

<b>Communications</b>	<ul style="list-style-type: none"> <li>• FTP Server – Allows easier transfer of data such as product files and images</li> <li>• Web Server – The SmartCamera can be accessed via a website</li> <li>• OPC Server – Easily integrates to HMI and other industrial packages</li> </ul>
<b>Multiple Camera Connections</b>	<ul style="list-style-type: none"> <li>• Ability to set-up communications between multiple cameras and see the communication between the cameras in the same interface</li> </ul>
<b>Digital Relearn</b>	<ul style="list-style-type: none"> <li>• 4 digital relearn inputs</li> <li>• 32 user inputs</li> </ul>
<b>System Coordinate Calibration</b>	<ul style="list-style-type: none"> <li>• One click coordinate calibration</li> <li>• Multiple system calibrations can be utilized</li> </ul>
<b>Emulator</b>	<ul style="list-style-type: none"> <li>• Acquires images in an easier fashion</li> <li>• Allows user to move forward and backward in the image sequence</li> <li>• Ability to set up and learn your application without interfering with your production line</li> </ul>
<b>Auto Exposure</b>	<ul style="list-style-type: none"> <li>• The Exposure and Gain can be adjusted automatically to accommodate environmental variation</li> </ul>
<b>Focus Feedback</b>	<ul style="list-style-type: none"> <li>• Feedback is given to the user regarding the image quality</li> <li>• Sharpness, Contrast and Intensity</li> </ul>
<b>Flash File System</b>	<ul style="list-style-type: none"> <li>• New Flash File System automatically reclaims flash</li> <li>• Provides power fail safe recovery of saved data</li> </ul>
<b>SmartLink</b>	<ul style="list-style-type: none"> <li>• Useful for easy monitoring of up to 16 SmartCameras</li> <li>• Replaces industrial PC on the assembly line</li> <li>• Expands communications: Profibus and DeviceNet connectivity</li> </ul>
<b>ActiveX</b>	<ul style="list-style-type: none"> <li>• Useful for customization of customer interface</li> <li>• Source Code provided at no charge</li> </ul>
<b>Spectrograph</b>	<ul style="list-style-type: none"> <li>• Designed to work with the Spectral Camera which provides an image that represents the spectrum of the part being inspected</li> <li>• Learns multiple spectrums and then analyzes and compares them</li> <li>• Detects very slight color variations for sorting, defect detection and process control applications</li> </ul>

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BRO-513-A0

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# intellect

powered by DVT

A Higher IQ  
 for  
 Machine  
 Vision

**Intellect** is a breakthrough product that represents the most advanced vision software available today. Intellect takes advantage of the full capabilities of our expanded family of machine vision systems. Sensor categories are now task-based resulting in faster set-up times. Other features include: new sensor tools window, results table, edit/copy/paste functions, and multiple camera connection capabilities.

### Project Management

Configures and stores multiple inspection applications in the SmartCamera memory.

### SoftSensors

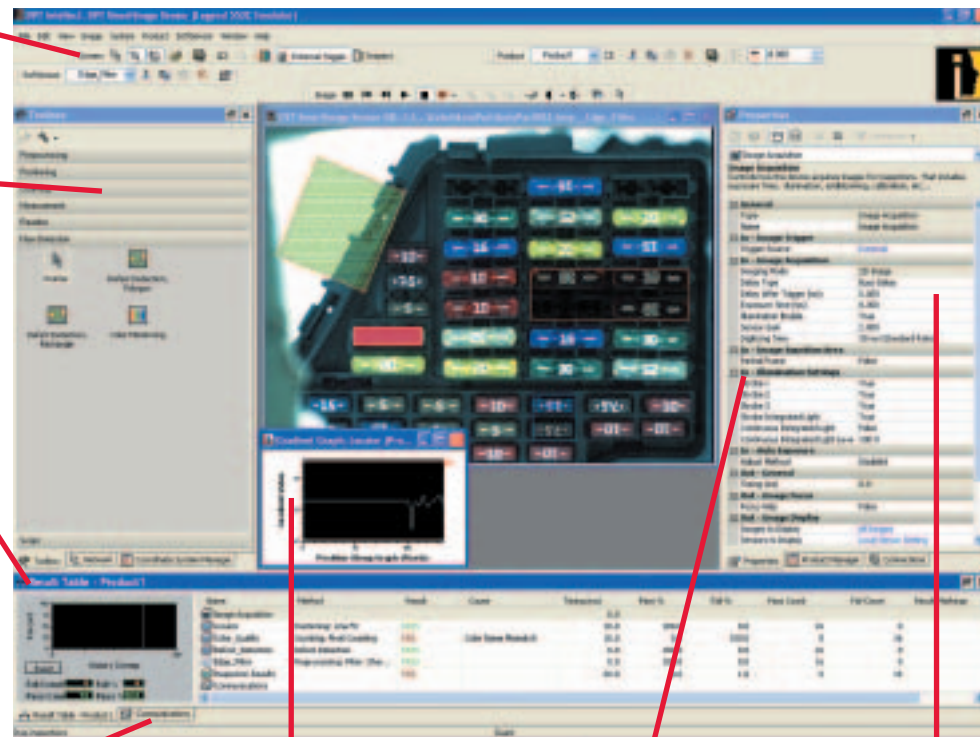
Tools that perform various inspections like tracking parts within a field of view, counting edges, measuring distances, reading bar codes or characters and template matching. Sensor categories are task-based for faster setup times.

