

## Dimension inspection machine

### VT-M12 Series

Contribute to a more secured and safer manufacturing with autonomous driving technology

## ZERO DEFECT

- To achieve Zero defect

Full automatic dimension inspection starts from here

Full inspection

Repeatability  
 $\pm 8\mu\text{m}$

Automatic  
inspection

VT-M121

\*Zero defect defines Omron Inspection System as high quality inspection and creation of superior mechanism which means "No defects at all". This prevent any defect flow out to customer.



ZERO DEFECT



Coming era of **driving control system**



Growing demand for **Zero-defect** importance to realize safe and secure society



**Growing demand for full inspection** rather than process certification by sampling inspection of component diameter due to higher quality requirement by automakers.

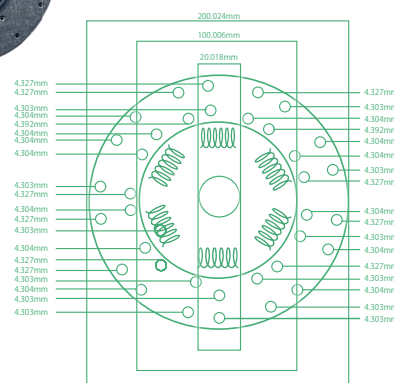
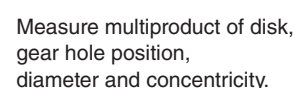
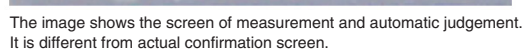
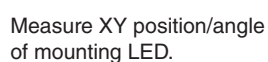


**Omron VT-M121 completely  
inspects component dimension and supports all parts on traceability.**

### Application example

Measure designated parts of test object and determine OK/NG **at  $\pm 8\mu\text{m}$  accuracy**

- **Disk/Gear**



### IGBT power module





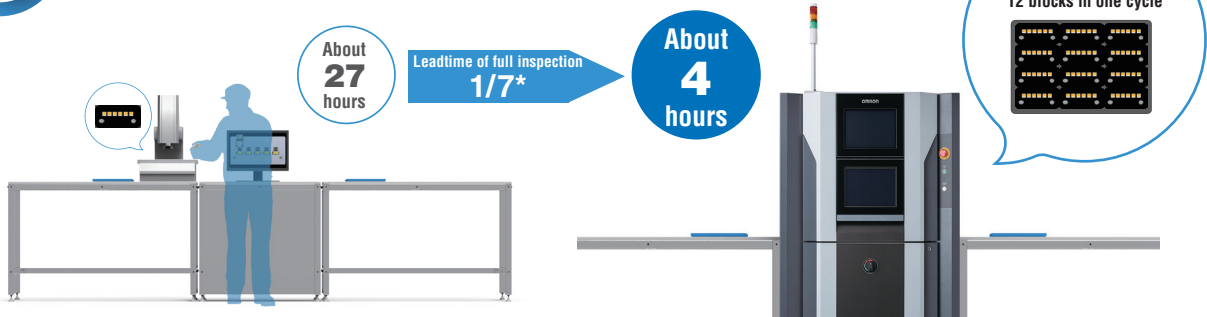
# ZERO DEFECT

## ~ZERO Defect~

Full automated dimension inspection starts from here to achieve zero defect.

POINT  
01

### Sampling inspection by operator to full automated inspection

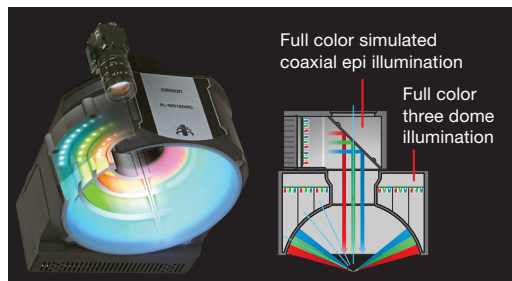


\*Inspecting 5000 blocks on a PCB where each blocks consists of 6 LEDs

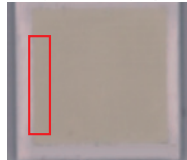
POINT  
02

### Reducing adjustment time by installing automated optimization tool for illumination condition

#### MDMC illumination



Designated edge part.



