

JLS-1000 Series On-Printer Label Verifier / Inspection System

Compatible with Zebra/Honeywell/TSC Industrial Printer

On-Printer Installation

100% Inspection

1:1 Inspection Distortion-free

Real-Time Print and Verify

Sync-speed with Printer

Use Applications

- Electronics Manufacturing
 - Medical Devices Manufacturing
 - New Energy & Materials manufacturing
- Automotive Industry
 - Chemicals & Cosmetics factory
 - Food Processing
 - Pharmaceutical manufacturing



1. BROKEN BARCODE
Barcode lines are incomplete or broken, which may cause scanning failures.

(01) 1 2345678 90123 1

2. OCR TEXT DEFECT
Text contains incorrect or garbled characters that can cause OCR recognition errors.

PART NO.: A7K2-9B*L#Q
DESC.: HYDRAULIC PUMP ASSEMBLY
LOT NO.: 78X13@5?9
MFG DATE: 2024/07/16 14:3D
SN: 0098Z7@1?8X6

3. DIRTY LABEL
Dirt, smudges, or stains on the label background can reduce readability and scan reliability.

ITEM: 89012345
DESC: FILTER ELEMENT
LOT: 20240715-001
QTY: 100 UOM: EA

89012345

Customer Pain Points

- **Print Errors & Visual Defects:** Product returns, re-packaging, rising complaints, and costly manual inspection with high human error risk
- **Late Error Detection & Rework:** Wasted time and material costs from late defect discovery
- **Compliance Risk:** Product recalls, failed audits, and export inspection failures from non-compliant labels

Pain Points by Industry

- **Electronics Manufacturing:** Mislabeled serial numbers and unreadable barcodes cause returns and assembly line stoppages
- **Medical Devices Manufacturing:** Non-compliant UDI labels risk recalls and regulatory penalties; incorrect expiry dates endanger patient safety
- **New Energy & New Materials:** Wrong hazardous material codes or missing serialization cause export rejections at customs
- **Chemicals & Cosmetics:** Incorrect GHS hazard symbols create safety risks and regulatory penalties
- **Automotive Industry:** Defective VIN barcodes or wrong part numbers break traceability and risk batch-wide recalls
- **Food Processing:** Wrong best-before dates or missing allergen warnings risk health incidents and mandatory recalls
- **Petrochemicals:** Illegible MSDS labels or wrong hazard codes endanger workers and halt shipments



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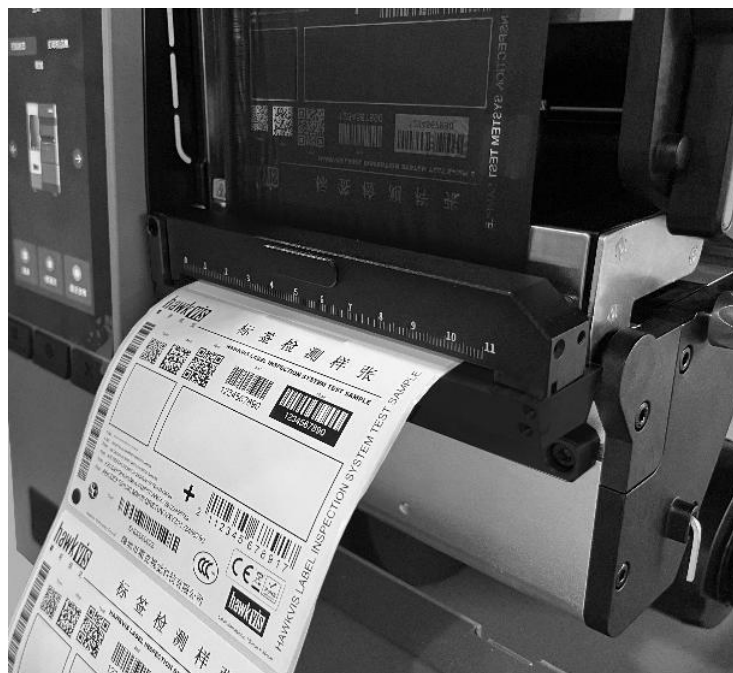
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Product Overview

The On-Printer Label Inspection System seamlessly integrates onto industrial printers (Zebra, TSC, Honeywell, SATO) without altering the printer's structure.

