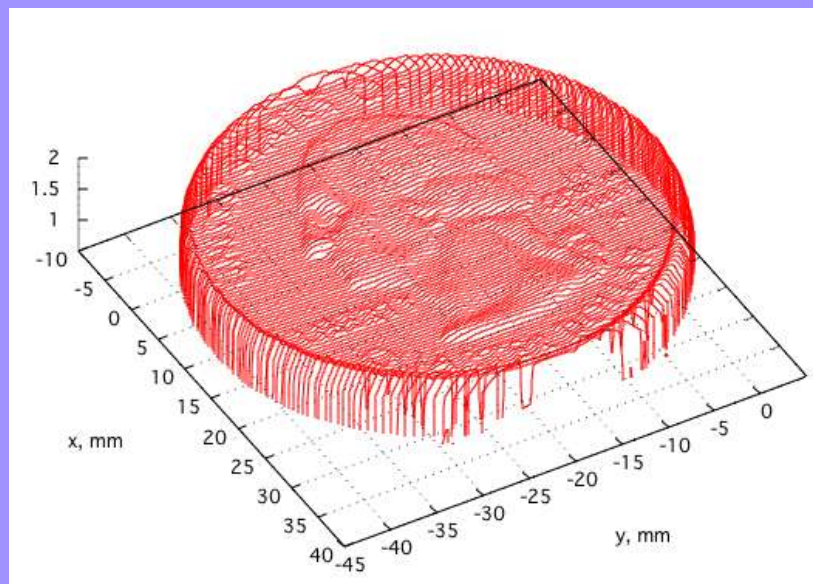


Expanding machine vision capabilities into the third dimension...

- Fully automatic height or impression inspection
- X-Y table, optional vacuum chuck for material handling
- Non-contact, nondestructive testing
- Measure height profiling, impression depth, and other topographic features for:
 - parts (opaque, translucent and transparent)
 - printed materials (intaglio, engraving)
- Various configurations are available for different applications
- Measurement resolutions from +/- 0.1 microns to +/- 50 microns



imageXpert[®]

LASER FOR HEIGHT PROFILING AND 3-D PART INSPECTION

This integrated laser module adds non-contact, nondestructive height and impression measurement capabilities to your ImageXpert motion system.

Expand your machine vision capabilities to include topographical assessment.

Model Number:

LSR-01* = (+ / - 0.1 micron resolution)
LSR-1 = (+ / - 1 micron resolution)
LSR-3 = (+ / - 3 micron resolution)
LSR-10 = (+ / - 10 micron resolution)
LSR-50 = (+ / - 50 micron resolution)

* For measurement of transparent or opaque materials

Hardware / Software Components

Specifications**:

Spot sizes reported in parentheses.

| Laser Resolution | Height Range | Class |
|-------------------------|--------------|-----------------|
| 0.1 micron (30 μ m) | + / - 5mm | FDA II IEC 2 |
| 1 micron (30 μ m) | + / - 5mm | FDA II IEC 2 |
| 3 micron (70 μ m) | + / - 15mm | FDA II IEC 2 |
| 10 micron (100 μ m) | + / - 100mm | FDA IIIB IEC 3B |
| 50 micron (300 μ m) | + / - 250mm | FDA IIIB IEC 3B |

Variable sampling rate dependent on application requirements

Components:

Laser head
Controller (Serial communication)
LCD display
Power supply (110 / 220 VAC @ 2 Amp)
Mounting hardware w/ micrometer adjustment
Communication cables

Software:

ImageXpert interface
Data is displayed in millimeters
IX software is flexible and fully configurable

Required hardware:

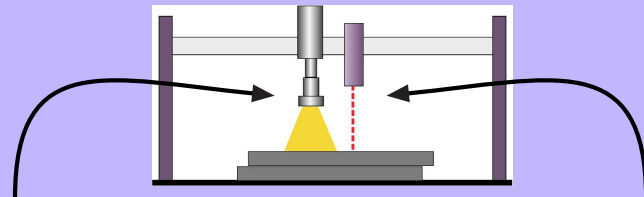
Power PC CPU
ImageXpert software
256 RAM (minimum)
Existing or new automated X-Y table
Available serial port (Din 8 circular)

** Other configurations are also available

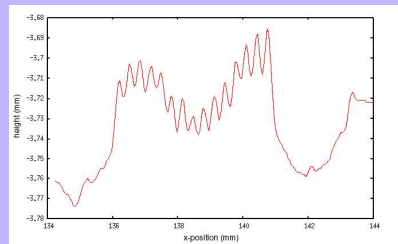
System Overview

ImageXpert's camera-based machine-vision systems use traditional CCD cameras, optics and lighting for image capture and analysis. Different levels of magnification are available and the ImageXpert image analysis software package can measure a wide variety of image-based features including edge position and orientation, dot size and shape, dimensional information, and gray level. The camera can also be used for 1-D and 2-D barcode decoding, OCR and verification of sample location.

Since image-based image measurement is not always sufficient for part inspection, ImageXpert has an integrated laser height measurement module for analysis of topographic variations. By combining robust machine-vision technology with height profiling, ImageXpert systems can address a wider range of inspection applications.



Camera
Image analysis:
gray scale
dimension
angles
position
correlation
gray profile
OCR
barcode
...



Laser
Topographic analysis and height profiling:
point-analysis
grid-analysis
scan-analysis of opaque and transparent materials

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