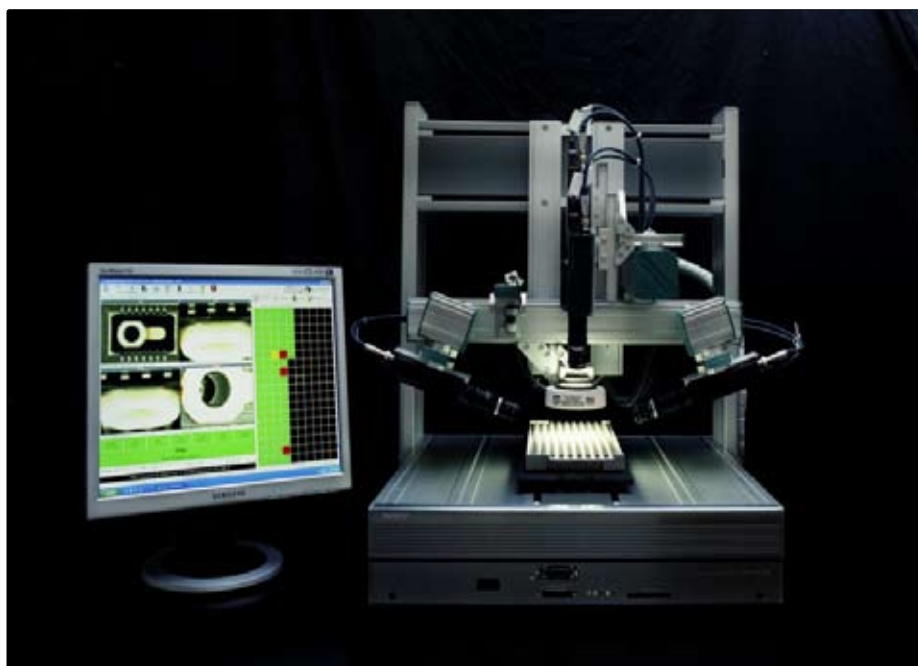# Scorpion Robot Inspection - Product Data

100% Inspection - Zero Defects

Standard components, Robust, Reliable, Accurate and Cost Effective

Scorpion Vision Software®
Sony Desktop Robot
Sony XCD-710CR firewire cameras
Vision PC running Windows XP

Flexible automation means robots, automation and vision working together. This reduces cost and increases the flexibility and possibility to produce several product variants in one production line at the same time - 24 hours a day - with profits. The vision system's ability to locate and identify objects are critical elements in making these systems.

Sony Desktop Robot's winning combination of superior performance and compact size, combined with Sony Firewire cameras and Scorpion Vision Software® are redefining the meaning of optical inspection systems. Advanced inspection systems are put into operation in the matter of days using only standard components.

Scorpion has been used in robot vision and inspection system for many years. Scorpion has a complete toolbox of robust and reliable image processing tools needed for robot vision, gauging and assembly verification. Included are high accuracy and sub-pixel object location tools making it a perfect companion to Sony's world class components.

Scorpion Robot Inspection Features

Seamless Sony Desktop Robot Integration
The robot is seamlessly integrated with Scorpion Vision Software. The Scorpion Robot Control Module removes the need for robot programming. The module includes a robot program making it easy to move and position the robot from Scorpion. Scorpion connects to the robot over RS-232.
Every aspects of Start / Stop / Home Position, Emergency Stop, IO, Program Selection and 3D movement are controlled.

Sony Firewire cameras ensure superior image quality
Using the high quality firewire XCD-710(CR) camera from Sony, the image quality is ensured even when mounting the camera on the robot. The camera is available in two versions: monochrome and colour. In complex applications where two or more cameras are needed, the camera are synchronized using hardware triggering.

Sony XCD-710 (CR) camera

User Interface
Scorpion has a feature rich, functional and configurable Man Machine Interface with image display, data input pages, web pages, ActiveX containment, result panels, image history list, real time trends, logging, event log and quality alarms.

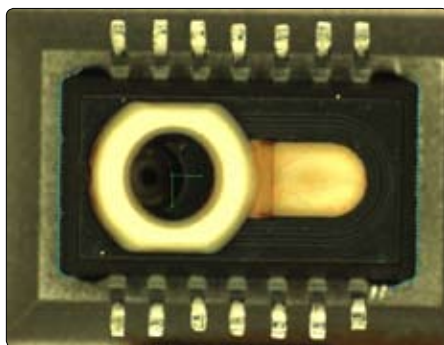## Application Specific Configuration Interface
Data Input and custom HTML pages make it fast and easy to implement application specific configuration tailored to each application.

