

Article Overview

Gigabit industrial-grade switches provide high-speed, reliable, and secure connectivity for harsh industrial environments, supporting PoE, redundancy, and advanced network management.

Key Features

High-Speed Connectivity: These switches offer full Gigabit Ethernet (GE) ports, often with 10-GE uplinks for high-bandwidth applications, ensuring low-latency and high-throughput performance for industrial automation and AI-driven operations (Cisco, Advantech, Phoenix Contact) . **Power over Ethernet (PoE):** Many industrial switches support PoE and PoE+ standards (IEEE 802.3af/at), enabling devices like IP cameras, sensors, and wireless access points to receive power and data over a single cable, simplifying deployment and reducing cabling costs (Cisco, Advantech, Phoenix Contact) . **Rugged Design:** Industrial switches are built to withstand extreme temperatures, vibration, shock, and humidity. For example, D-Link DIS series operate from -40°C to +75°C and are certified for vibration, shock, and free-fall, making them suitable for outdoor cabinets, factories, and transportation systems . **Network Redundancy and Resiliency:** Features like ring topology support, rapid failover, and advanced resiliency protocols ensure continuous network operation even in case of link or device failures (Cisco, Moxa, Phoenix Contact) . **Security and Management:** Industrial switches often include advanced security features such as microsegmentation, zero-trust remote access, and network monitoring tools. Management options range from fully managed to lightly managed switches, with software platforms like Cisco Catalyst Center, Cisco Meraki, or FL Network Manager for configuration and monitoring . **Certifications and Standards:** Many switches comply with industrial standards such as EN 50155 for rail applications, IEC 61850-3 for power utilities, and DIN-rail or rackmount form factors for flexible installation (Advantech, Phoenix Contact, Moxa) .

Use Cases

- o **Factories and Manufacturing:** High-speed, low-jitter networks for automation, robotics, and AI-driven production lines.
- o **Transportation and Rail:** EN 50155-certified switches for trains, signaling, and control systems.
- o **Energy and Utilities:** IEC 61850-3-certified switches for substations and grid monitoring.
- o **Smart Cities and Outdoor Deployments:** Ruggedized switches for traffic management, surveillance, and IoT infrastructure.

Vendor Highlights

- o **Cisco:** Offers modular and compact industrial switches with high-wattage PoE, 10-GE uplinks, and AI-ready features for IT/OT integration .
- o **Moxa:** Provides a broad portfolio including managed, unmanaged, PoE, and rackmount switches with

Gigabit Switches for Industrial Use

industrial-grade reliability and competitive pricing .

- o Advantech: Focuses on Gigabit and PoE switches with multiple certifications, SFP modules, and DIN-rail/rackmount options for mission-critical environments .
- o Phoenix Contact: Offers managed and unmanaged switches with Gigabit, PoE, redundancy, and IEC 61850 certification for flexible industrial networking .
- o D-Link: Rugged DIS series switches with wide temperature tolerance, vibration/shock certifications, and rapid failover for outdoor and industrial applications . Gigabit industrial-grade switches are essential for building resilient, secure, and high-performance networks in harsh environments, supporting modern industrial automation, AI integration, and reliable IT/OT convergence.

Product overview The Cisco ® Industrial Ethernet (IE) 4000 Series delivers Gigabit connectivity to Cisco ruggedized

Unleash your network's power with our high-performance Gigabit switches! Experience lightning-fast speeds, upgrade to 1 Gbps, 10

10-Port Hardened Industrial Gigabit DIN-Rail Switch TI-G102 (Version V1) MORE INFO FIND RETAILERS Add to cart

The LAN964xF/S family of Gigabit Ethernet (GbE) switches with AVB/TSN and network

Industrial Gigabit Ethernet Switch is designed for reliable network operation in demanding industrial and outdoor environments. The

Fortinet's Industrial Ethernet Switch Solutions are high-performance, cost-effective, and secure. Shop Fortinet's commercial ethernet

The Entry-Line series stands for economical and powerful Plug and Play Industrial Ethernet solutions and offers a wide range of

TRENDnet's TI-G50 is a reliable IP30 unmanaged DIN-rail switch with hardened components rated for extreme industrial

Enhance office, campus, and data center connectivity with faster speeds and PoE through network ethernet and enterprise switches.

Ethernet Switches Moxa provides a wide range of industrial Ethernet switches that feature industrial-grade reliability, network



Gigabit Switches for Industrial Use

Rugged, yet easy to use, Perle has over 734 models of Ethernet switches that feature Industrial Protocol Management support,

HPE Network Switches help power modern networks with reliable performance, and scalable Aruba and Juniper networking

Industrial Ethernet switches offer Gigabit transmission speeds, various connection options, and are built to withstand extreme

FS Industrial Ethernet Switches with robust design for harsh industrial and outdoor environments subject to

Find reliable solutions for industrial applications from machine level to networked plants. Benefit from maximum flexibility with a

5~36V wide voltage range power supply, dual power inputs (DC jack and screw terminal). onboard over

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