



Smart Manufacturing Solutions Automatic Labeling Equipment

Automatic labeling equipment is becoming essential for industries to boost production efficiency and quality control. In sectors like food, pharmaceuticals, electronics, and logistics, accurate labeling ensures product identification, brand image, and regulatory compliance. Unlike manual labeling, automatic machines work faster and more precisely, reducing labor costs and supporting automation. Growing demand in e-commerce and logistics is driving intelligent labeling technologies like barcode and RFID.

As smart manufacturing and eco-friendly trends rise, labeling equipment is evolving. Al and machine vision now enable automatic correction and defect detection, improving quality and stability. Manufacturers are also adopting recyclable and plastic-free labels. Moving forward, automatic labeling will be crucial for industries aiming to enhance competitiveness and embrace smart, sustainable production.



THE ISSUE

In recent years, as electronic products trend toward being lighter and smaller, the sizes of critical components and modules have shrunk. To ensure product traceability, many manufacturers have started applying labels for identification throughout subsequent processes, thereby improving manufacturing yield and production efficiency. However, during manual labeling, issues like misalignment or incomplete adhesion can occur, making information reading by subsequent equipment difficult and disrupting the production process.

Moreover, continuous production lines have limited space, making it challenging to install computers to control barcode printer outputs. Although using Human-Machine Interfaces (HMI) is an option, the low frequency of label content changes means the HMI's operating demand is minimal, and it still occupies valuable production line space.

CHALLENGES



Limited Space on Continuous Production Lines

Production line space is primarily designed for on-site operators to accommodate product variations. Reserving extra space for a computer to control robotic arms for labeling is inconvenient and impractical.

Low Usage Rate of HMI

While HMI reduces space compared to a full computer, label content rarely changes, and thus the need for frequent operation is low, still occupying precious space.

Device Compatibility

Although barcode printer manufacturers provide PC communication drivers, these drivers cannot be installed on PLC (Programmable Logic Controller), failing to meet direct operational needs.



OUR SOLUTIONS

ARGOX's barcode printers, compatible with various languages and software, easily integrate with computers or controllers. Their solution combines a PLC, barcode printer, and robotic arm, allowing the PLC to send data directly for automated, precise label printing and application.

SYSTEM APPLICATION SCENARIOS

Detection and Data Recording

Sensors connected to the PLC detect the target object and record the data.

Label Printing

The PLC generates the label content based on the data and prints the label using ARGOX's barcode printer.

Automatic Label Application

The robotic arm precisely applies the printed label to the designated position, ensuring smooth information reading by subsequent equipment.

PRACTICAL BENEFITS ANALYSIS

No Need for a Computer or HMI

PLC directly controls the barcode printer and robotic arm, eliminating the need for traditional computers or HMIs, and allowing a more flexible production line layout.

Improved Production Efficiency

Fully automated label application reduces human errors, ensuring accurate placement and improving product quality and label readability.

Enhanced Equipment Profitability

Unified PLC control reduces additional hardware and software development costs and minimizes maintenance needs.

FUTURE PROSPECTS

ARGOX's solution not only enhances production efficiency and label accuracy but also creates higher added value for automatic equipment providers. In the future, as automation technologies advance, the solution can further integrate AI image recognition and IoT technologies, enabling smarter label management and production control to support the development of intelligent manufacturing.



WHY ARGOX



Highly Integrated

This barcode printer, built with PPLB printer language, directly interfaces with PLCs, greatly simplifying system integration.

Sample Programs Provided

ARGOX provides comprehensive sample programs, enabling equipment developers to modify and expand based on specific needs, speeding up the development of automatic labeling equipment.

Stability and Accuracy

This barcode printer offers excellent stability and printing precision, capable of operating reliably for long periods in factory environments, ensuring each label is printed accurately.

ARGOX's PPLB-supported barcode printers integrate with PLCs, solving space limitations, cutting computer and HMI costs, and simplifying system integration. Their automatic labeling system boosts supplier profitability. A leading equipment manufacturer using ARGOX's solution increased production efficiency by 30% and cut labeling errors by 95%, achieving significant cost savings.



ABOUT ARGOX

At ARGOX, we take pride in being a trusted and innovative manufacturer of high-quality label printers, dedicated to sustainability, excellence, and cutting-edge technology. Since our founding in 1996, we have rapidly established the ARGOX brand as a benchmark for international quality and advanced barcode printing solutions.

In January 2012, ARGOX Information Co., Ltd. became a subsidiary of SATO Japan, further strengthening our global presence. Today, ARGOX is a recognized and trusted brand in over 70 countries, delivering market-leading solutions across multiple industries.

Stay connected with us for the latest news, product innovations, and industry insights. Let's explore practical and efficient labeling solutions together!





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