Industrial Gigabit Network Switch Solution

Overview

Our Industrial Ethernet Switch portfolio comprises Managed and Unmanaged Switches with Gigabit, PoE, IEC 61850 certification, and for DIN rail mounting.

Key Takeaways

Industrial-grade gigabit switches provide reliable, high-speed Ethernet connectivity with PoE options, redundancy, and ruggedized designs for harsh environments. Key Features1.

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.

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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. ConclusionIndustrial-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.

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Article Content

Industrial Ethernet Switches

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

Industrial Switch: Understanding Industrial Ethernet

Deliver high-bandwidth or high-density industrial networking solutions using a moderate bandwidth Gigabit fiber trunk for power/utilities, water/wastewater

Industrial Ethernet Switches

Our managed Ethernet switches, fiber switches, and router switches provide fast Ethernet and gigabit combo ports as well as numerous network protocols, such

Industrial Ethernet Switches – Cost-Effective,

WAGO''s range of switches ensures the scalability of your ETHERNET network infrastructure, while providing outstanding electrical and mechanical

Industrial Switches

Focusing on enterprises, retails, campus and hospitality markets, Edgecore offers high-performance multi-gigabit solutions to upgrade their network structure on

Industrial Ethernet Switches | Phoenix Contact

Our Industrial Ethernet Switch portfolio comprises Managed and Unmanaged Switches with Gigabit, PoE, IEC 61850 certification, and for DIN rail mounting.

Global IT Products & Network Solutions Provider | Black Box

Black Box provides cutting-edge IT solutions and technology products to businesses worldwide, ensuring innovative and reliable services for global digital transformation.

HPE Networking Instant On Switch 8p Gigabit CL4 PoE 65W 1830

HPE Networking Instant On Switch 1830 series provides an easy to use and affordable wired solution for networks supporting IT, mobile, and cloud applications. This affordable and easy-to-deploy smart

24-Port GbE PoE+ Switch w/ Four 10G SFP+ Uplinks

Equipped with four 10G SFP+ open slots, this switch is the ideal solution for cost-sensitive organizations considering 10 Gigabit Ethernet. With 10G technology

Fiber Optic Network Switches | Ethernet to Fiber Switches

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We offer solutions that provide seamless transmission and conversion from Ethernet media to multimode or singlemode fiber. Our Ethernet network switches with fiber ports comes in managed or

Omada IES206GPP 6-Port Gigabit Industrial Easy Managed Switch

Package Contents Omada IES206GPP 6-Port Gigabit Industrial Easy Managed Switch with 3-Port PoE+ and 1-Port PoE++. Industrial-Grade Protection Built for Harsh Environments with -40°C to 75°C

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PLANET GS-6320-24UP2T2XV: A Powerful L3 PoE++ Managed Switch

The PLANET GS-6320-24UP2T2XV is a cost-optimised L3 managed PoE++ switch with 24 Gigabit 802.3bt PoE ports, 10G uplinks, LCD touch screen, and redundant power support for

Advancing Industrial All Intelligence

Huawei Enterprise provides a broad range of innovative ICT infrastructure products and solutions for vertical industry and enterprise customers worldwide.

Industrial Ethernet Switches

Advantech''s industrial Ethernet solutions provide an abundance of product options including managed and unmanaged switches, Gigabit Ethernet switches, PoE

Products

PCIe Switches and Retimers Market leading ExpressFabric and PCI Express switching solutions provide the critical high performance connectivity required by

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EH9711 Series 11-Port Fast Ethernet IEC 61850-3 Industrial Managed Switch #About Connections drive our world Connections drive the world in which we live. And within industrial environments, having

Network Switches

Cisco network switches deliver performance, flexibility, and security. Cisco switches are scalable and cost-efficient and meet the demands of hybrid work.

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