

ACIS™

Area Color Inspection System



Applications

- Inspect quality of text and symbols on metal, plastic, and similar surfaces
- Fast, automated inspection of text characters and symbols for correctness, legibility, quality, and color
- Precise chromaticity and contrast measurement of small areas difficult to measure with conventional systems

Benefits

- Measure multiple locations simultaneously across an area to inspect color accuracy between points
- Inspect small elements using the high-resolution, high-sensitivity capabilities of ProMetric® Imaging Colorimeters with pixel resolution $\geq 10 \mu\text{m}$
- Verify compliance with requirements for CE and other regulatory markings, and adherence to brand color and quality standards

Key Features

- High-resolution, accurate color measurement with near-spectrometer accuracy
- Process and quality control for laser and similar markings

Optical inspection solution for accurate color and dimensional measurement of text, symbols, and patterns

The Area Color Inspection System (ACIS™) is an integrated solution for inspecting character color and formation. A ProMetric® Imaging Colorimeter and lighting configuration are mounted in a framework that can be used in a lab or on the production line. ACIS captures accurate images of devices, combining the best of machine vision (text inspection and area measurement) and spectrometers (accurate color measurement) in a single tool.

With ACIS, users can quickly assess patterns, text, symbols, and color with near-spectrometer accuracy. It can measure multiple points or small areas at production speeds. Beyond quality control, ACIS data can be analyzed to identify trends and support process control.

Pattern & Text Quality. Logos, serial numbers, CE symbols, and other markings imprinted on today's electronic devices may be laser etched, printed, painted, or applied with similar methods. Whether on metal, plastic, glass, ceramic, or other material, these markings must be inspected for correctness, legibility, uniformity, shape integrity (inclusions and exclusions), dimensions, color, and contrast.

Compliance, Branding, & Traceability. ACIS provides fast, automated measurement of text and symbols to help product manufacturers verify compliance with regulatory requirements such as CE markings and battery/power specifications. ACIS enables companies to uphold brand color and quality standards, validate text, and support part traceability (e.g., confirming serial numbers).

Small Surface Area Color Inspection. Colorimetric imaging provides precise color measurement of small areas or small parts prior to assembly. For example, manufacturers can determine if color specifications are met. The ACIS solution measures chromaticity (e.g., CIE $L^*a^*b^*$) with near-spectrometer accuracy across multiple small regions simultaneously. It helps reduce cycle time for multi-area inspection, running faster than other methods that use spot measurement devices.



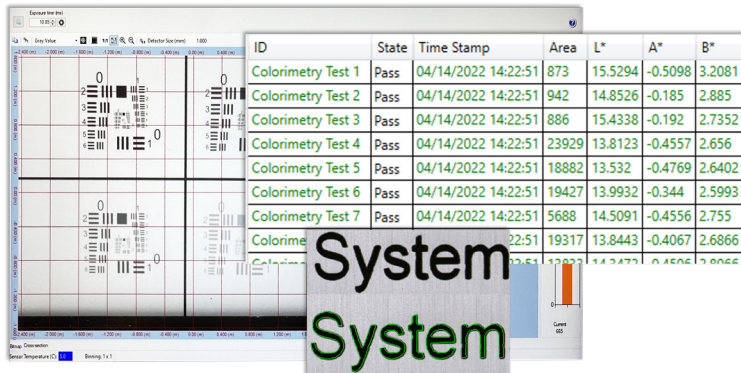
ACIS includes a ProMetric Imaging Colorimeter and a proprietary dome lighting configuration mounted in a metal frame that can be placed right on the production line.

ACIS Advantages

- Radiant's imaging systems with scientific-grade sensors are more sensitive than machine-vision cameras for precise inspection of elements based on image resolution as small as 10 μm per pixel.
- The ACIS colorimetry-based solution accurately measures CIE-traceable chromaticity (XYZ, L*a*b*) of small areas that are difficult to measure with conventional measurement systems.
- A proprietary dome lighting configuration ensures consistent illumination for accurate measurement of a broad range of specular and non-specular surface textures and finishes.

Software Features

- Auto detection of text on diffuse or specular surfaces
- User-defined dimensional sampling points
- Integrated color calibrations with optional user-definable color calibration
- Built-in interfaces to upstream production management systems



System
System



Laser-etched text



Regulatory markings



Symbols

Specifications

Parameter	ACIS™ : Area Color Inspection System
Field of View	75 mm x 50 mm
System Dimensions (W x H x D)	535 mm W x 740 mm H x 565 mm D
Weight	27 kg
Communication Interface	Gigabit Ethernet
Power	110-220 V AC, 10 AMP
Operating Temperature	0 - 30° C
Operating Humidity	20 - 70% non-condensing
Camera	ProMetric® Imaging Colorimeter
Image Resolution	≥ 10 μm per pixel
Lighting	White LED
Software	Integrated ACIS Software

Specifications subject to change without notice.

ACIS™ Minimum System Requirements

- Windows® 10, 64 bit
- Core i7 CPU
- 32 GB RAM
- 1TB Hard Drive
- 1 Ethernet port

Communications

- Digital TCP/IP
- Byte array / RS-232



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