

Product Specifications

	T2520-010	T2520-015
Camera	5MP Camera Link	
XY resolution	10um	15um
Z resolution	1um	1um
FOV	24 x 20mm	36 x 30mm
Depth of Field	10mm*	10mm*
Working Distance	128mm	150mm
Projector	Dual Digital Color Module	
Speed	3 shots per second (up to 5)	
System Minimum Requirements	Windows 10 64-bit, Intel® Core™ i7 10700, RAM 32G	
Scan Setting	Setup scan modes (standard, high-speed, anti-reflection, etc.), brightness, camera parameters, noise filter, HDR, etc.	
SDK Support	C++/C# (VS 2017 or newer)	
SDK Function	Get 2D or 3D images, parallel processing, external light control, etc.	
Interface	Power x 1 / Camera Link x 2 / USB 3.0 x 1 / Trigger In x 1 / Trigger Out x 3	
AC input	12V3A	
Weight	About 8 kg	

*Optional extended depth of field available

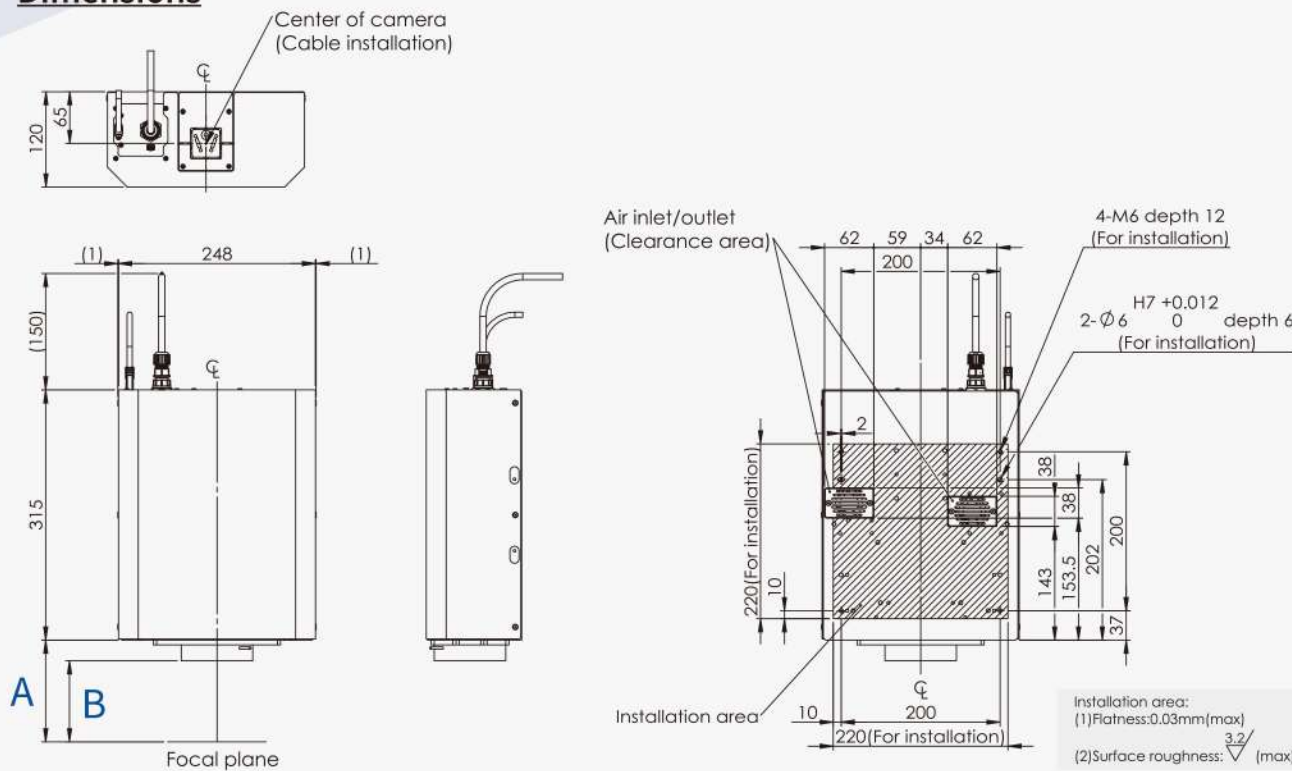


T2500

2D/3D AOI Vision Module in the Best Value

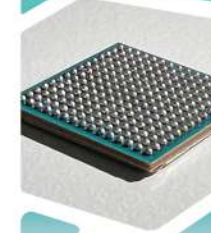


Dimensions



T2502-010 A 128 mm B 102 mm
 T2502-015 A 150 mm B 128 mm

Component Inspection



BGA Inspection

- True position (offset)
- Coplanarity
- Ball diameter



High-Speed Connector

- True position (Offset)
- Pins tilt
- Coplanarity



Solder Paste Inspection

- Height measurement
- Offset measurement
- Volume measurement
- Solder area and insufficient



SMT AOI

- PCB quality control
- Solder joint qualification
- Foreign material detection

AOI System



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GLOBAL LOCATIONS

中國 - 昆山 - 昆山 拜爾斯智能 | www.bias-ks.cn
 South East Asia - Singapore - Vital Vision | vitalvisiontechnology.com
 North East Asia - Korea - Fainstec | www.fainstec.com