Built-in lighting and lens keep the footprint minimal, delivering distortion-free 1:1 imaging at speeds matching print output with no field-of-view limitations.

Smart inspection of OCR/OCV, barcode reading, deduplication, serialization, barcode quality grading, and print defect detection.



Key Value for Customers

- **100% Inspection:** Ensures 100% inspection of all labels from start to finish, with no content loss
- **Data Validation:** Supports duplicate detection, omission checks, multi-code validation, DB matching, date/time verification, and serial number validation
- **Data Statistics:** Real-time statistics on label quantity and pass rate, with exportable reports
- **Alarm Control:** Flashing warning light, on-screen alerts, custom notifications, and printer pause control
- **Open Interface:** Standard API interfaces for easy secondary development and MES integration

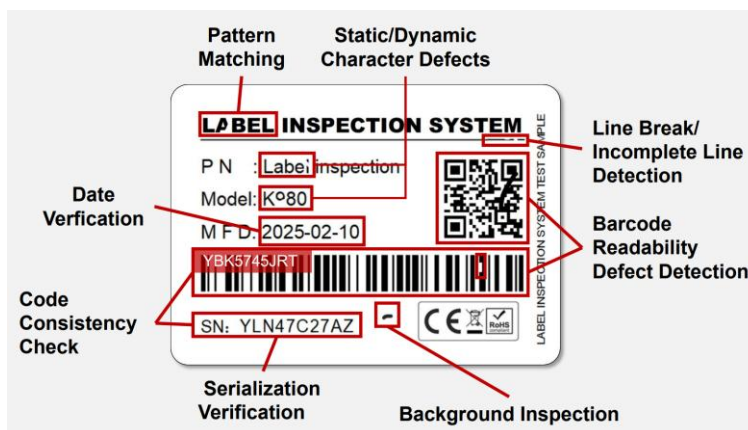


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Inspection Capabilities

- **OCR/OCV:** Detection of static/dynamic character defects including missing prints, garbled text, and distortion. Supports digits, letters, and punctuation with template-based comparison
- **Barcode / QR Code Recognition:** 1D/2D code reading, defect detection, assisted recognition, and quality grading
- **Pattern Matching:** Defect detection based on text and graphic templates with adjustable precision levels
- **Line Break / Incomplete Line:** Inspection of horizontal and vertical lines in special label designs
- **Background & No-Print Zone:** Detects background dirt, scratches, and controls no-print zones
- **Misalignment Detection:** Controls deviation between printed content and reference position
- **Data Deduplication / Validation:** Local and remote deduplication with flexible validation rules
- **Date & Serialization Verification:** Verifies date codes, serial numbers, and code consistency



Product Advantages

- **Powerful Anti-Interference Image Acquisition:** High-quality imaging on matte silver and difficult materials with interference-free barcode capture
- **Superior Multicolor & Reflective Surface Handling:** Handles multicolor and reflective surfaces clearly, even at 20x zoom
- **Precise Defect Threshold Control:** Configurable pass/fail thresholds for 4-6 mm label sections
- **Advanced OCR for Difficult Characters:** Reliably reads connected and easily confused characters
- **Adjustable Detection Precision:** Three precision levels (High/Medium/Average) balancing accuracy and speed
- **Compact CIS Camera Design:** Minimal footprint with built-in lighting; supports 3-420 mm label lengths



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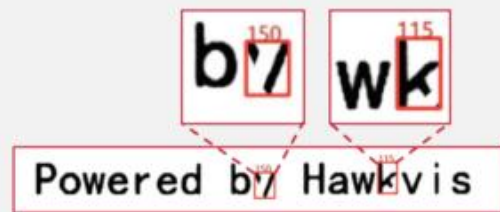
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Inspection Samples

Prevent Any Defective Labels From Entering the Production Line, Supply Chain, Or Reaching End Consumers



