



AVT PI-1000M Mark Inspection System

PI-1000M Mark Inspection System, one of AVT 1000 *Package Inspection Products*.

Benefits

To meet today toughest mark inspection challenges, the PI-1000M provides a high speed PC based solution.

Operating at Windows 2000, the system has familiar user friendly menus and screens for ease of use and minimal operator training.

With Super speed and advance features *like defects classification*, the PI-1000M provides a solution none can rival.

PI-1000M is capable of *detects and classifies* not only simple mark defects like missing or incorrect character, but also advanced defects like blurred, scratched or misaligned characters. This means that with the PI-1000M, you *now* have the ability to define acceptable tolerance levels for each type of defects; improving your manufacturing yield.

In addition, the PI-1000M is able to perform orientation and missing unit checks; providing you with a comprehensive solution.

Applications Supported

1. Integration into *Marking Machine* (Ink or Laser) to
 - monitor mark quality,
 - monitor and control marking process
2. Integrate into IC handlers or tape and reel machines to inspect mark.
3. Integrate into Motion to inspect mark on the fly.

Features

1. Inspect both ink and laser marks
2. High speed (typical 180 msec per inspection)
3. Able to classify mark defects such as incorrect mark, extra ink, broken ink, missing mark, mark shifted, double and smear etc.
4. User definable parameters for individual defects.
5. Multilevel user capability namely operator, super-users, with password protection for each level
6. Able to inspect multiple IC in a matrix leadframe
7. Able to inspect ICs in a tape and reel pocket
8. Auto save bad component database picture.
9. Test function for digital I/O interface.

10. Overlay display to highlight the detection result.

11. *Consecutive Failure Feature*.

12. Able to detect ink splash out of the marking template

13. Maximum IC rotations of up to +/- 12%

14. Wrong Orientation detection by looking for a unique pattern.

Advance Features

1. Up to 100 character per inspection.
2. Up to 4 different marking templates, settable by user.

Defect Specifications

User Definable Setting of the different defects.

Mark Defects	User Definable parameter Settings
Mark Missing	Yes or No
Incorrect	Yes or No
Incomplete	% height loss
Double	(0 ~ 50) % of Tolerance in foreground
Extra Ink	Length of extra ink
Broken Ink	Length of missing mark
Relative Contrast	(10 ~ 100) % difference contrast
Smearred	(0 ~ 100) % of Occupancy in background
Misaligned	% of test tolerance Max +/- 20 pixels – Tolerance
Character Shifted	Distance shift of entire mark
Uneven	% of stroke uniformity
Block	% Background of occupancy within the character

Advanced Defects	User Definable Settings
Ink splash	Area size
Surface	Area size
Orientation check	% Pattern match
Intensity Checking	Part Presence

Inspection Performance

Processing Time	150 msec
Underkill	0.0%
Overkill	< 0.5%

Inspection Specification

Mark Detection Sensitivity (typical data)

Min Character thickness	5 pixels sensitivity
Min spacing between characters	5 pixels sensitivity
Maximum IC rotation	+/- 12 degrees
Minimum Mark Contrast	5%



The Systems and Components



Inspection System Hardware

High-Speed Vision Controller
Cameras (Standard or High Resolution)
Lens
Lighting Module
Monitor, keyboard & mouse

Options

Custom Lens/Working Distance
PC or Rackmount Enclosure
Special Adaptations

- AVT offers a range of options to meet your needs. Contact our office for details.

Inspection Performed

Marking Presence
Marking Orientation
Marking Quality
Marking Location (w/respect to device)
Extra Marking on Device

For more information please contact us at

Applied Vision Technology
124 Mackenzie Road
Singapore 228712

Telephone: (65) 9450-9258
General Fax: (65) 6399-2946

Email:
samchuaavt@yahoo.com.sg