

RIVO MULTITRADE OPTICAL SYSTEMS

Relatively prominent industrial-grade switches



Overview

Modernize your operations with Cisco Industrial Ethernet switches: Increase productivity, boost security, and empower industrial AI.

Key Takeaways

Industrial-grade switches are rugged, high-performance Ethernet devices designed for harsh environments, offering managed/unmanaged options, PoE capabilities, and advanced network reliability features.

Industrial-grade switches are specialized networking devices built to operate in extreme conditions such as high/low temperatures, vibration, dust, and moisture. They are essential for factory automation, smart transportation, utilities, and critical infrastructure. These switches come in managed and unmanaged versions, supporting Gigabit Ethernet, PoE/PoE+, and high-speed uplinks for reliable connectivity in industrial networks .

Key Features

- **Rugged Design:** Many switches feature IP30-IP67-rated enclosures, fanless heat dissipation, and three-proofing layers to resist dust, moisture, and corrosion .
- **Port Options:** Available with RJ45, SFP, M12, and fiber ports, supporting speeds from 10/100 Mbps to 10-GE for high-bandwidth applications .

- **Power over Ethernet (PoE):** Supports PoE, PoE+, and PoE++, delivering up to 360W for devices like IP cameras, sensors, and WLAN access points, reducing the need for additional cabling .
- **Network Reliability:** Features include redundancy protocols (MRP, ERPS, PRP), dual power supplies, and fault-tolerant ring topologies to ensure continuous operation .
- **Industrial Protocol Support:** Compatible with Profinet, Ethernet/IP, Modbus, TSN, and PTP, enabling precise time synchronization and seamless integration into complex systems .
- **Security and Management:** Managed switches offer VLAN, QoS, ACLs, SDN support, and advanced cybersecurity features like microsegmentation and device-to-cloud monitoring .

Applications

- **Factory Automation:** Connecting PLCs, sensors, and industrial controllers with high reliability.
 - **Smart Transportation:** Powering traffic cameras, sensors, and communication nodes in harsh outdoor conditions.
 - **Utilities and Power Plants:** Ensuring secure and redundant network connectivity for critical infrastructure.
 - **Industrial AI and IoT:** Supporting high-speed data transfer, low-latency communication, and PoE-powered devices for AI-enabled industrial systems .
- #### Notable Product Lines
- **Phoenix Contact:** Offers managed/unmanaged switches with IEC 61850 certification, PoE+, and IP67 protection, suitable for DIN rail mounting and critical infrastructure .
 - **Cisco Industrial Switches:** Modular and compact switches with 10-GE uplinks, high-wattage PoE, ultra-low jitter, and advanced security, ideal for industrial AI and extreme environments .
 - **FS Industrial Switches:** Layer 2/2+/3 switches with fanless design, IP40-IP41 protection, PoE++, and TSN support, suitable for factory automation and power grid management .

- **Extreme Networks ISW Series:** Rugged Layer 2 switches with flexible PoE options, redundant ring technology, and Fabric Attach for zero-touch provisioning, optimized for smart cities and industrial IoT .

Conclusion

Featured industrial-grade switches combine robust hardware, flexible port configurations, PoE capabilities, and advanced network management to ensure reliable, secure, and high-performance connectivity in harsh industrial environments. Selecting the right switch depends on application requirements, environmental conditions, and network complexity, with options ranging from compact unmanaged switches to fully managed modular systems with advanced redundancy and security features .

Article Content

How to Choose a Real Industrial-Grade Switch | AOA Technology

Real industrial Ethernet switches beat commercial ones. Learn to choose and verify a genuine industrial switch — temperature,

Industrial Ethernet Switches

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

Industrial Grade Ethernet Switches -

Discover what industrial grade Ethernet switches are, their unique features, real-world applications, key differences

How to pick the right Industrial Ethernet Switch for critical networks

Featured industrial-grade reliability, network redundancy, strengthened security, and easy management gives you the flexibility to

All Industrial Switch Products

Ruijie offers next-generation industrial Ethernet switches designed for harsh industrial environments, providing flexible full-gigabit

How should I choose an industrial grade Ethernet switch?

In modern industrial automation, Industrial Ethernet Switches (IES) have become a key component. Correctly selecting

How to pick the right Industrial Ethernet Switch for critical networks

Industrial Ethernet switches are comprised of managed and unmanaged switches with Gigabit, PoE, and various industry

Industrial Ethernet Switches

Modernize your operations with Cisco Industrial Ethernet switches: Increase productivity, boost security, and empower industrial AI.

Enterprise vs Industrial Ethernet Switches | Antaira Technologies

Understanding Industrial Ethernet Switches If something similar to this has happened to you, it may be time to revisit the differences

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

