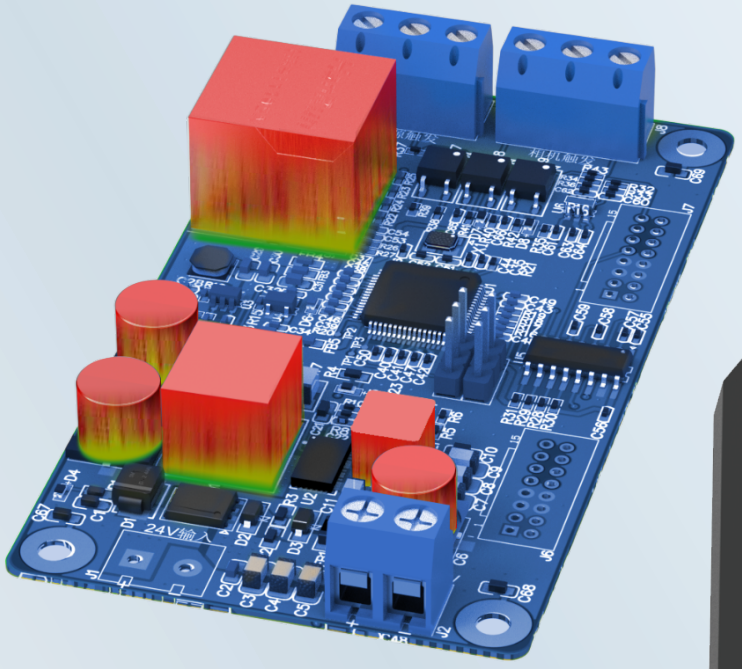
DAOAI

AQ-060

360 Degree Appearance and Dimension Measurement 3D Inspection Camera

Captures images and
performs 3D reconstruction in just
1 SECOND.



**4 Direction Projection +
RGBW Ring Light**
for shadow-free illumination.

18MP Camera with Telecentric Lens
eliminates blind spots for precise inspection.

In-Field Calibration ensures rapid accuracy recovery after vibrations or environmental changes.

Redefine Inline 3D Appearance and Dimension Inspection

4
Direction

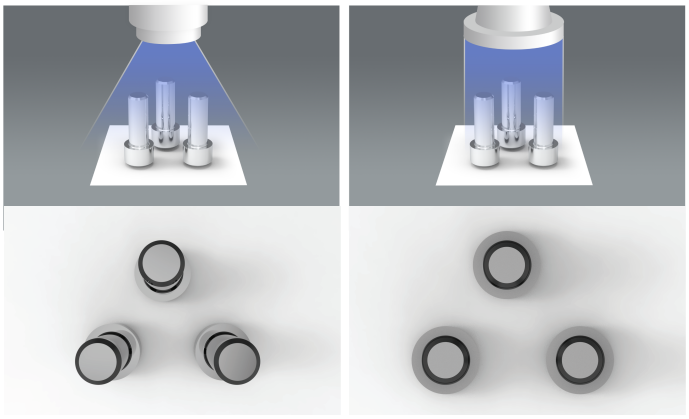
Structured-light Projection

60 x 60 mm
Field of View

2 um
Repeatability

1 sec
Time Between Inspections

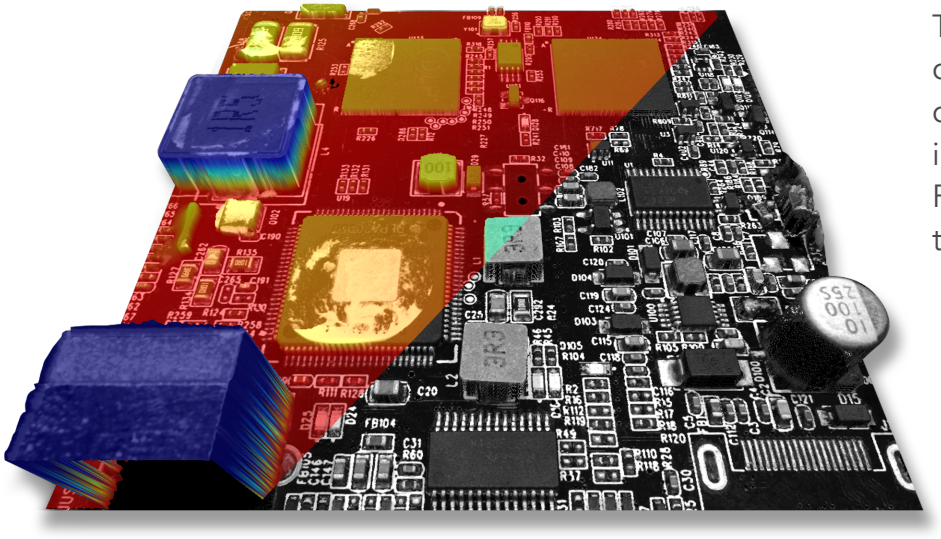
Telecentric Lens to Ensure Accurate Inspection



