The Switch That Fits Just Right for Manufacturing

As new, innovative technologies emerge to improve competitiveness in manufacturing, the SDS-3000/G3000 Series smart switches combine essential functions, streamlined integration, and simplicity to offer OT engineers the tools they need to maintain reliable operations.

Superior Network Performance

Full Gigabit bandwidth to fulfill current and future needs as the number of connected devices and amount of data increases

Seamless Integration With Existing Infrastructure

Supports industrial protocols for seamless integration with production line equipment to enable streamlined monitoring via SCADA/HMI systems

Easy Deployment and Management

Compact form factor with a user-friendly interface for flexible deployment and effortless network management

Do Things Smartly With Moxa's Smart Switches

Our comprehensive smart switch portfolio provides the simplicity and necessary features OT engineers need to maintain reliable operations in a variety of automation applications.

SDS-3000/G3000 Series

6/8/10/16-port Industrial Smart Ethernet Switches

- 6/8/10/16-port Fast Ethernet and full Gigabit models with SFP options
- Up to 8 PoE ports with up to 36 W power output per port (PoE models)*
- Supports the EtherNet/IP, PROFINET, and Modbus TCP industrial protocols
- Supports RSTP, STP, and MRP redundancy protocols for enhanced reliability
- Intuitive web interface for easy configuration and monitoring
- Security features based on the IEC 62443 standard

*PoE models available in Q4, 2024.

MOXA®

Automated Optical Inspection for PCB Manufacturing

Why Moxa

- Full Gigabit models with various port counts to provide the bandwidth necessary for machine vision data
- Supports RSTP/STP/MRP network redundancy for enhanced network reliability
- One-page dashboard to streamline network management

Product Showcase

SDS-G3000 Series
Industrial Gigabit Smart Ethernet Switches

- Up to 16-port full Gigabit bandwidth
- Supports the EtherNet/IP, PROFINET, and Modbus TCP industrial protocols
- Security features based on the IEC 62443 standard
- Two-sided LED indicators for flexible status checking
- Intuitive web interface for easy device configuration, monitoring, and management

A PCB (printed circuit board) manufacturer wanted to adopt modern Automated Optical Inspection (AOI) systems to enhance their production quality by inspecting defects in the early stage. High-bandwidth network connectivity is crucial for transmitting high-resolution images and other collected data to analyze and identify defects.
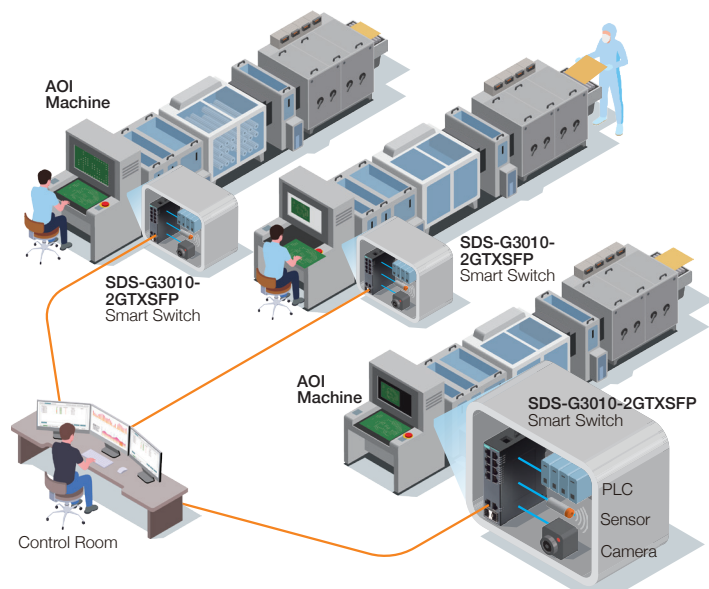
System Requirements

- High bandwidth for transmitting high-definition imagery and other large data
- Robust network reliability to ensure uninterrupted production
- User-friendly devices for faster deployment and daily maintenance

Moxa Solutions

In the competitive realm of PCB manufacturing, precision is critical to achieve the expected gross margin. AOI systems have become a linchpin in identifying issues early in the manufacturing process to keep defects at bay. This reduces the cost of reworks and scrapping, and ensures the highest production quality.

From capturing a high-definition image to deciding on the quality of a PCB requires reliable network connectivity, as any instability can easily disrupt the entire operations. The SDS-3000/G3000 Series smart switches support redundancy protocols including RSTP, STP, and MRP to ensure optimal reliability in different network topologies.

These Gigabit smart switches feature up to 16-port full Gigabit bandwidth to enable seamless transmission of high-volume imaging data from AOI systems. Additionally, the SDS Series' intuitive interface with one-page dashboard shows critical switch information at a glance. This simplifies deployment and reduces management complexity for field engineers to achieve maximum operational efficiency.

AOI Machine

SDS-G3010-2GTXSFP Smart Switch

SDS-G3010-2GTXSFP Smart Switch

AOI Machine

SDS-G3010-2GTXSFP Smart Switch

PLC
Sensor
Camera

Control Room

MOXA®

Enhanced Control and Monitoring for a Bottling Company

Why Moxa

- One-click PROFINET configuration via the web interface or by using the DIP switch for plug-and-play installation
- Up to 16 ports to connect large numbers of devices
- Ultra-compact design with multiple mounting options for more flexibility when installing in confined spaces

Product Showcase

SDS-3000/G3000 Series
Industrial Smart Ethernet Switches

- Compact and flexible housing design to fit into confined spaces
- Supports the EtherNet/IP, PROFINET, and Modbus TCP industrial protocols
- Supports RSTP/STP/MRP network redundancy for enhanced network reliability
- Security features based on the IEC 62443 standard
- Easy configuration backup and restoration with the ABC-02 Series USB tool

A bottling company that provides contract bottle filling and packaging services wanted to build a reliable industrial network to transfer live process data to and from the control room for monitoring production. The existing machinery and equipment on the production lines all communicate over PROFINET. By integrating devices that support PROFINET, the operator can better monitor the production line and improve operational efficiency.

System Requirements

- Switches that support PROFINET and can be monitored through existing SCADA and HMI systems
- Devices with sufficient ports to connect a multitude of devices for data collection
- Devices that easily fit into small, crowded control cabinets

Moxa Solutions

High-speed bottling and packaging processes require high accuracy and continuous feed rates. To maintain consistent production accuracy and quality, reliable collection of manufacturing data from multiple devices is critical. The comprehensive SDS-3000/G3000 Series smart switch portfolio includes models with various port counts to fulfill dynamic connectivity demands.

The SDS-3000/G3000 Series supports key industrial protocols, making them capable of exchanging information with the PLCs over the PROFINET protocol. Engineers can check the status of the network and PROFINET-based automation devices on a SCADA or HMI system to respond to events quickly and minimize potential downtime.

The machine builder can enable industrial protocol configurations via the web interface with just one click or use the physical rotary DIP switch. This simplifies deployment and saves time. In addition, the ultra-compact design and multiple mounting options provide more flexibility when installing the SDS-3000/G3000 Series in crowded control cabinets and confined spaces.

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