

NEW

Inline PCB Inspection System
VT-RNSII

OMRON



For Even More Efficient SMT Production
Introducing the 2nd Generation RNS Series

VT-RNSII



realizing

Make Your SMT Production More Efficient while Achieving Zero Defects

PCB Inspection System

VT-RNS II



Four advantages only Omron can provide

Omron's second-generation, in-line PCB inspection system the VT-RNS II, delivers fast and reliable results to prevent defective boards from reaching your customer. We simplified the inspection program generation process with our easy-to-use EzTS software to efficiently handle high mix/low volume production. Omron has reduced post-reflow inspection times by 20% by utilizing faster shutter speeds and improved image processing.

NEW

[Faster]

Improved image processing for faster post-reflow inspections

Compared to the first generation VT-RNS
(Field of View 1280x1024)



20%

Faster

[Quick Setup]

So easy that anyone can set up inspection programs.

EzTS (Ez-image Teaching) system makes setting-up easy for anyone

[Highly Accurate]

Omron's 3CCD camera and Color Highlight Technology provide the most accurate inspection capability.

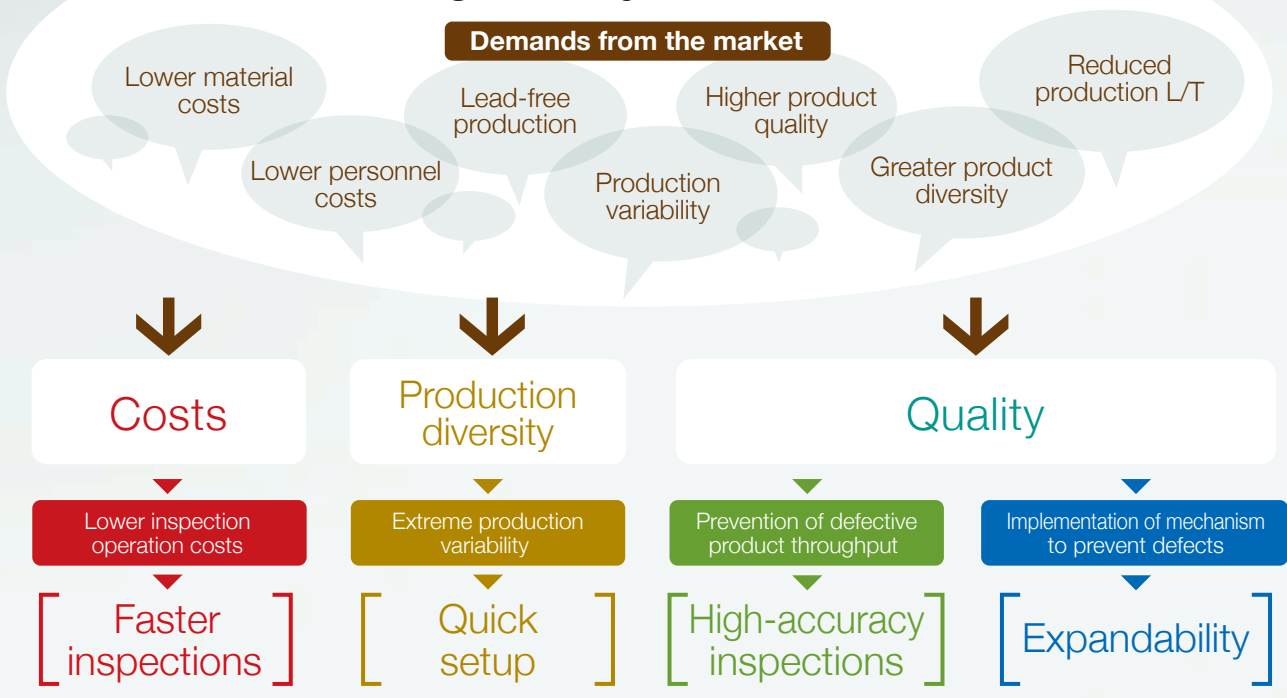
3-CCD camera plus Color Highlight system

[Expandable]

Omron has the expertise to boost your production efficiency.

