

NEW

Portable PCB Inspection Machine

# VT-RNS-pt *S*

**A Thorough Pursuit of Operating Ease**  
**The New Standard in Desktop PCB Inspection**

# VT-RNS-portable

Standard

realizing

# VT-RNS-portable

Standard

## Simpler Desktop PCB Inspection with Higher Precision

### High Resolution of 10 μm (Up to 20 μm)

The VT-RNS-ptS supports high resolution to 10 μm, to enable obtaining the information required for inspection even of extremely small components, such as 0402 (01005 in) chips, for highly precise inspection.

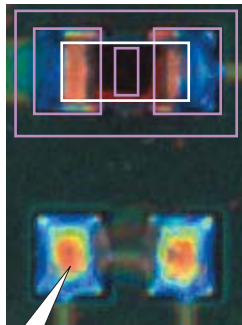
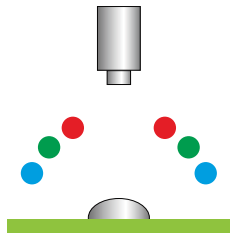


Removable monitor

### Color Highlight System Provides High Performance Even If the Soldering Reflective Luminosity Changes!

In high-density placement applications, the reflective luminosity of the solder surface is diminished by the shadows of adjacent components. With the color highlight system, LEDs emit colored light and information is extracted through chromaticity so that inspections are not easily affected by fluctuations in reflective luminosity (brightness of solder surface).

#### VT-RNS-ptS Inspection Principle: RGB Illumination



Accurate solder shape image

### Dome Illumination Enables High-performance Inspections, Creating the Same Inspection Conditions at Any Angle.

The shape of the illumination used in the color highlight system covers angles in all directions in a 360° dome (dome illumination), enabling stable performance of inspection regardless of placement directions or other angle designs.



### Color Vector Judging Method - Patent pending Changes in Color Vectors Enable High-precision Inspection.

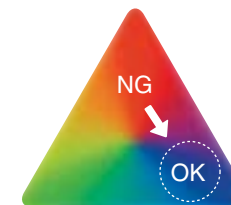
1. The difference in solder color between an inspected PCB and one already registered as having good quality is compared.



Registered image



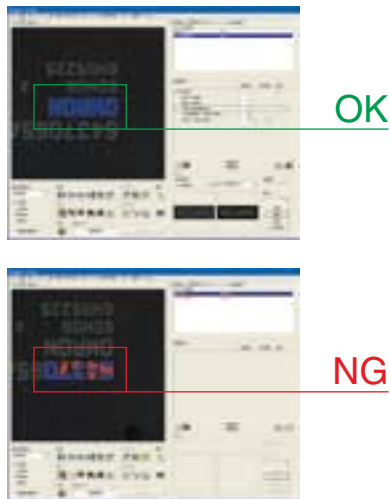
Inspection image (faulty PCB)



2. Inspection performance is enhanced by judging color vectors (i.e., the direction and strength of the colors) after plotting each color for the two images on a color vector chart.

## Optical Character Verification (OCV)

The VT-RNS-ptS makes it easy to inspect characters printed on ICs, etc.



## Multi-language

During any operation, the display language can be switched between English, Chinese, and Japanese with one touch.



## Other Functions

### CAD Mode

Inspection programs can be created automatically using standard OMRON format CAD data.

### Automatic Calibration

Automatic imaging calibration during inspection maintains high inspection accuracy.

### Automatic Land Teaching

Land teaching can be done automatically with four kinds of PCB whole-surface images: bare PCB, cream-printed PCB, unpopulated soldered PCB, and soldered PCB. Placement inspection and simple soldering inspection can be performed immediately after automatic land teaching.

### Top/Bottom Switching Inspection

The VT-RNS-ptS can inspect PCBs while switching from the front to the rear surface.

## Configuration and Specifications

### Hardware Configuration

		VT-RNS-ptS
Image signal input unit	Camera	1.5-megapixel color camera
	Illumination	Ring-shaped LED (R, G, B)
	Image resolution	10, 15, 20 $\mu\text{m}$
Main unit	PCB carrier width adjustment	Manual
	PCB fixing method	Simple stopper
Power supply		100 to 230 VAC $\pm 10\%$ , single phase
Ambient operating temperature		10 to 35°C (50 to 95°F)
Ambient operating humidity		35 to 80% (with no condensation)
Weight		110 kg (242.5 lbs) max.
Dimensions		688 W $\times$ 905 D $\times$ 720 H mm (27.09 W $\times$ 35.63 D $\times$ 28.35 H in)

### Functional Specifications

		VT-RNS-ptS
Inspectable PCBs	Type	Soldered
	Dimensions	50 $\times$ 50 to 255 $\times$ 333 mm (1.97 $\times$ 1.97 to 10.04 $\times$ 13.11 in)
	Thickness	0.3 to 2.5 mm (0.01 to 0.1 in)
	Weight	1.0 kg (2.2 lbs) max.
Camera clearance		Above PCB: 20 mm (0.79 in) (standard), 40 mm (1.57 in) (optional) Below PCB: 75 mm (2.95 in)
Inspectable items		Missing components, component shifting, polarity error, wrong components, presence of solder, bridging, solder balls, bad marks
Number of inspection points		10,000 components/PCB max.
Data storage		Computer hard disk
Inspection result output		PCB name, PCB ID, component name, type of fault, PCB graphic, etc.

OMRON has received ISO 14001 certification.  
The Vision Systems Business Division of  
OMRON Corporation has received ISO 9001 certification.

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.

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