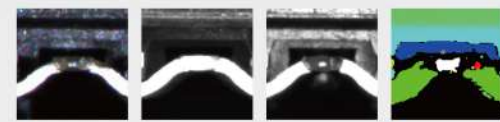
T2500

2D + 3D Telecentric Optical System

High-speed inspection

Contactless area scanning combined with structured light technology perfectly achieves high accuracy inspection results without impact on the throughput of the production line. Over thousand types of samples have already passed correlation test between Benano and OMM.

2D + 3D one time (shot) scan



A one-time scan can get both 2D and 3D images, and all images can apply to different inspection algorithms for specific purposes.

Multi-projection module

Efficiently reduce shadow impact

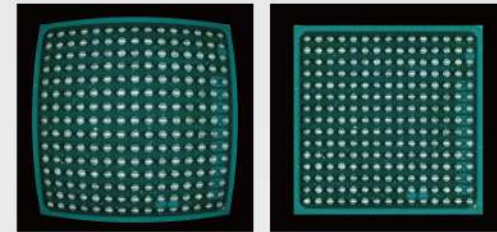


(Left) Shadow impact might cause problematic results if the 3D image was generated only by a single projector.

(Right) 3D image generated by (dual) multi-projectors has no shadow impact because the projectors are set up in opposite directions.

Telecentric optics

No lens distortion and constant resolution



(Left) Normal Modules

Non-telecentric lenses lead to image distortion. Additional image rectification is required to get the true distance result on 2D images.

(Right) T2500 series Module

Non-distorted images fit for direct measurement.



(Left) Non-telecentric lenses

Pixel resolution changes depending on the distance between object and lens, increasing the difficulty to pursue true dimension.

(Right) Telecentric lens

Non-distorted image. Direct measurement of objects without extra compensation.

Flexibility

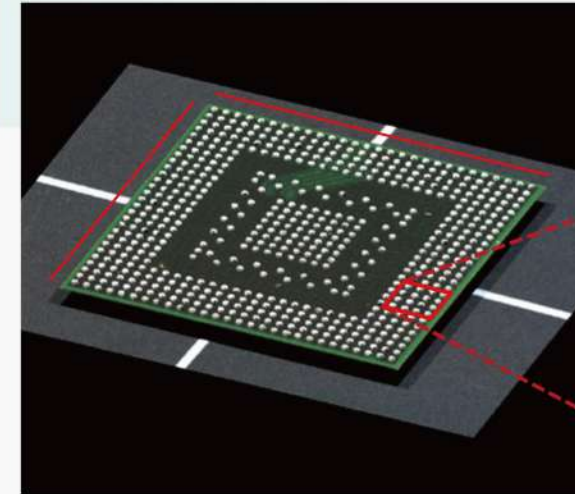
External light sources

T2500 works with customized external lighting from customers on 2D for all kinds of special purposes.

