

Industrial Switches and Routers



AI Overview

Industrial routers connect different networks and manage traffic securely, while industrial switches interconnect devices within a local network for high-speed data transfer.

Key Differences

Industrial Routers: Act as "boundary guardians," connecting multiple networks and enabling communication between different network segments. Provide security features such as VPN, firewall, NAT, and DHCP to control access and protect data. Support remote access and multi-network integration (e.g., wired, 4G, Wi-Fi), making them ideal for geographically distributed operations like wind farms or remote industrial sites. Often modular and rugged, supporting SD-WAN, 5G, and Wi-Fi 6 for industrial edge applications.

Industrial Switches: Function as "data transfer stations," connecting multiple devices within a local area network (LAN) for high-speed communication. Maintain MAC address tables to efficiently forward data only to the intended device, improving network performance and security. Support VLAN segmentation, PoE, and redundancy protocols like ERPS for uninterrupted operation in critical environments. Designed for harsh industrial conditions with IP66/IP67 ratings, dust and liquid protection, and compact form factors for tight spaces.

Typical Use Cases

Routers: Remote monitoring, connecting multiple factory sites, secure VPN access, and bridging OT and IT networks. Example: Using a router to connect a factory LAN to a cloud-based control system.

Switches: High-density device interconnection, video surveillance, production line automation, and local data aggregation. Example: Using a switch to connect PLCs, sensors, and cameras within a smart factory.

Recommended Deployment

Small to medium industrial setups often use a combination: a central industrial router as the gateway, connected to multiple industrial switches in a star topology. Routers handle external connectivity and security, while switches manage internal traffic efficiently. For extreme environments, choose devices with ruggedized enclosures, PoE support, and redundancy protocols...

Article Content

Industrial IoT Networking

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Industrial Networking Products & Communication Solutions Expert

Maisvch is a leading manufacturer of industrial networking products, including rugged Ethernet switches, gateways, routers, media converters, serial/fieldbus devices.

Networking with Industrial Routers and Industrial Switches

Whether it's the automated production lines in smart factories or the energy monitoring systems in smart cities, the collaborative networking of industrial routers and industrial switches is the core of

Cisco Industrial Routers

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Industrial Network Products

Our Stratix 5410 Industrial Distribution Switches offer an all gigabit platform with four 10 gigabit port options and Network Address Translation (NAT) capabilities for networks where high performance is

Industrial Networking Devices | TE Connectivity

Power your Industrial IoT with TE Connectivity's leading industrial networking devices. Discover our robust solutions, including industrial switches, routers, and IIoT gateways.

How Is OT Different From IT? OT vs. IT

With the right industrial switches, routers, management and security tools, this will unlock many benefits such as: Reduced unplanned asset downtime with more secure and reliable connectivity Lower

All Industrial Switch Products

Ruijie offers next-generation industrial Ethernet switches designed for harsh industrial environments, providing flexible full-gigabit access as well as 10GE uplink ports, and supporting a wide operating

Contact Us

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