

Application Story

NEXCOM's APPC 1533T Controller Attains Stability to Boost Cookie Packing Outcome



The client's control units were unstable and unexpected interruption occurred. They needed an advanced solution to ensure stability for a continuous operation.

Overview

NEXCOM's Control Panel Computer APPC 1533T superseded programmable logic controllers (PLCs) in a flow packing machine, grasping control to achieve machine stability while maximizing production for a cookie manufacturer. By simplifying the previous system, NEXCOM's APPC 1533T Controller allows the client to attain a harmoniously synchronized high-speed process to increase reliability, reduce machine downtime and produce more packages smoothly.

Challenges

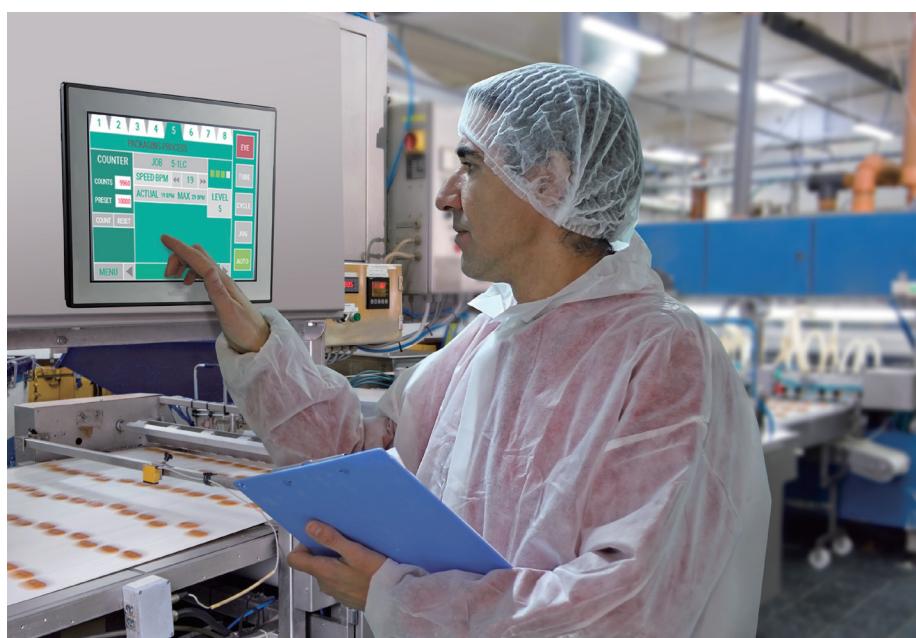
Flow packing machines are designed for packing all types of solid pastries, allowing easy configuration to perform a fast continuous production. In this application, inline feeding delivers cookies to the final stage where the packing machines unwind, stretch, measure and cut the wrapping film to have a final package at the end. However, the client's previous distributed micro PLC modules on servo drives were not keeping all bobbins synched, tearing the film and needing constant assistance, which resulted in extended downtime and countless unpackaged goods per minute.

The client's control units were unstable and unexpected interruption occurred. Therefore, they needed an advanced solution to ensure stability for a continuous operation.

NEXCOM's Solution

The Control Panel Computer APPC 1533T is used to control and display operational information of a myriad of manufacturing processes in the packing phase. The APPC 1533T Controller starts unwinding the wrapping material through a series of bobbins to cover the product from the top, adjusting the exact tension to avoid tearing the film, and measuring the proper length before fixing a longitudinal sealing on the bottom part of the package. The smooth process accomplishes 500 finished cookie packages per minute after unwinding and wrapping 80 meters of film.

During the packing process, information including quantity, production rate, remaining film length, and sealing temperature is displayed in real time on the 15"-panel of the APPC 1533T Controller, allowing clearer visualization over the previous half-sized display.



NEXCOM's EtherCAT-enabled solution with CODESYS software unifies the previous communication from Modbus RTU and CT Net by performing as controller and HMI at the same time, reaching higher data transfer speed to smooth the packing course.

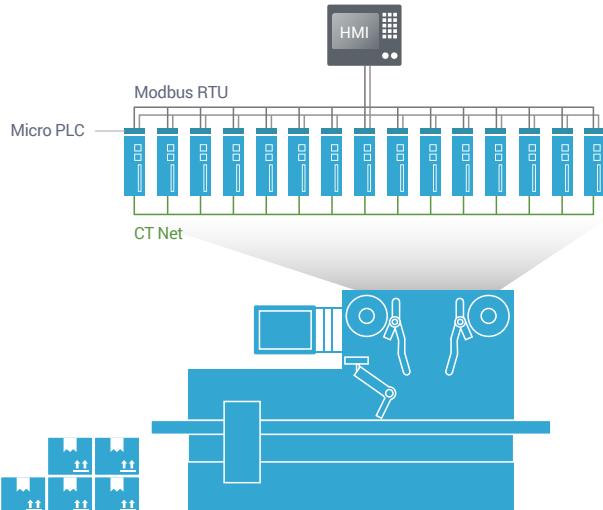
Solution Benefits

The APPC 1533T Controller assists cookie makers to accomplish unparalleled stability throughout packing. NEXCOM's EtherCAT-enabled solution with CODESYS software unifies the previous communication from Modbus RTU and CT Net by performing as controller and HMI at the same time, reaching higher data transfer speed to smooth the packing course. The film is handled carefully from unwinding to sealing ensuring a continuous production of 500 cookie packages per minute while operators can easily monitor every part of the packing stage in real time. Maintenance costs are therefore cut down, allowing cookie makers to hit the market faster while expanding the business. Additionally,

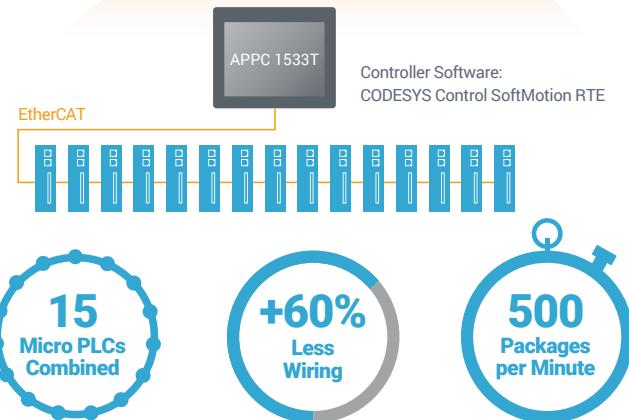
the APPC 1533T Controller's IP rating ensures operation after regular washdown and sanitation procedures, satisfying high standards of hygiene essential in the food and beverage industry.

System integrators can also reap the benefits from a simpler architecture that facilitates installation lowering costs. The Control Panel Computer APPC 1533T simplifies the system acting as master controller overtaking the previous configuration based on 15 distributed micro PLC modules on servo drives. Moreover, with the support of PLCopen standards, machine manufacturers are able to migrate and reuse existing motion control functions, reducing programming efforts.

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NEXCOM serves its customers worldwide through its subsidiaries in five major industrial countries. Under the IoT megatrend, NEXCOM expands its offerings with solutions in emerging applications including IoT, robot, connected cars, Industry 4.0, and industrial security.

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