Q-upNavi provides total support for process improvement

Addresses a range of issues throughout the surface-mounting industry.

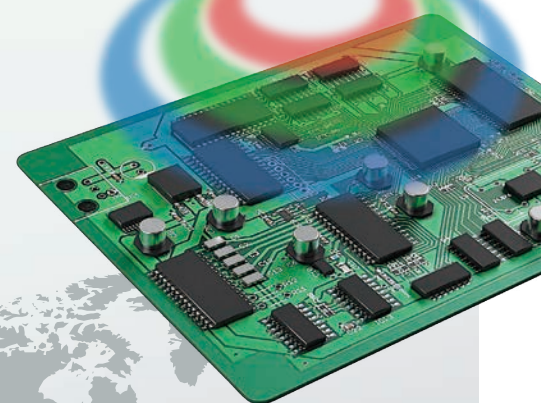


The RNS Series continues to address demands for "true production efficiency" for advanced PCBs.



World Class Engineering Support

Omron has built a global support organization for our customers with sales and service offices in some 70 locations covering the major manufacturing centers around the world. Regional coordination ensures consistent, high quality support where ever you choose to set up production. Services are tailored to your needs and include technical support and training in system setup, operations and maintenance.



Maximize your SMT line throughput with the use of and highly accurate inspection capability.

Fast production system startup and stable operation with no downtime. Inspection system performance is the key.

The VT-RNS II delivers outstanding performance at every step of production. Easy-to-set initial inspection parameters are ready for immediate use to perform high accuracy inspections. Data collected from the inspection stations can be analyzed for root cause analysis of defects for ongoing process improvement. Omron gives you the tools to increase productivity on your PCB assembly lines.



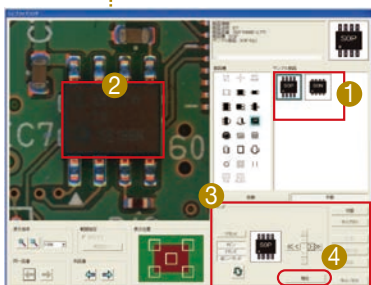
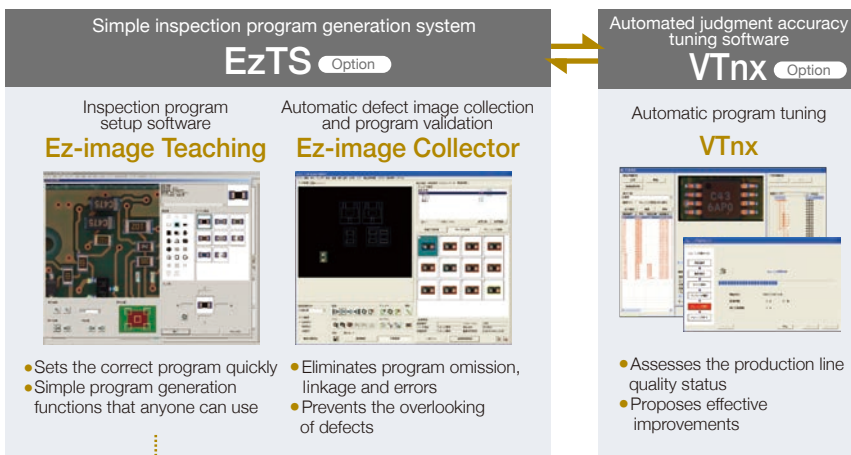
1 Program setup

Create inspection programs quickly for immediate line operation

[Quick Setup]

Features EzTS for simple automated generation of inspection programs

The easy-to-use Ez-Image Teaching (Ez-IT) inspection program generation software is equipped as a standard feature, enabling anyone to quickly and easily create inspection programs tailored to the PCB. The software also validates the inspection programs so that they can be implemented on the production line without delay.



