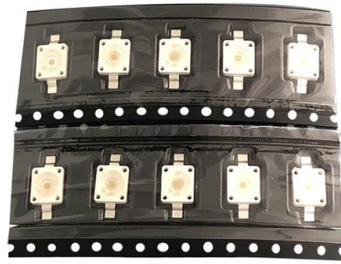


Industrial Gigabit Switches



Overview

Gigabit switches have great flexibility that prepares you for upcoming convergence or the next technology refresh.

Key Takeaways

Industrial-grade gigabit switches provide reliable, high-speed Ethernet connectivity with PoE options, redundancy, and ruggedized designs for harsh environments. Key Features



1. Gigabit Connectivity and High-Speed Uplinks Industrial switches typically offer full Gigabit Ethernet (GE) ports with options for 10-GE uplinks to support high-bandwidth applications and industrial AI deployments (Cisco) or multigigabit connectivity for power-hungry devices (Extreme Networks) . 2. Power over Ethernet (PoE) Many industrial switches support PoE standards IEEE 802.3af, 802.3at, and 802.3bt, delivering up to 90W per port to power devices like IP cameras, WLAN access points, and IoT sensors without additional cabling . 3. Ruggedized Design and Environmental Tolerance Switches are built to withstand extreme temperatures, vibration, and dust, with some models rated IP30 to IP67 for protection in harsh industrial settings. DIN-rail and rackmount options provide flexible installation . 4. Network Redundancy and Resiliency Industrial switches often include redundant ring protocols, fault-tolerant networks, and high availability features to ensure continuous operation in mission-critical environments such as smart cities, utilities, and transportation systems . 5. Security and Management Advanced switches offer network segmentation, microsegmentation (Cisco TrustSec), and device-to-cloud monitoring. Managed switches allow VLANs, QoS, SNMP, and remote monitoring, while unmanaged switches provide plug-and-play simplicity . 6. Certifications and Standards Compliance Many industrial switches comply with EN 50155 (rail), IEC 61850-3 (power utilities), and other industrial standards, ensuring reliability and interoperability in specialized applications .

Types of Industrial Gigabit Switches

- Managed Switches: Provide full control over network traffic, security, and redundancy protocols. Suitable for complex industrial networks.
- Unmanaged Switches: Simple plug-and-play operation for smaller or less critical networks.
- PoE/PoE+ Switches: Deliver power to connected devices, reducing cabling complexity.
- DIN-Rail and Rackmount Switches: Flexible mounting options for space-constrained or standard industrial racks.
- Specialized Switches: EN 50155 for rail, IEC 61850-3 for power utilities, and high-wattage PoE for surveillance or AI applications.

Leading Manufacturers

- Cisco: Offers modular and compact industrial switches with PoE, 10-GE uplinks, and advanced security features .
- Moxa: Provides a wide range of managed/unmanaged switches, PoE options, and EN 50155-certified models for rail applications .
- Advantech: Focuses on high network flexibility, cyber security, and certifications like EN50155 and IEC61850-3 .
- Extreme Networks: Ruggedized Layer 2 switches with PoE up to 90W, redundant ring technology, and Fabric Attach for zero-touch provisioning .

- Phoenix Contact: Offers managed/unmanaged switches with Gigabit, PoE, IEC 61850 certification, and IP30-IP67 protection .

Conclusion

Industrial-grade gigabit switches are essential for reliable, high-speed, and secure networking in harsh environments. When selecting a switch, consider PoE requirements, environmental ratings, redundancy protocols, management capabilities, and relevant industrial certifications to ensure optimal performance for your specific application.

