

LVS-7000

An In-Line Process Control System that Improves the Quality Inspection Process



- Press
- Rewind
- Sheet Fed
- Carton
- And More...



OMRON
MICROSCAN

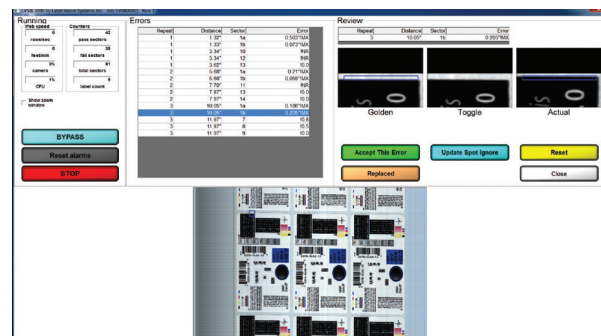
LVS-7000

True 100% Inspection

Inspect and map any number of fields at any size repeat, in any orientation across the form or print web!

- Identify Blemishes
- DELTA E Color Process Control
- Check for Duplicates
- Sequential/Random Validation
- ISO Read and Grade 1D and 2D barcodes including QR Code, ECC-200 Data Matrix, Composite Code and many more

- OCR and OCV
- Holograms/Reflective/Security Marks
- Roll Mapping



DELTA E – Color Process Control

Color detection allows the LVS® 7000 to detect color variances on labels by comparing the master color to the current image color in the field of view.

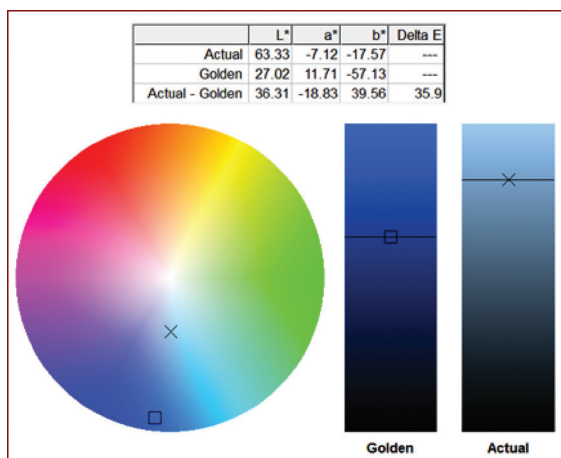
“Color detection allows customers to monitor their color process and ensure they have a color match from beginning to end,” said Scott Lydell, North America Sales Manager for LVS®.

The color detection feature, also referred to as the Delta E module, continuously calculates the average L*a*b* values of all the pixels within a sector according to CIE 2000 specifications. The Delta E functionality works best with solid colors.

Blemish - Master-to-Label Module

The system compares every label to a Master image chosen at the beginning of the run or stored from a previous job. The Automatic Setup feature quickly identifies foreground

(text), background (solid color blocks), and die cuts allowing you to focus in on the areas that matter most. This module also includes a robust set of tools that allow you to identify and create print sectors that can be treated uniquely by adjusting



Step 4: Define sector type

Blemish settings

256 (camera DPI) ÷ 1 (blemish reduction) = 256 (blemish DPI)

Area type	Sensitivity	Size / Tolerance	Reset
BG<<>>FG	65		Relearn
Foreground	65	<.016"	
Background	50	<.023"	
Matrix			
Die cut		=.039"	Clr matrix & die cut
User ignore			
Spot ignore			Clear all

Draw

On	Left button	Right button
<input checked="" type="radio"/>	spot ignore	don't ignore
<input type="radio"/>	fill ignore	fill matrix & die cut
<input type="radio"/>	to background	to foreground

Display

- ☐ Normal
- ☒ Area type
- ☐ Normal + Error
- ☐ Error only
- ☐ Golden

Brush size 3X

Warning 75%

Largest blemish 0"

☐ Discard this sector

<<<

Global copy

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LVS® PRINT QUALITY INSPECTION SYSTEMS



with both reflectance and structural rules for a given symbol. Unlike bar code validation, the ISO Verification module actually reads and analyzes the symbol to published specifications.

LVS® Roll Inspection Mapping (RIMS) Module

LVS® RIMS was designed to complete your workflow process. Linked to the LVS® 7000 system, LVS® RIMS will map and record each error detected on the press.

sensitivities for those regions. The Master-to-Label module will allow you to accurately identify and track any type of potential print error you may encounter including print to die registration, die cut errors, broken letters, skews, smears, spots, voids, wrinkles, hickies and other print quality defects.

Complete Data Validation Package

Includes OCV, OCR, File Matching, Numbering Validation and Duplicate Checking

The LVS® 7000 combines OCR, OCV and barcode reading/grading modules to read and/or verify data against a data file or some program-mable set of factors.