Standard Lens Telecentric Lens

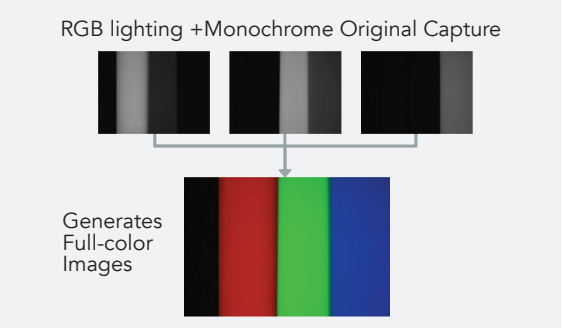
DaoAI 3D camera is equipped with high-precision telecentric lens which minimizes measurement error due to angle differences. Ensure that images are processed at their actual dimensions without any blind spot.

18 megapixel CMOS Image Sensor, Higher than Most 3D Cameras on the Market

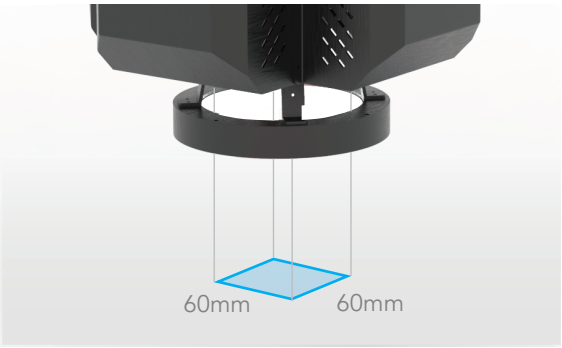


This allows DaoAI 3D camera to capture with the highest resolution, capable of high-accuracy wide-field image capture. We support 2D Full-Color Inspection too for capturing small details.

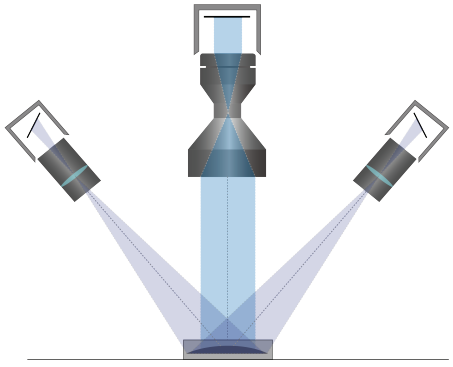
The system captures high-resolution full-color 2D images by combining RGB lighting with a monochrome camera, enabling detailed color inspection while ensuring precise 3D measurement.



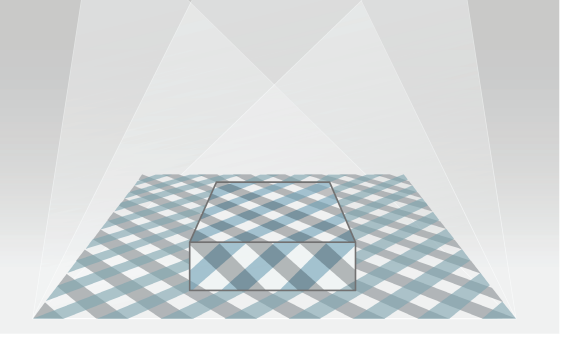
The 60 × 60 mm field of view is ideal for inspecting mid-sized components like PCBs. Captures the entire board with fewer shots for efficient, accurate inspection of solder, components, and surfaces.



Utilizes a central camera with 4 direction Scheimpflug projections to ensure consistent focus and avoid distortion across the measurement plane. This setup enables high-precision imaging with clear, accurate results.



