

Transforming Situations to Solutions

Online Fuse Inspection Solution

"It was a pleasure working with the Engineers of Axcend who had the manufacturing & IT skills to provide us the solution in a very professional way. Axcend could provide us a 'One stop' solution for all our needs"

- *Mr. Sandeep Singh, DGM Services
Cooper Bussmann*

Customer

Cooper Bussmann, a wholly owned division of Cooper Industries, Inc (NYSE: CBE) is headquartered in St. Louis, Missouri. With a more than 90-year history of innovation, the company has set the standard for circuit protection in the global market.

Cooper Bussmann manufactures a wide variety of North American and European-styled fuses for the electrical, electronics and transportation industries, plus inductors and transformers for power quality in electronic applications.

Globally, Cooper Bussmann operates from 12 manufacturing facilities out of which Pondicherry, India is one of them. 80% of the products manufactured here are exported to various parts of the world and balance 20% are sold in the Domestic market. The facility in Pondicherry is a world class setup which is attracting more & more investments on new projects & self sustenance.

Business Need

The manufacturing facility at Pondicherry produces various types of fuses, which employed custom test rigs for final inspection & testing. Bar code labeling was also followed for product identification.

The original Danish software version had limited features and was working only on windows 98 system and all backend data was in Danish language.

To ensure quality control, the new system required the testing data to be embedded into the labels. This data had to be exported to a third party SPC software application for detailed analysis.

Additional software features like test without print, printing option for passed & failed fuses separately, options to select various makes of micro-ohm meters, etc were also required to have more flexibility on the usage. The system should also have features that can be modified for any future use.

Axcend Automation & Software Solutions

Axcend Automation & Software Solutions is a focused Industrial IT solutions provider working closely with Manufacturing and Utility organizations across the globe. We provide solutions that enhance productivity by optimizing the manufacturing operations. Axcend adds value to organizations through innovative solutions in the areas of Industrial Automation, Manufacturing Execution Systems and Industrial Software Product Development.

Axcend provides customer centric solutions to meet specific business scenarios of the customer by architecting solutions utilizing best of the breed products, practices and frameworks. With a rare breed of talent who possess the industry domain knowledge and technical know-how, Axcend has worked with more than 10 fortune 500 companies.

We are one of the very few in the world to have been benchmarked with SEI CMMi Level 3 certification for the hybrid processes of Industrial Automation & IT.



Solution Approach

To arrive at a feasible solution, various departments were involved with Axcend for architecting the output. Axcend interacted with the Technical & Data Management, Manufacturing Engineering, Quality, and Production team members to extract and understand the data and its implications. Also, being the economical users of the solutions, the production teams of India as well as the Hungary plant was also consulted along with the Denmark team. Axcend, along with three teams of Cooper Bussman reviewed the existing system and arrived at a solution. It was imperative to note that this solution will largely impact the quality and production department on a day-to-day basis.

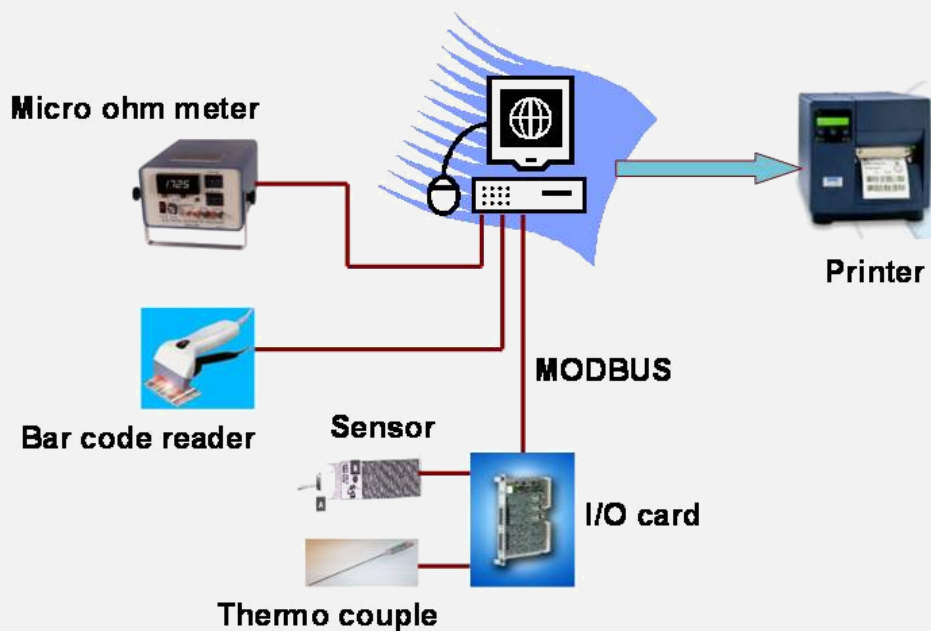
Solution Architecture & Overview

Axcend developed an indigenous **product traceability solution** which benefitted the customer with error proofing system (Poke Yoke) that resulted in reduced rejection ratio with customized print for the specialized fuses without altering the routine system.

The online fuse inspection application reads the manufacturing order data through bar code reader, senses the fuse in test rig, reads test rig & resistance data from the micro-ohm meter, prepares label and prints the same through the bar code printer as per the pre-defined format. The application provides data analysis capabilities through various reports which helped us to track the inspection process and draw performance metrics. Provision to export the reports to Microsoft Excel was provided to ensure data porting to SPC/SQC software applications. Histogram graph was plotted on screen with on-line data during a batch production to understand the spread range over the given band.



Rejection application



Value Added Benefits

- Quality control implemented with the error proofing system (Poke Yoke) that avoids printing of labels of failed fuses
- Reduction in rejection ratio as the failed fuses does not reach customer
- Scalable system which gives provision for future modifications
- Ease of data retrieval with inbuilt traceability
- Incorporated with customized print for the specialized fuses without altering the routine system.

The solution was implemented in 2004-05 and is being used by Cooper Bussmann till date for their day-to-day operations.

Contact us to know how we can help you with your customized manufacturing IT needs.

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