### Result Table

Each SoftSensor will display an independent report, including those that reference one another. The table is configurable with the ability to reorganize data. Pass and fail results including percentages are displayed; as well as, individual sensor and total inspection timing information

### Communications Manager

Consolidates communications in one area. The use of tags moves information from sensors to registers and allows for real-time viewing of data in multiple formats.



### Real-Time Feedback

Graphically provides data for fine tuning your application.

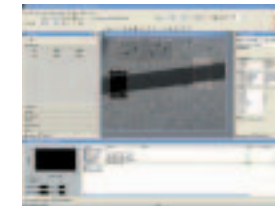
### Sample Image Display

The SmartCamera returns an image that is used to determine inspection criteria. Images can be automatically stored for later review.

### Properties Window

Context sensitive to benefit the user with the point of the cursor. All of the image, product, sensor, and communications parameters can be set in this window without having to look through sub-menus.

Additional powerful features have been developed such as, Object Locate, New Communications Manager, Tool Consolidation/Enhancement, New Reader Tools with Global Fonts and Robot-Friendly Tools for positioning, calibration and distortion compensation.



### Preprocessing

Preprocessing gives the user the ability to filter an image before inspection. This effectively could sharpen pixels, increase edge contrast and remove noise.

- **Filters (New!)**
  - Gradient, high pass, low pass, convolution, morphology and more



### Positioning

- Position, line & arc
  - Edge and grayscale correlation based positioning for robust performance
- Line & Circle Fit
- Area Position
  - Object locate, grayscale correlation, and enhanced blob tools for maximum results
- Object Locate/Pattern Finding
  - Now uses a grayscale image which provides a more robust solution that is less sensitive to illumination, noisy environments and even color processing



### Counting

- Allows Intellect to learn colors for monitoring, pixel counting or increasing contrast for the rest of the SoftSensors. Easy to use learning feature.
- Count Along Line, Arc & Area
  - Object Counting
    - Object locate, grayscale correlation and enhanced blob tools for robust performance
  - Pixel Counting
    - Color identification
  - Object Locate/Pattern Finding



### Script

Enables user to develop specific algorithms and inspection criteria to control processes and monitor status. Offers flexibility to solve any problem on the manufacturing line.



### Measurement

Computes dimensions of a variety of parts and shapes such as hole diameter, distance, angles and more.

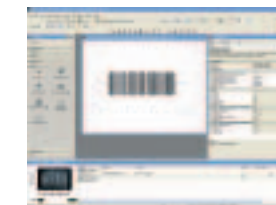
- Precision Measure
- Datum Frame (New!)
- Statistics (New!)



### Flaw Detection

Learns over several "Good" parts and finds changes in: Color, Intensity and Edges.

- **Defect Detection (New!)**
  - Can find defects on parts rotated at 360° when combined with positioning tools
- Color Monitoring



1-D Codes



2-D Reader



OCR Reader

### Readers

Reads and interprets 1-D bar codes. Data Matrix and Snowflake symbologies now used extensively for inventory and part in a variety of industries. Reads and interprets serial numbers, labels, product IDs and symbols, handles scaled and rotated characters, and is trainable to read symbols and foreign alphabets.

- 1-D Codes
  - Omnidirectional readers will find and read a barcode in an area independent of orientation. (New!)
- 2-D Reader
- OCR Reader