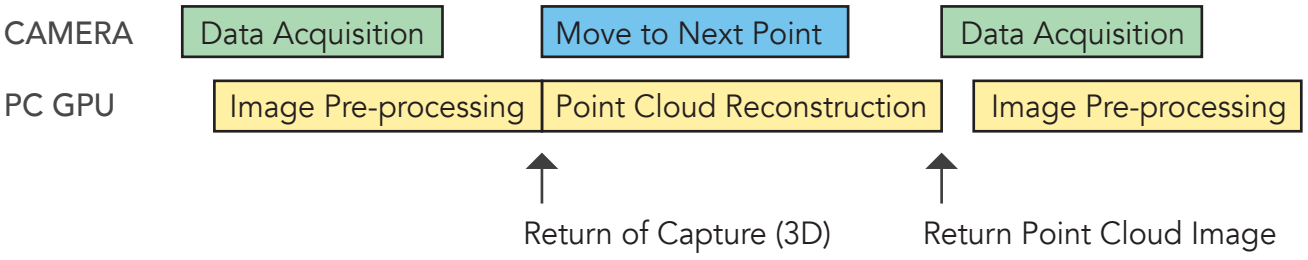
Four direction-independent projectors positioned around the object reduce shadows and blind spots, minimizing the impact of gloss and ensuring full-detail capture from all angles.

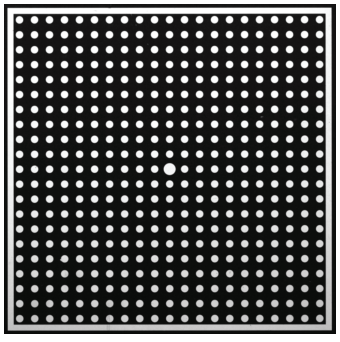


Parallel Processing

We support parallel processing of raster image acquisition and image pre-processing. Once pre-processing is complete, the 3D capture returns control while 3D reconstruction calculations are in progress, allowing the camera to move to the next capture point.

After the 3D reconstruction is completed and point cloud data is obtained, the camera can immediately start the next capture. This enables image acquisition, camera movement, and data processing to be performed in parallel, increasing efficiency.





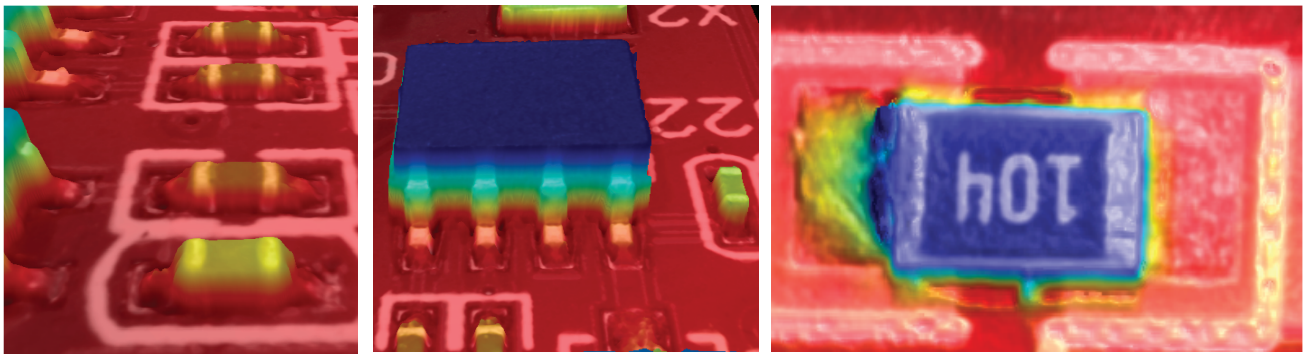
In-field Calibration Procedure

In-field calibration is a maintenance tool to verify and correct the dimension trueness of 3D cameras. If accuracy verification shows the camera is not sufficiently accurate for the application, then a correction can be performed in **less than 3 minutes** to increase the accuracy.

We provide a calibration board along with the camera, please refer to online documentations or contact us for more details.

Point Cloud Filters

We support various types of filters, such as contrast filter, outlier filter, cluster filter, Gaussian filter, hole filling, etc. For black objects, reflective objects, complex objects, and others, we can further remove invalid points in the point cloud to improve its quality.



The point cloud results after applying the filter to ensure optimal imaging accuracy.

Camera Spec

Working Distance	32mm
FOV	60x60mm@32mm
Measurement Range	±5mm
Image Pixel	18MP
Resolution	4288x4288
Repeatability	2um
Connector	CXP-12x4
Power	24V DC 12A
Light	White LED
Cooling System	Passive

Recommended PC Spec

CPU	Intel Core i7-10700K
RAM	64 GB
Storage	1TB SSD + 4TB HDD
Power Supply	850W
GPU	NVIDIA RTX 4080 (MIN:3060)
Operating System	Windows 10 or later
Adapter	CoaXPress 2.0 Adapter
Ethernet Ports	At least 2 GigE Ethernet Ports

We supercharge industrial automation and manufacturing inspection with AI and 3D vision. With our powerful AI-driven machine vision, automation isn't just the future—smarter inspection is available now.

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