



### 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

### 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	GS1 Databar Limited supplemental)
GS1 Databar Limited	All applicable
GS1 Databar Stacked	GS1 composite
GS1 Databar-14	GS1 composite
GS1 Data Matrix	GS1 composite

### Software Specifications

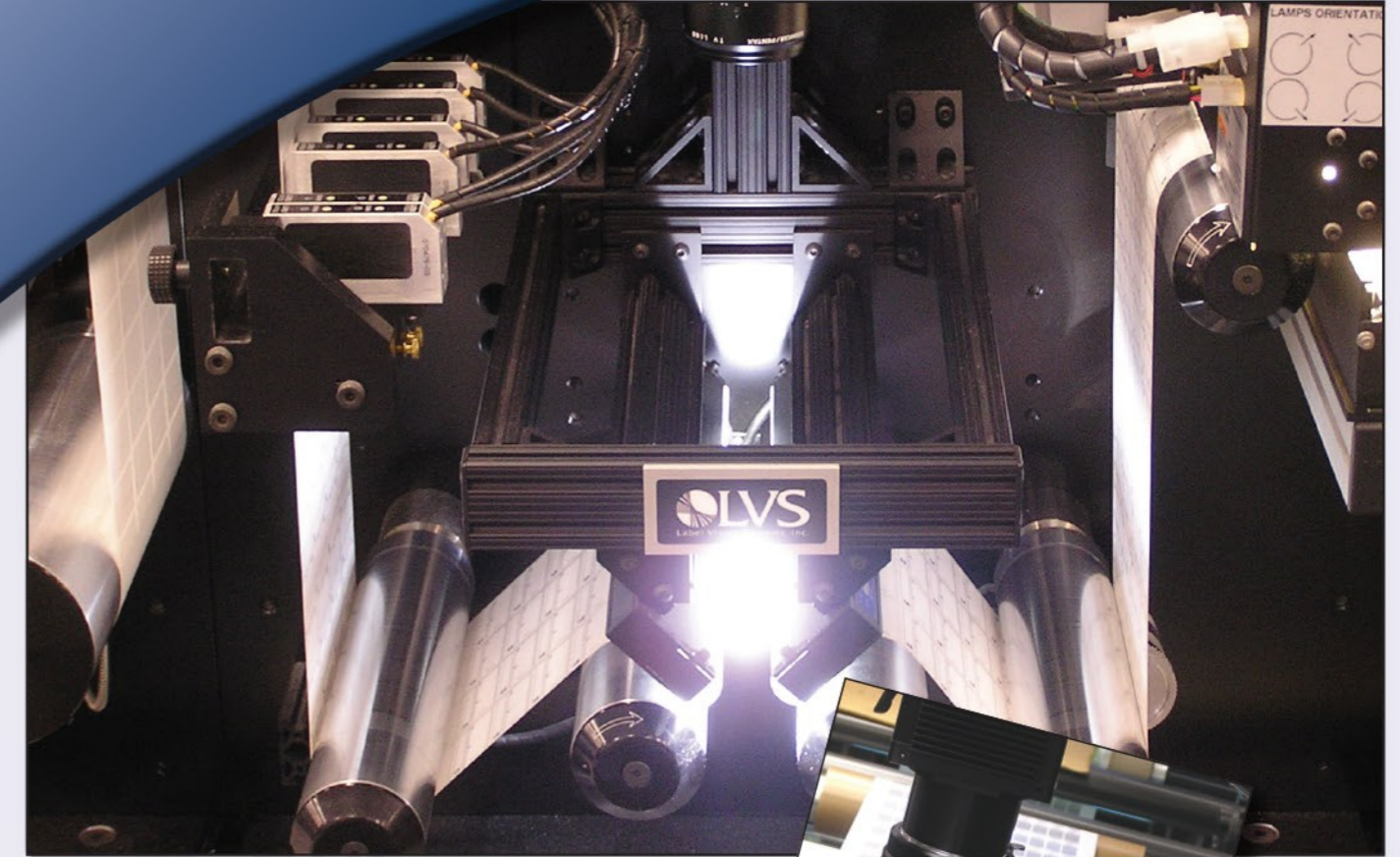
- Graphics-oriented user interface under Windows® XP and 7 operating system
- Multiple password protection security levels
- 21 CFR Part 11 compliant ready with on board record keeping and job tracking
- Automatic Setup feature for click and go changeovers
- Reporting, logs and summary reports for Quality 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



## In-Line Print Quality Inspection

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



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PACKAGING, MARKING AND CODING NEEDS