Ez-image Teaching

Simple program generation procedure

- 1 Select the most appropriate model.
- 2 Match it to the component shape
- 3 Adjust the angle, etc
- 4 Run

* Note that this is not supported for some PCBs. Contact your Omron sales representative for details.

2 Inspection

20% Faster, high

[Faster]

Improved image processing for faster

In addition to processing faster than that of conventional systems, the VT-RNS II also features revamped imaging processes to achieve even higher accuracy. This enables the system to cope with the most demanding inspection tasks.

Processing Speed compared with first generation



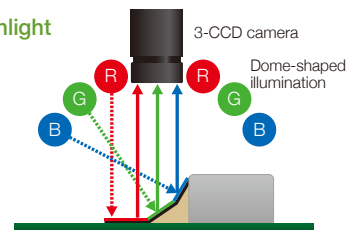
* Only on post-reflow inspection systems. Effectiveness varies depending on inspection conditions.
* Inspection speeds for post-printing and post-placement models are different.

[Highly Accurate]

Uses Omron's 3-CCD and Color High

Omron pioneered the development of 3-CCD and Color High in PCB inspection systems to obtain correct measurement and high accuracy of inspection accuracy.

Color Highlight system



of quick setup



ly accurate inspection system

3 Process Improvement
Root cause defect analysis for a
Process Improvement Support System

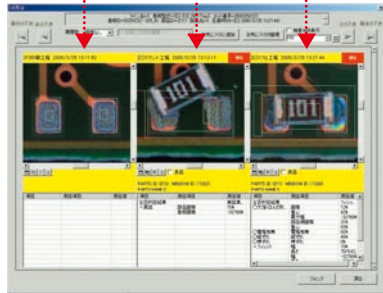
[Expandable]

Q-upNavi provides total support for process improvement,
root cause defect analysis and countermeasure implementation

Q-upNavi is quality control software that analyzes inspection results and provides feedback to the production line. This software enables operators to implement corrective procedures that will prevent future defects from occurring regardless of their level of experience or expertise.

Process Improvement Support System

Q-upNavi Option



Q-upNavi process comparison and analysis

Q-upNavi helps you implement procedures to ensure that defects do not occur.

post-reflow inspections

ventional models, the VT-RNS II
ave significantly faster outcomes.
anding production environments.



eneration VT-RNS

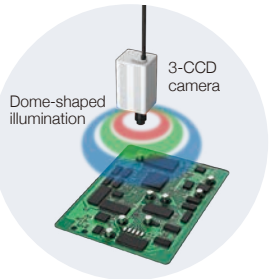
Advantages of higher speeds flow
through to all production processes

Increased speeds enables the use of higher
magnification inspections for the ever increasing
density of printed circuit boards.

ng on the PCB inspected.
equivalent to conventional models.

Light Technology

d Color Highlight Technology
asurements with high levels



The Color Highlight technology provides a way of
obtaining accurate information on solder joint angles
in the form of image data.

