BOA™ Pro

BOA Pro

Hardware Features

- Easily integrated smart camera with embedded software
- Sensor Resolution: VGA to 1600x1200
- Processor: ARM + DSP
- Memory: 256MB Job / 256MB Program
- Ethernet, RS232, I/O
- Ultra small form factor 44 x 44 x 44 mm
- Industrial IP67 Housing
- 360° Mounting
- Standard M12 cabling
- Direct connection to standard vision lights
- 12-30V; 0-45°C

Robust, flexible, tiny vision system.

BOA Pro combines the robustness of our highly integrated BOA smart camera with the flexibility of Sherlock™ inspection software. The result is a compact industrial vision solution with diverse applicability across all manufacturing segments.

The BOA smart camera is offered with a range of sensor resolutions, performance grades and software to accommodate the needs of both application and user. The embedded software is setup via a local PC connection to BOA using Ethernet. Once configured for runtime, the Ethernet link can be disconnected or used to communicate with other devices on the factory floor, such as PLCs, Robots and HMIs. In addition to Ethernet, BOA cameras provide direct connections for RS-232 serial, discrete I/O and lamp control. BOA cameras are supported by various hardware and software accessories to simplify factory integration.

Sherlock Interface

The Sherlock setup interface to BOA Pro is installed on a PC. During development, images from the camera are fed directly to the Sherlock GUI and commands from the program are executed directly on the camera. This methodology optimizes the user design experience while providing an accurate representation of runtime performance. A secondary interface is available through a standard web browser for device setup, runtime monitoring and firmware updating.
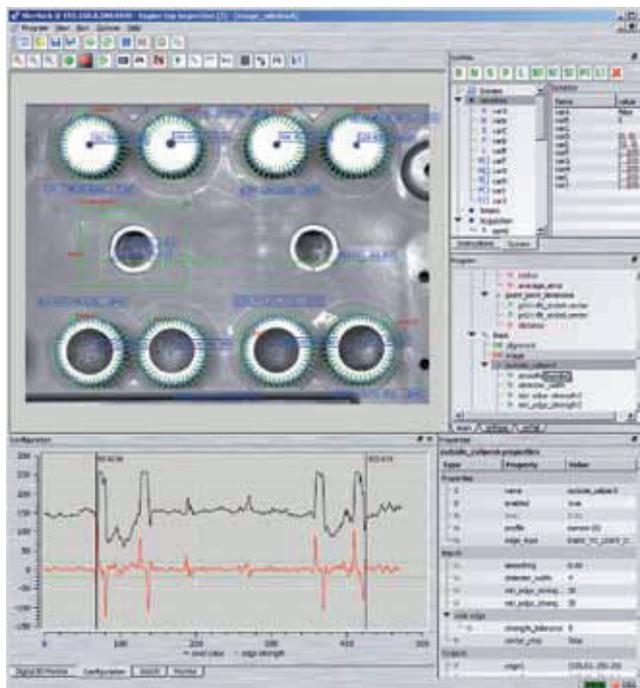
SHERLOCK USER INTERFACE SCREEN

BOA™ Pro

Software Features

- Embedded Sherlock Application Software
- Large selection of algorithms and Preprocessors
- Extensive list of drag-drop instructions
- ROI shape selection: Rectangle, Annulus, Polygon, Line, Point, Polyline, Arc, Rake, Polyrake, Spoke
- Basic Tools: Edge, Count, Caliper, Contrast, Intensity, statistics
- Reader Tools: 1D, 2D, OCR
- Complex Tools: Bead, Calibration, Crawler, Laser, Pattern Match
- Dedicated JavaScript Editor
- Ethernet/IP, Modbus Communications
- Single Step Debugging
- User Administration
- Customizable GUI
- Full-featured Emulator
- Advanced Digital I/O Monitor

Sherlock Vision Capabilities

Sherlock's extensive library of instructions, preprocessors and advanced algorithms can be combined in a variety of ways to solve simple or very demanding tasks. Maximum design flexibility is provided to allow users to customize algorithms, construct scripts and develop operator interfaces.

Tool Flexibility

In Sherlock you select a shape to define a Region-Of-Interest (ROI) and then select preprocessors and tools supported by that shape. Each ROI is in effect a self contained processor which can take inputs or generate outputs to other parts of the program.
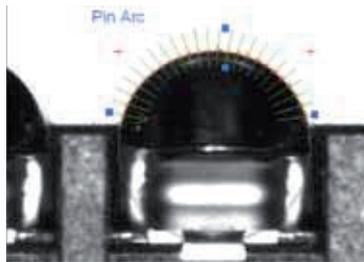
The arc ROI in this image is used to extract points along the surface of a solder ball on a printed circuit board. These points can be used, for example, to calculate the ball radius or find irregularities along the ball surface.

Sherlock offers advanced tools that can be used to measure the profile of parts such as the placement of protective wrapping on this high-pressure pipe. In the above image, a gap in the wrapping is followed by lifting of the wrapping, as shown by the upward step in the reflected points from a laser line.

Scripting

Sherlock's JavaScript based scripting tool, complete with drag and drop instruction editing, allows you to develop custom formulas for in-line and background operations.

Communication

Sherlock provides a variety of communication interfaces and supports standard factory protocols such as Modbus and Ethernet/IP. Image logging is supported via a connected client or by FTP to a network connected drive.

For visualization, Sherlock supports BOAView, a dedicated application supported by WinCE based HMIs. Sherlock also provides an OCX control and API that allows users to develop a custom interface that best suits their factory environment.

User Administration

There are two access ports into BOA Pro. The first is through the Sherlock interface and the second is through the web browser. Both ports support password protection.

Off-Line Editing

BOA Pro provides a full-featured Sherlock emulator for off-line editing and evaluation.

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