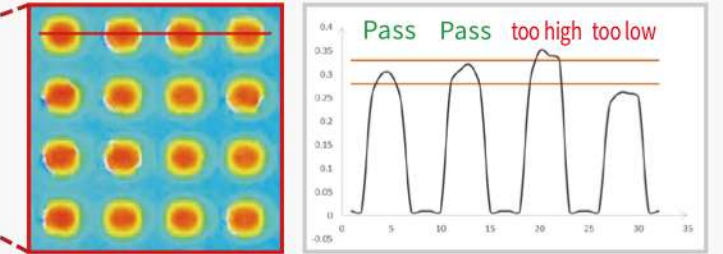
Communication with front and rear stations

Trigger control with LVDS signal direct communicates with front/rear station for object feeding and pass/fail to output.

BGA inspection

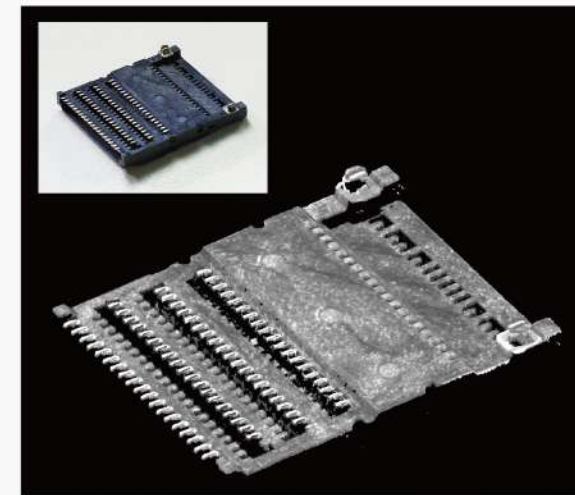


More and more BGA designs are applied on chips, substrates, and connectors. The T2500 series with the telecentric optical structure is optimal for the measurement of true position and coplanarity, providing users with stable inspection data of reliable quality.



- The complete 3D image of the solder ball improves the accuracy of height determination.

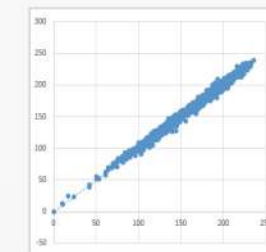
QSFP / Pressfit inspection



Electronic connectors have always been an indispensable part of the electronics industry.

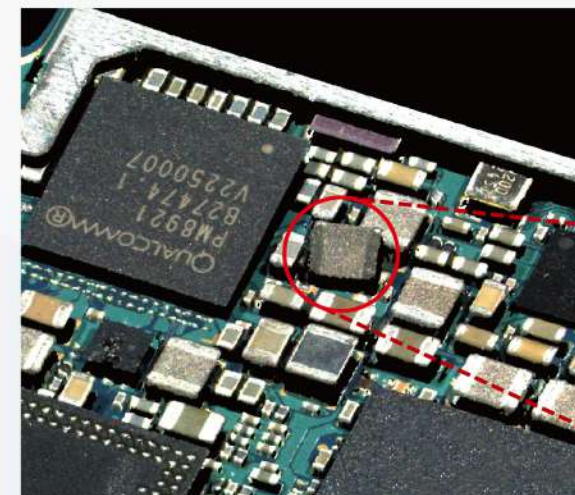
However, connector pins are small, variable, and highly reflective, making full inspection impossible for production lines.

After accumulating years of rich experience in the field, Benano has mastered the inspection of high-frequency transmission products. Benano is seasoned in the integration of production line inspection. We offer complete quality inspection services for the true position and coplanarity for outgoing products.



- Correlation sampling results with the coordinate measuring machine

PCBA / Solder paste inspection



The PCBA inspection deals with high-speed, intricate objects, and dynamic situations, which has always been a hard nut to crack for the industry.

The T2500 series is your best choice to start.

