Moxa Ethernet Switches Connect Soft Drink Bottling Production Lines

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Product Solutions:

EDS-305/308 Series

5 and 8-port unmanaged Ethernet switches

EDS-316 Series
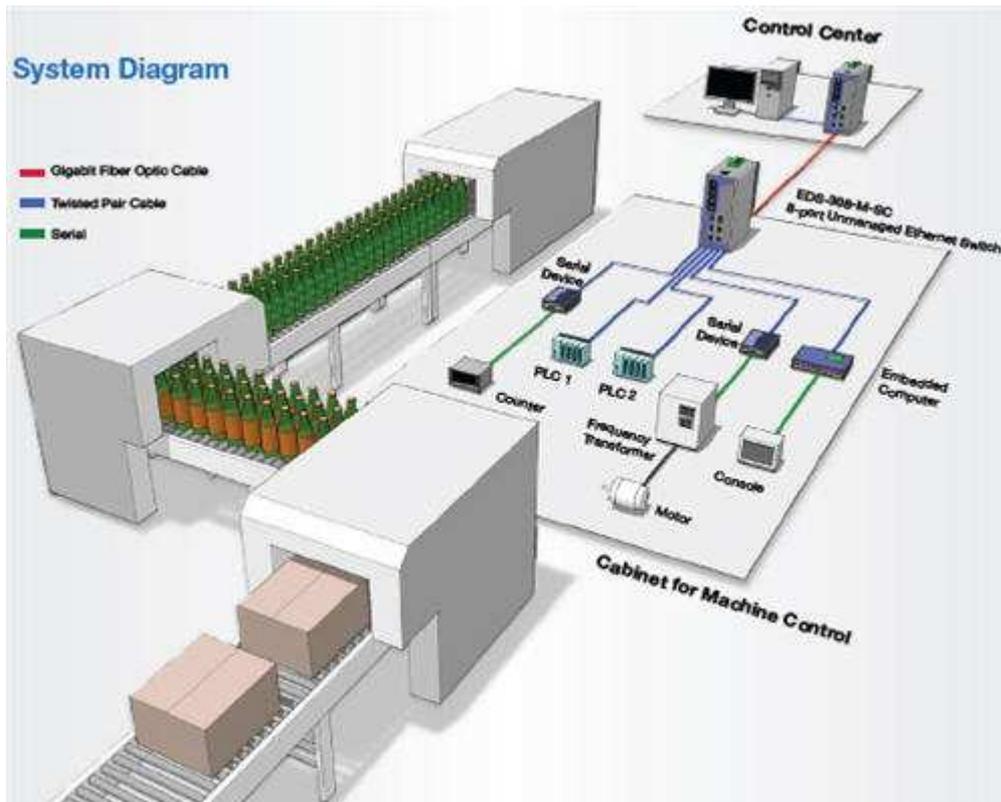
16-port unmanaged Ethernet switches

Introduction

A world-leading machine builder plans, develops, manufactures, and installs machines and implements filling, labeling, and packaging lines. As an innovator in Ethernet controlled machine automation, the company is expanding their integrated machine solutions, leading a paradigm shift in machine control by putting an industrial network onto a single machine or set of machines. One of their primary solutions is a soft drink bottling production line that comprises three primary machines—a filling machine, a labeling machine, and a packaging machine. The company was looking for several best-in-class, industrial strength Ethernet switches to form an "internal network" for this and other product lines.

System Requirements

• A proven and reliable Ethernet switch was needed to form an internal network that allows Ethernet-based devices to communicate at the machine level, port out to the factory floor to integrate with other processing machinery, as well as allowing for remote monitoring and control.
• A rugged, centralized and Ethernet-based control system that better withstands and supports demanding operating requirements.
• The machinery must withstand high-pressure and high-temperature washdowns, as well as the cleaning solvents used for sterilization.

Moxa Solution

The machine builder used the Moxa EDS-305-M-SC, EDS-308-M-SC, and EDS-316-M-SC unmanaged Ethernet switches to form the internal network. These rugged Ethernet switches are designed to withstand the wide temperature shifts, vibrations, and EMC prevalent in industrial environments. All of these switches support one multimode fiber and are capable of transmitting data up to a distance of five kilometers, making it easier to configure and support reliable, high-speed data transfer between machines or to the central control room. Important features of the Moxa switches include redundant DC power inputs, and models for standard temperature conditions (0 to +60°C) or wide range temperature conditions (-40 to +75°C). All of the switches come with a solid 5-year warranty and provide alarm relay contact outputs to warn operators and system controllers when the power fails or a port link breaks.

Why Moxa

• Moxa's rugged Ethernet switches are designed to withstand wide temperatures, vibrations, and EMC, and come in an IP30 rated casing for applications in harsh environment.
• The selected switches support multimode fiber and are capable of transmitting up to a distance of five kilometers to fulfill the long-haul transmission requirements of large scale factories.
• The T models of Moxa Ethernet switches are rated to operate reliably under extreme temperature conditions from -40 to 75°C.
• The fanless, low-power design ensures a high MTBF for long-term, trouble-free operation, which ease the maintenance effort for both machine builder and end user.
• The switches can send out warning messages by relay outputs when power failures or port break are detected, providing field engineers with real-time alarm.

Product

EDS-308/305
• Advanced 8/5 port unmanaged Ethernet Switches
• Relay output warning for power failure and port break alarm
• Class 1 Div.2/ATEX Zone 2 certified
• Redundant dual 24 VDC power inputs
• -40 to 75°C operating temperature range (T models)

EDS-316
• Advanced 16-port unmanaged Ethernet Switch
• Flexible combinations of TP, SC, or ST connector to meet different application demands
• RMON for efficient network monitoring and proactive capability

- Class 1 Div.2/ATEX Zone 2 certified
- Redundant dual 24 VDC power inputs
- -40 to 75°C operating temperature range (T models)