optimization tool  
of illumination condition



Optimized status

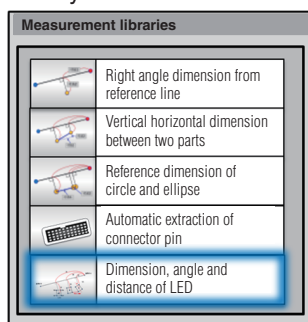


Automatic illumination condition to extract the edge clearly

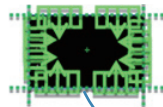
POINT  
03

### Reduction programming time by utilizing library

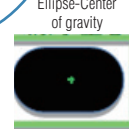
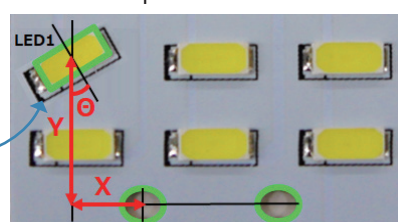
Library



4 corners and center



Inspection window

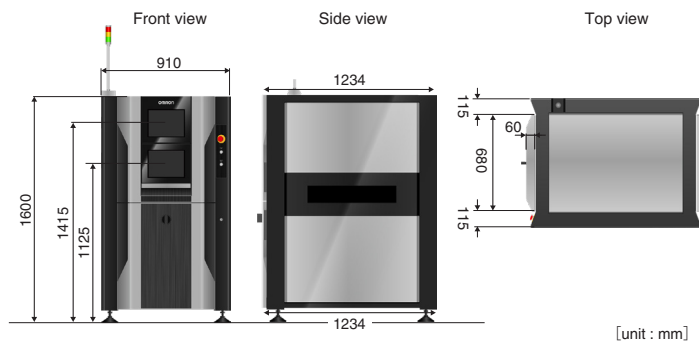




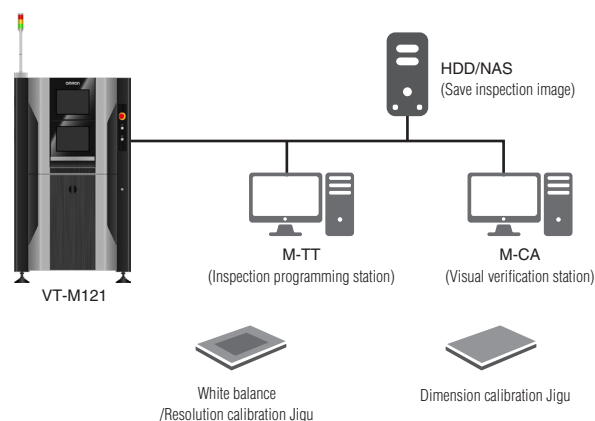
## Specifications

Item			VT-M121-6	VT-M121-10
Installation part	Power supply voltage		(Single phase) allowable variation range	
	Operating air pressure/Flow rate		0.3~0.6MPa	
	Operating air temperature range		10~35℃	
	Operating humidity range		35~80%RH (No condensation)	
	External dimensions (WxDxH)		910 x 1234 x 1600mm *Not including the protrusion, signal tower	
	Weight		Approximately 520kg	
Mechanism part	Carrier system		Belt conveyor carrier system with width adjustment mechanism	
	Carrier height		from floor surface 900±20mm *Adjust by adjuster foot	
	Conveyor width adjustment		50~460mm	
	Carrier clearance		Top 55mm, Bottom 50mm	
	Inspection range (XxYxZ)		510 x 460 x 60mm	
	Allowable carrier height		Less than 4kg	
Illumination part	Camera		1200 mega pixel CMOS camera (FH-SCX12)	
	Pixel resolution		6μm/Pixel	10μm/Pixel
	Depth of field		Approximately 1mm	Approximately 3mm
	Illumination		MDMC Illumination (FL-MD180MC, Full color simulated coaxial epi illumination + Full color three dome illumination)	
Inspection function	Test object		LED PCB, CMOS sensor PCB, Ceramic PCB, Millimeter wave radar, Aluminium PCB IGBT power module, Metal processed product, Connector, Motor stator	
	Object size		Min. 50mm x 50mm~Max. 510mm x 460mm	
	Inspection item	Dimension measurement	Component position, Component rotation, Component distance, Terminal distance	
			External dimensions ,Concentricity ,Hole diameter..	

## System appearance



## System configuration



- This document provides information mainly for selecting suitable models. Please read the Instruction Sheet carefully for information that the user must understand and accept before purchase, including information on warranty, limitations of liability, and precautions.
- This product may cause interference if used in residential areas.

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