Reliable Image Processing
Image Processing is robust, fast and flexible in a non-programming point & click environment with more than 80 powerful vision tools.

Optimal object location with Polygon-Match™
PolygonMatch™ is an optimal way to locate objects with subpixel accuracy. Multiple polygons define the shape or model of the object. When using the model the same shapes are extracted from the images and fitted to the original model with the highest possible accuracy.
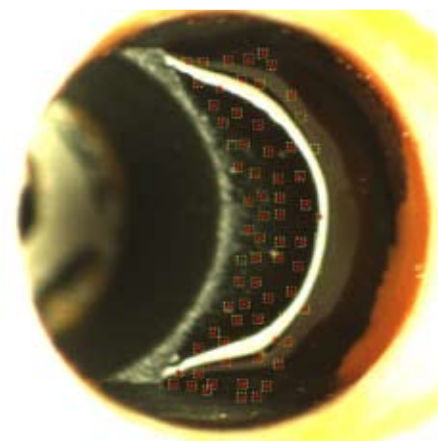

The chip is located with Polygon-Match™

High precision gauging with robust Line-Finder™ tool
Combining 6th order lens calibration with the robust LineFinder™ tool makes it easy to implement gauging systems with resolution better than 1/10th of a pixel.

Easy to use color classification with ColorMatcher™
ColorMatcher™ detects reliably the smallest color differences based on reference images. Multiple references improves sensitivity and are easily added by clicking in the area of the images where the actual color is located.

Glue coverage measured in an area tailored to the inspected object

Traceability with optional Data and Image Logging
By logging measured values and images tagged with process data, invaluable information is stored helping the production engineer to document the condition of every single manufactured product.

Mechanics
Profiles are built using standard Montech Profiles.

Flexible Interfacing and Fuzzy Logic with Python Scripting
Scorpion's integrated Python Scription Kernel is ideal to implement classification logic, interface SQL databases and to interface other devices over rs-232, tcp/ip or OPC.
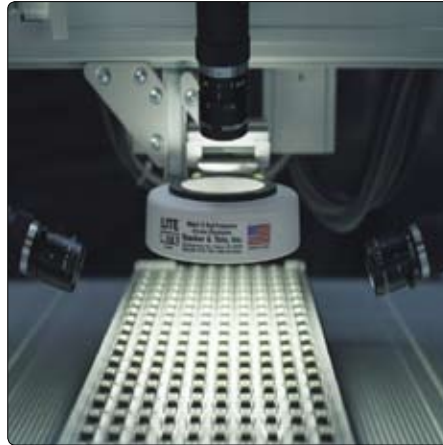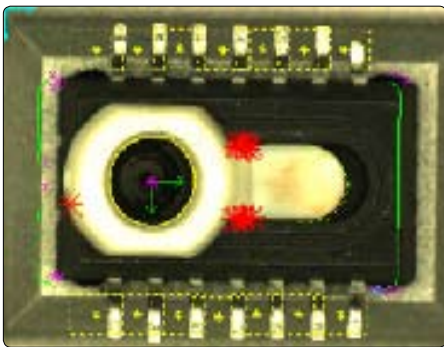

Python scripting

SCORPION
VISION SOFTWARE™

REFERENCE SYSTEM
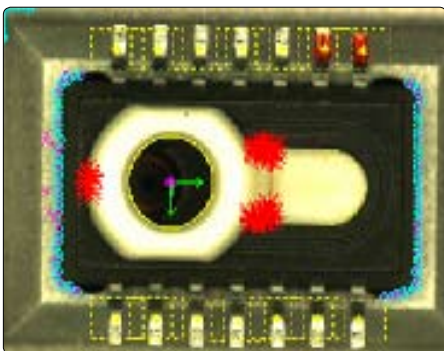## AUTOMOTIVE PRESSURE SENSOR - 100% INSPECTION

The pressure sensor is 100% inspected for position - missing parts - orientation - glue coverage and more