# LVS 7000 In-line Vision Inspection



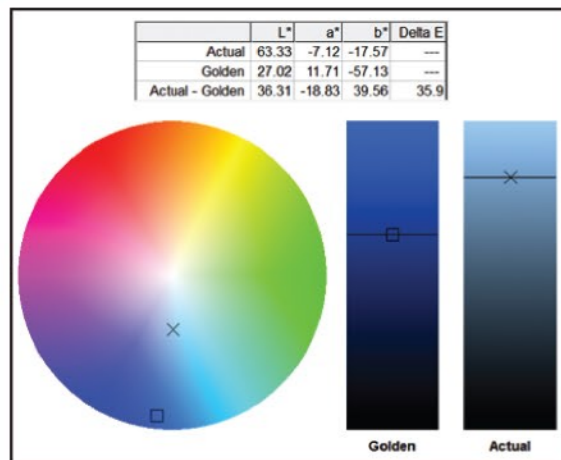
**TRUE 100% INSPECTION**

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

## DELTA E – Color Process Control

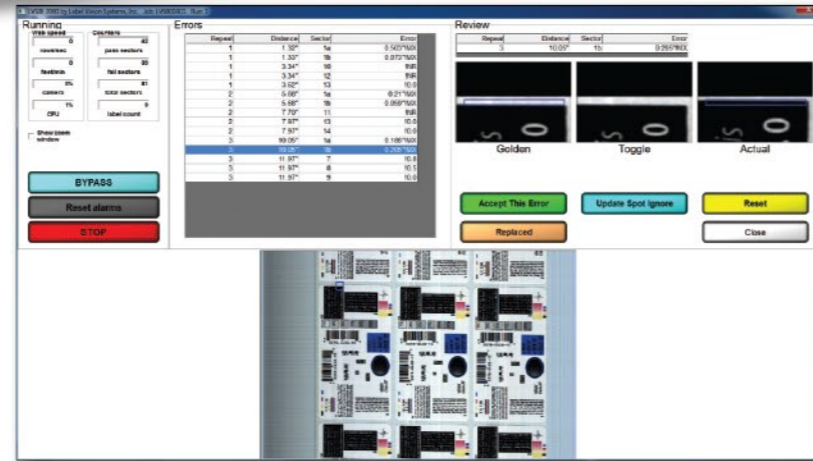
Color detection allows the LVS® 7000 to detect color variances on labels by comparing the master color to the current image color in the field of view.



“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®.

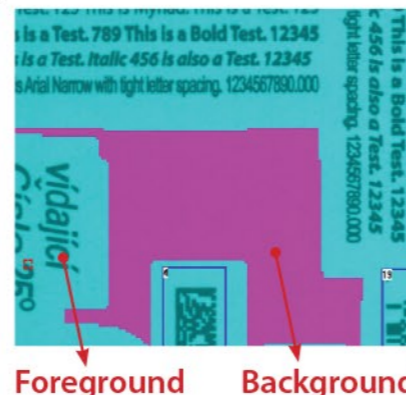
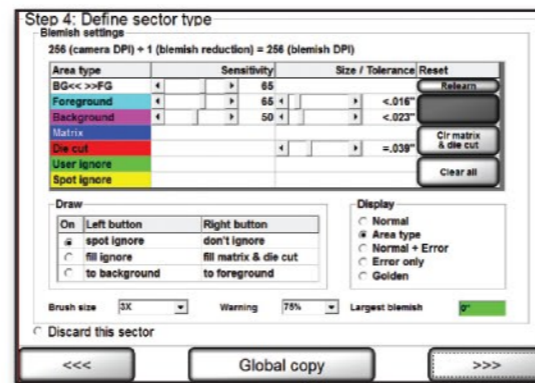
The color detection feature, also referred to as the Delta E module, continuously calculates the average L\*a\*b\* values of all the pixels within a sector according to CIE 2000 specifications. The Delta E functionality works best with solid colors.



- 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

## 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 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 programmable set of factors.

### 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

## 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 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 (ISO 15415 & 15416) and then gives that symbol an overall ANSI/ISO grade based on those specifications.

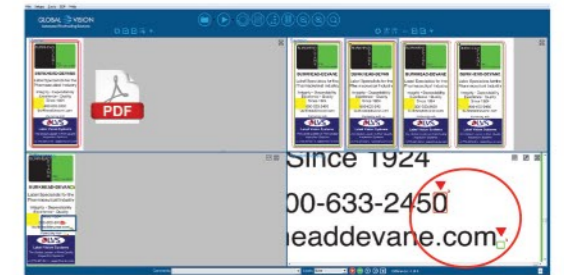
## LVS® Roll Inspection Mapping (RIMS) Module

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. 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).

## 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.



Differences automatically detected in Repeat #2

## 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 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.