Article Content

Cisco Industrial Ethernet switches

Built for diverse industrial applications, these switches feature all-gigabit, high-density, all-copper or mixed copper and fiber ports,

Industrial Ethernet Switches | Phoenix Contact

Our Industrial Ethernet Switch portfolio comprises Managed and Unmanaged Switches with Gigabit, PoE, IEC 61850 certification,

16-Port Industrial Gigabit DIN-Rail Switch

TRENDnet's 16-Port Industrial Gigabit DIN-Rail Switch, model TI-G160, is a reliable and rugged networking solution that is designed

Mini 5-Port Gigabit Industrial Switch, DIN/Wall Mount, -40~167

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Hikvision's industrial switches provide robust and reliable networking solutions, designed for industrial environments with advanced

Industrial Switches

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Unleash your network's power with our high-performance Gigabit switches!
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Gigabit Ethernet Switch

Designed for network intensive applications where rapid data transmission is key,

5 Port Mini Gigabit Industrial DIN-Rail Switch, 4 x 100 ...

About this item 5 Port Gigabit Industrial Switch: This network switch includes 5 port gigabit ethernet, support 10/100/1000Mbps

16-Port Managed Industrial Gigabit Ethernet Switch | Eaton

Expand your Gigabit Ethernet network into harsh environments, such as mines and construction sites, with this 16-port Lite Managed

Industrial 8 Port Gigabit Ethernet Switch w/2 MSA SFP

FLAT DESIGN: Industrial 8 Port Gigabit Ethernet Switch with 2 MSA Open SFP Slots
compact housing

TRENDnet 8-Port Industrial Gigabit DIN-Rail Mini

TRENDnet's 8-Port Industrial Gigabit DIN-Rail Mini Switch, model TI-GLC80, is a reliable and rugged

IGS-801M

Perfect, Slim-type Managed Switch with More Practicability and Convenience PLANET
IGS-801M is an Industrial 8-Port Full Gigabit

Industrial Gigabit PoE+ Web Managed Switch for IIoT, Smart

The Edimax Pro IGS-5408P industrial 8-port PoE+ Gigabit web managed switch comes with 4 SFP slots for enduring, reliable,

StarTech 5-Port Unmanaged Industrial Gigabit Ethernet Switch

The IES51000 5-Port Industrial Ethernet Switch offers 5 Gigabit Ethernet ports in a compact, IP30-rated metal enclosure, making it

Mini 5-Port Gigabit Industrial Switch, DIN/Wall Mount, -40~167

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Industrial Managed Gigabit Ethernet Switch | Antaira

Antaira's industrial managed gigabit Ethernet switches have exceptional performance and connect up to

Industrial Ethernet Switches | Eaton

Tripp Lite's industrial-grade network switches expand Gigabit Ethernet connectivity to factory floors and other environments with

8-Port Hardened Industrial Gigabit DIN-Rail Switch

TRENDnet's TI-G80 is a reliable IP30 unmanaged DIN-rail switch with hardened components rated for extreme industrial

Durable Industrial Switches

D-Link's Industrial Switches have industrial-grade resilience to maintain your network uptime despite extreme hot and cold

16-Port Managed Industrial Gigabit Ethernet Switch | Eaton

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Industrial 8 Port Gigabit Ethernet Switch w/2 MSA SFP Slots

FLAT DESIGN: Industrial 8 Port Gigabit Ethernet Switch with 2 MSA Open SFP Slots
pact housing allows for front access, easy

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Gigabit Switches | Industrial Ethernet Switch | EtherWAN

Gigabit switches have great flexibility that prepares you for upcoming convergence or the next technology refresh. EtherWAN's

Industrial Gigabit Managed Switch 4-Port 802.3at PoE

Designed to be installed in heavy industrial demanding environments, the IGS-4215-4P4T2S is the new

Industrial Ethernet Switches | Eaton

Thoughtful features such as DIN rail mounting, Power over Ethernet (PoE) ports and rugged metal cases make these switches a

Ethernet Switches

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

Industrial Managed Gigabit Ethernet Switch | Antaira

Our industrial managed gigabit Ethernet switches provide a high level of EFT and ESD protection that

Industrial Ethernet Switches – Cost-Effective,

Unmanaged and managed switches in various designs are available to enhance performance and security.

Cisco Industrial Ethernet switches

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