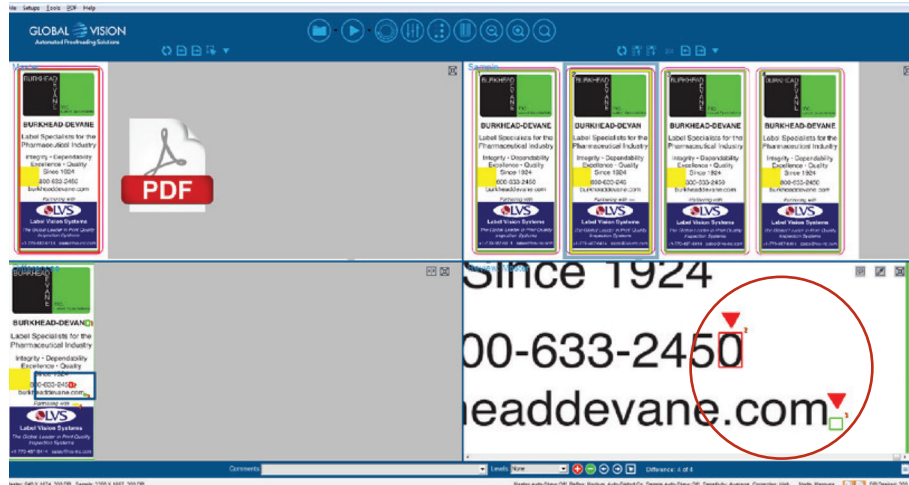
ISO Verification Module

The LVS® 7000 ISO Verification Module verifies any combination of linear, matrix and stacked codes to ISO print quality standards. The bar codes can be in any orientation, with any number and mix of codes on a label. The various parameters of the ISO Print Quality guidelines are made up of measurements dealing

PDF SOFTWARE MODULE A Pre-Production Quality Control Module

The PDF Compare module, powered by Global Vision, ensures the approved customer PDF file matches the actual print job. Any differences are automatically detected and flagged to the operator. A detailed inspection report can be generated for QC records and approvals.

process while the LVS® 7000 is inspecting all of the labels for defects. If defects are detected, AutoScan can help the operator quickly identify what is going wrong by finding the affected area of the web and going into "Freeze" mode to concentrate on that area of the image for analysis.



Differences automatically detected in Repeat #2

The electronic mapping file can be called up remotely with the QC Manager to be pre-cleaned for errors and special directions entered for the finishing operator. Using a simple and easy to use tracking module, LVS® RIMS will automatically stop the rewind (rewind must be capable).

AutoScan

The AutoScan Web Viewer Module allows an operator to simultaneously monitor and analyze up to 16 areas of interest per job on the web without having to manually move between each area of interest. While a job is running, an operator can choose to view all of the areas at once or cycle between full image views of each location; this allows the operator to keep track of the printing

Capabilities include:

- Cross reference unique independent sectors (barcode to eye-readable text)
- Check Random or Sequential Data (ascending or descending)
- Check for duplicates either against a white list or from scratch
- Perform OCV on fonts as small as 4 points



System Specifications

Rate of travel, web width and minimum bar width or smallest point sizes will impact camera resolution recommendation

Camera Hardware

- Types: Line scan and Area Scan options
- Resolution: 2K, 4K, 8K and 16K

Lighting Options

- Red, white and custom diffused options for foil and holograms

PC Hardware

- Multi-core Processor. Windows® XP and 7 operating system

Mounting Options

- Choose from a variety of HMI mounting options or use your own HMI
- Mounts on a press, slitter/rewinder, folder gluer, conveyor, and most other inspection platforms

I/O

- 8 digital outputs for programmable alarm and trigger requirements

Electrical

- 110VAC @ 60 Hz or 240VAC @ 50Hz

ISO Grading Specifications

- ISO 15416, ISO 15415, GS1 and other application standards

Software Specifications

- Graphics-oriented user interface under Windows® XP and 7 operating system
- Multiple password protection security levels
- 21 CFR Part 11 compliant ready with on board record keeping and job tracking
- Automatic Setup feature for click and go changeovers
- Reporting, logs and summary reports for Quality Assurance managers stored as CSV files for portability
- Information is date and time stamped

LVS® RIMS

- Digitally store errors and accept/reject errors. Control links to finishing systems – I/O stop signal
- Includes light tower, HMI, encoder, ergotron arm, processor, software, label printer & barcode scanner

Quality Control Manager

- Remotely review errors, accept and reject errors prior to finishing. Customer to provide own PC running Windows® XP or 7 operating system

Current Symbolologies

Aztec	Interleaved 2 of 5 (ITF)
Codabar	Laetus Pharmacode
Code 128	Micro QR Code
Code 39	MicroPDF417
Code 93	PDF417
Data Matrix	QR Code
DataBar expanded	UPC-A
EAN-13	UPC-A (2 digit supplemental)
EAN-13 (2-digit supplemental)	UPC-A (5 digit supplemental)
EAN-13 (5-digit supplemental)	UPC-E
EAN-8	UPC-E (2 digit supplemental)
ECC-200 Data Matrix	UPC-E (5 digit supplemental)
GS1-128	All applicable
GS1 Databar Limited	GS1 composite components
GS1 Databar Stacked	
GS1 Databar-14	
GS1 Data Matrix	

SAFETY CERTIFICATIONS DESIGNED FOR
FCC, UL (Pending)

ROHS COMPLIANT

QMS CERTIFICATION

www.microscan.com/quality

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Warranty – For current warranty information about this product, please visit www.microscan.com/warranty.



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