

LED Inspection System

Development of an Inspection System to Increase productivity on a factory production line.

Introduction

On fast a moving production line manual inspection of product can often be a bottleneck in the production process, as well as a source of error and uncertainty. Control Software Solutions Ltd were employed to develop a production test system capable of performing visual inspection of the product to improve productivity by reducing the time taken to perform routine inspection.

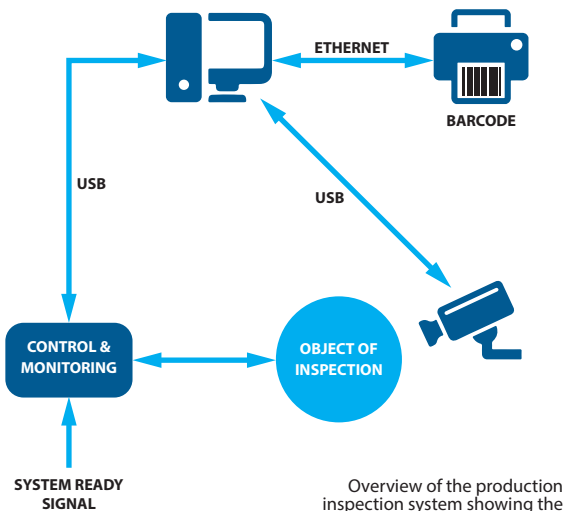
The Challenge

To develop a test system that could improve the visual inspection process of an LED lighting system by accurately counting and checking the colour of two types of LED, whilst also checking the current drawn by the circuit was within the expected limits. In addition to checking the product the software also had to maintain a record of the test results for traceability.

The Solution

Control Software Solutions Ltd developed an end of line test system capable of:

- > Detecting when a device has been inserted in test system and then automating the tests.
- > Providing a supply voltage to the device under test and controlling banks of LEDs.
- > Measuring the current drawn by the device under test and checking that it falls within acceptable limits.
- > Acquiring an image of the device under test and processing it to count LEDs of each colour.
- > Storing the test data in a database for traceability.
- > Providing the operator with a pass-fail result.
- > Barcode printing for passing units.



Hardware/Software Used

- NI LabVIEW
- Database Connectivity Toolkit
- Zebra ZT410 printer
- Basler Ace acA2500
- cDAQ-9174 CompactDAQ chassis with C-Series modules for IO