Sony Cast II Pro Desktop Robot
Four Sony XCD-710CR firewire cameras
Scorpion Vision Software®
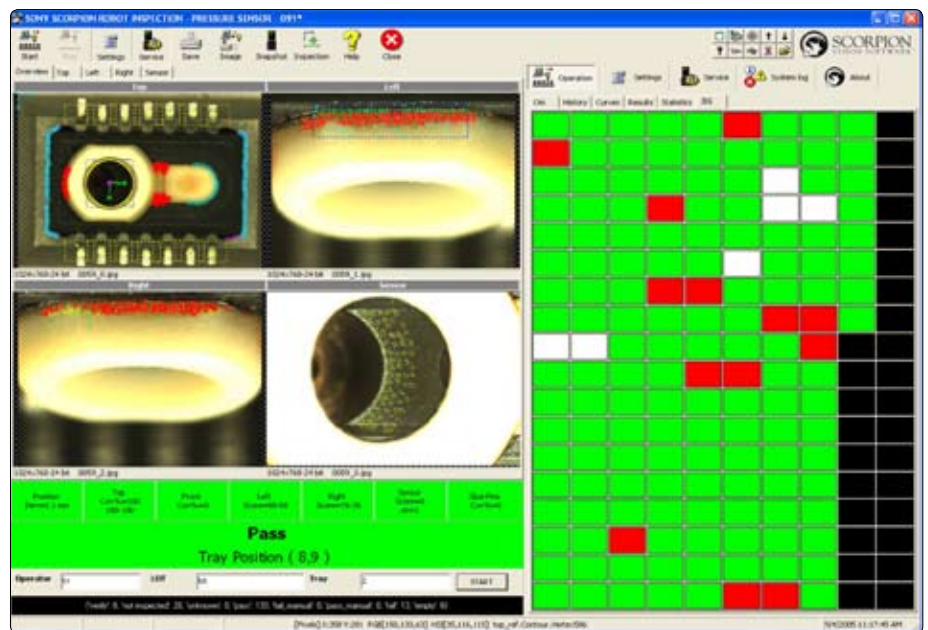*Vision PC running Windows XP*

Out of position

Glue on pins

Scorpion is inspecting a tray of 180 pressure sensors in six minutes - helping the customer to zero defects and to avoid the cost of the alternative manual microscope inspection. The robot is equipped with four high quality high performance Sony XCD-710CR digital color cameras.

The Cast Pro II covers 350 x 350 mm with a precision of 0.02 mm - available in 2,3 and 4 axis version. The smaller Robokid covers an area of 250 x 210 mm.

Clicking in the matrix on the screen moves the robot in position and reinspects sensor.

Scorpion Robot Inspection Starter Kit

The Sony approved Scorpion Robot Inspection Starter Kit contains everything you need for bringing your Scorpion Robot Inspection project to life. The kit includes a Scorpion Enterprise software license combined with the new high quality Sony XCD-710 (CR) camera (XGA resolution), Sony Desktop Robot and a 2 days training course where you learn how to use Scorpion Vision Software® in combination with the Sony Desktop Robot.

A standard and configurable user interface paired with innovative, easy-to-use and robust imaging tools quickly enable you to plan, implement and test a complete robot vision system. Optional data measuring and image logging provides unique traceability.

Standard accessories for the Scorpion Robot Inspection Starter Kit are: a 128 Mb USB Memory stick and a PCI FireWire adapter.

Also included is a 2 days introduction course for one person. More information about Scorpion training is available on our web site www.scorpionvision.com.

To order a Scorpion Robot Inspection Starter Kit, attend a training course or get more information, please contact us or any of our representatives on e-mail, by phone or fax.

Sony Desktop Robot

Product type no	Product	Description
20-310(CR)	Sony Scorpion Robot Robokid Inspection Starter Kit	Sony Desktop Robot type Robokid tall version - 2 axis with working area 210 x 250 mm. Including a Scorpion Vision Software Enterprice License with Sony Scorpion robot control module and a Sony XCD-X710 (CR) camera. Includes two days training.
20-320(CR)	Sony Scorpion Robot CastProII Inspection Starter Kit	Sony Desktop Robot type Cast Pro II - 2 axis with working area 350 x 350 mm. Including a Scorpion Vision Software Enterprice License with Sony Scorpion robot control module and a Sony XCD-X710 (CR) camera. Includes two days training.

Scorpion Vision Software®
World Class Vision Systems

Independent - for configuration of vision systems built upon standard PCs and Windows. Interface with plug-ins; dynamic link libraries (DLLs) and Active-X. Complete support for DirectX and Firewire Imaging.

Flexible - complete range of robust and easy to use vision tools, out of the box rs-232, tcip/ip and opc support, configurable data and image logging support combined with unique python scripting capability.

Cost Effective - no programming, step by step adaptation to changing demands,

remote support and off-line verification of modifications ensures the lowest development, installation and maintenance cost.

Scorpion solves tasks within robot vision, label inspection, multi camera assembly verification, colour identification and high precision gauging.

For evaluation download the complete software and a free demo license valid for 30 days from our web site or ask for a Scorpion CD.

Scorpion Vision Software® is a registered trademark of Tordivel AS.