Configuration/Specifications

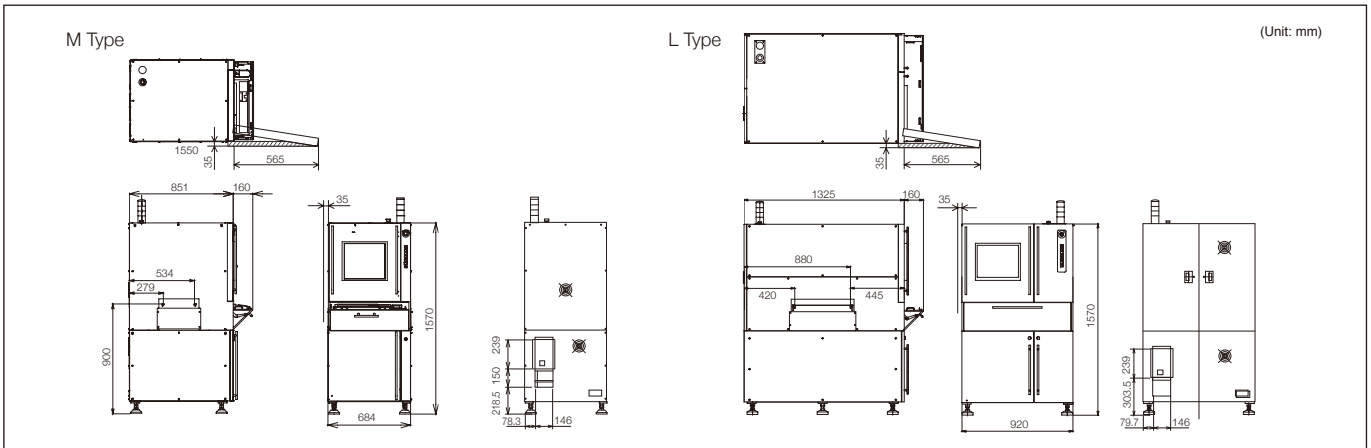
Hardware Configuration

		M size	L size
		P/Z/S	
Image signal input unit	Camera	3-CCD camera	
	Illumination	Ring-shaped LEDs (R, G, B)	
	Image resolution	10, 15, 20 μ m	
Main unit	Feed method	Belt	
	Line height	900 \pm 15 mm	
	PCB carrier width adjustment	Automatic	
PCB fixing method		Outer frame	
Power supply		AC100 / 115 V / 120 V / 200 V / 220 V / 230 V / 240 V \pm 10% (single phase)	
Air		0.4 to 0.6 Mpa	
Ambient operating temperature		+10 to +35°C	
Ambient operating humidity		35 to 80% RH (with no condensation)	
Weight		Approx. 500 kg	Approx. 650 kg
Dimensions		700(W) \times 900(D) \times 1,600(H) mm (Excluding Patlite signal tower)	920(W) \times 1,365(D) \times 1,600(H) mm (Excluding Patlite signal tower)

Functional Specifications

		M size			L size		
		P	Z	S	P	Z	S
Inspectable PCBs	Type	Post-printing	Post-placement (before reflow)	Post-reflow	Post-printing	Post-placement (before reflow)	Post-reflow
	Dimensions	50(W) \times 50(D) to 333(W) \times 255(D) mm			80(W) \times 50(D) to 510(W) \times 460(D) mm 80(W) \times 110(D) to 510(W) \times 460(D) mm (with PCB warpage correction unit)		
	Thickness	0.3 to 2.5 mm			0.3 to 3.0 mm		
Clearance		Above PCB: 20 mm (0.79 in) (standard), 40 mm (1.57 in) (optional) Below PCB: 40 mm (1.57 in)			Above PCB: 20 mm (0.79 in) (standard), 40 mm (1.57 in) (optional) Below PCB: 50 mm (1.97 in)		
Inspection items		Presence of solder, insufficient/excessive solder, solder shifting, grazing, bridging, spreading, leaking	Presence of solder, component shifting, polarity error, missing components, wrong components, solder balls, skewing, bridging, foreign objects	Presence of solder, wrong components, missing components, bridging, lifting, component shifting, fillets, wettability, lead bending, adhesive, solder balls	Presence of solder, insufficient/excessive solder, solder shifting, grazing, bridging, spreading, leaking	Presence of solder, component shifting, polarity error, missing components, wrong components, solder balls, skewing, bridging, foreign objects	Presence of solder, wrong components, missing components, bridging, lifting, component shifting, fillets, wettability, lead bending, adhesive, solder balls
Number of inspection points		40,000 lands/PCB max.	10,000 components/PCB max.		40,000 lands/PCB max.	10,000 components/PCB max.	
Data storage		Computer hard disk					
Component-specific inspection data library		Component types, groups, variations					
Inspection result output		PCB name, PCB ID, component name, type of fault, etc.					
Communications		Ethernet, RS-232C					
PCB feed mode		Through, turnback					
Reference position		PCB feed direction: left or right (selected at shipment); Longitudinal: Front or back (selected at shipment)					

Dimensions



- 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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