drain covers, steps, and pool ladders; direction confidence $\geq 90\%$
System Compatibility	System Compatibility	Armv8 Linux / RTOS / bare-metal MCU

4 Module Dimensions & Structure



Pisca 1200 dimension drawing (29.46 × 22.66 × 10.15 mm, incl. wafer connector position)

5 Environment & Reliability

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

6 Certification

Item	Specification
Environmental Certification	RoHS 2.0

7 Software Development

Customers can use the Deptrum Stream SDK for secondary development. A serial communication protocol has also been developed for the Pisca 1200, enabling interaction with the host MCU to implement the corresponding functions.

8 Disclaimer

The device application information and 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 technical 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 use, quality, performance, merchantability, or fitness for a particular purpose. Deptrum assumes no liability 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 any Deptrum intellectual property rights.

9 Technical Support

You can obtain support through the following channels:

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

10 Precautions

- Do not heat this product with any other heat source.
- Do not drop or strike this product, as this may damage internal components and degrade accuracy; improper handling may damage 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 may be applied to the back of the module.
- Do not store the module in a high-temperature, high-humidity environment, as this may degrade module accuracy or cause depth reconstruction failure.