Barcode Defects



Character Defects

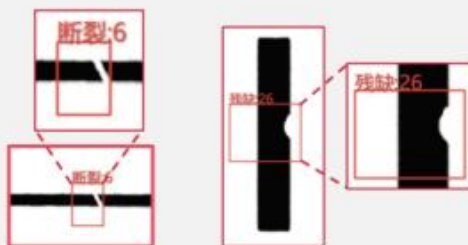


QR Code Defects

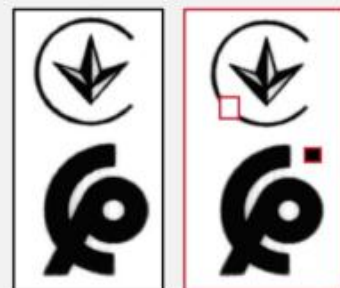


SN: QJD5973PIK

Discrepancy Between Printed
and Concealed Codes



Line Break and Incompleteness



Pattern Defects &
Dirty Backgrounds



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Inspection Samples

- **Powerful Anti-reflective Capability In Image Acquisition**, clear, high-quality images are essential for reliable inspection

Matte Silver Sample Label



Image Capture Quality of Peer Companies



Matte silver labels greatly differ from regular coated paper in image capture. Even after enhancement, the barcode interface still shows interference, preventing effective defect detection.

Image Capture Quality by /JNXTECH [Hawkvis]



image capture is consistent with standard coated paper labels. The barcode area is clear and free of interference, supporting defect detection just like regular coated paper



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Inspection Samples

- Powerful Anti-reflective Capability In Image Acquisition

High-reflective surface with sliver and multi-color and irregular shape combination

Image Quality captured by Peer Companies which are poor quality with blurred patterns and text



Image Quality Captured by JNXTECH [Hawkvis]



Zooming **X20** times, remains highly clear

Made in China

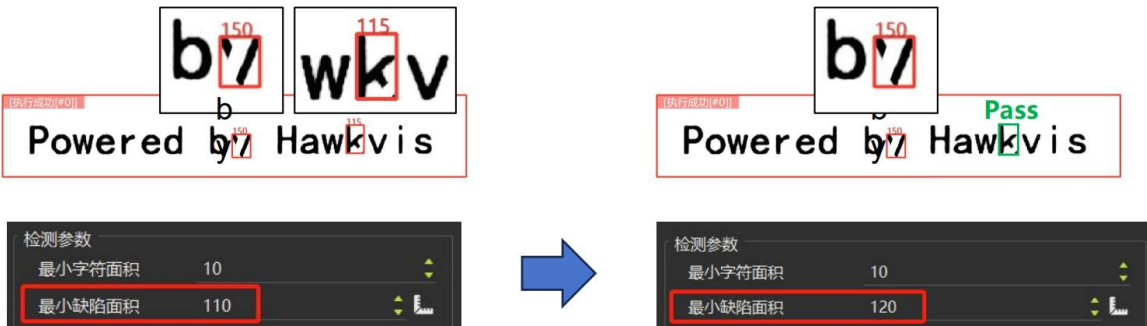


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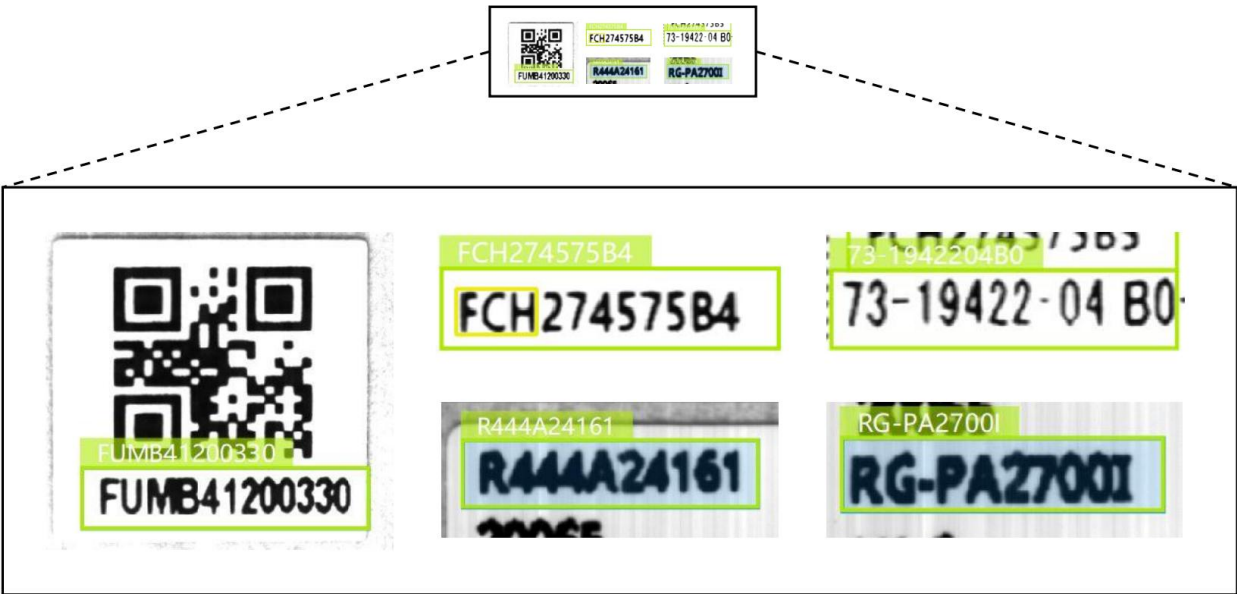
Inspection Samples

