Surface-Defect Detector

Fast, Highly Accurate Detection of Surface Defects

Commercial Uses

Used by Nissan and other companies to inspect products ranging from small to large sizes.

Features

Nissan’s original LED lighting and image processing allows the device to accurately inspect a product’s surface without halting the production process. Its ability to maintain an outstanding level of detection ensures product quality. Measurement results can be printed, displayed, and saved, thereby clarifying the causes of problems and contributing to traceability.

1. Covers a broad area of detection for each product part
2. Can identify concave imperfections in a surface
3. Detection accuracy not impaired by unwanted light reflection
4. Capable of inspecting an object with curved surfaces

Technology Overview

Device employs LED lighting, a CCD camera, an image-processing computer, and other functions to identify any defects on the surface of parts on the production line, displaying on a monitor the location, size, and other details regarding any defects found. The inspection results, such as the time of detection, can also be saved.

Operational System

The system reliably detects a surface defect by capturing electronic images of the inspected surface area at different positions by moving the imaging area relative to the inspected surface. Any potential defects are extracted from the series of images taken. The system examines whether the movement of a potential-defect area is in proportion to the movement of the imaging area; if it is, that area is determined to be a surface defect.

Image Sequence: Tracking Processing

Image Sequence: Area Matching Method

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