- Easily Manage What to Catch and What To Let Pass



- The OCR Algorithm Excels At Recognizing Connected And Easily Confused Characters.

Samples Taken From 4~6 mm Label Sections

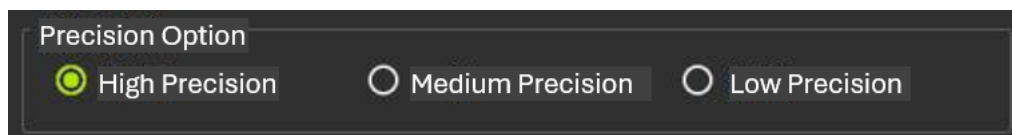


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Inspection Samples

- Detection precision adjustable in pattern comparison algorithm.



- Pattern comparison is one of the most frequently used detection algorithms.
- For users with large labels, many inspection items, and limited device performance, we offer intuitive and flexible precision settings to ensure optimal defect detection under resource constraints.
- Each Level down in detection precision reduces CPU load and boosts speed. Users can choose the level best fits their needs

**Test Samples:
2 dirt and 1 break**

High quality	Medium quality	Average quality
		
Detection time: 91 ms	Detection time: 37 ms	Detection time: 16 ms



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Label Verifier

Parameters	Specifications
Image Acquisition Resolution	600–1200 dpi
Min. Supported 1D Barcode Resolution	3.34 mil
Min. Supported 2D QR Code Resolution	5 mil
Supported Barcode Types	All standard barcode and QR code
Supported Barcode Orientation	Omnidirectional
Min. Font Size for OCR / OCV	3 pt
Supported Font Type for OCR / OCV	Standard Fonts (CN / EN / Numbers / Symbols)
Max. Inspection Speed	4" @1200 DPI: ≤6 ips 6" @1200 DPI: ≤3 ips 6" @600 DPI: ≤6 ips
Max. Detectable Label Length	420 mm
Min. Detectable Label Length	3 mm
Max. Detectable Label Width	4": 109 mm; 6": 183 mm
Min. Detectable Label Width	3.5 mm (min. backing width >17 mm)
Label Thickness	0.05–0.28 mm
Min. Label Gap	1 mm
Supported Printer Models	Zebra / TSC / Honeywell / SATO
Supported Printing Method	Thermal / Thermal Transfer
Supported Label Types	Gap
Supported Printing Modes	Single label / Tear / Peel / Cutting / Rewind
Connection Type	1000 Mbps Ethernet
Working Environment	0°–50°C, 30%–75% RH (non-condensing)
Min. Installation Environment	Intel Core i5 8th Gen+; 8 GB RAM; 1 TB HDD; GbE; Win 10 64-bit; 1920×1080+
Recommended System Requirements	Intel Core i7 8th Gen+; 16 GB RAM; 1 TB HDD; GbE; Win 10 64-bit; 1920×1080+



JNX Technology Co., Ltd.
Email: sales@jnxtech.com
Shenzhen, Guangdong, China



Website



WhatsApp

JnxTech helps global partners deliver reliable, cost-effective printing and labeling solutions for small and medium-sized businesses. Founded by Jeanne Xu, with over a decade of product management experience at Zebra Technologies and Honeywell.

We combine industry expertise with flexible OEM/ODM capabilities to support your business growth.