Industrial-grade Series 3 Switches

Overview

Industrial Switches (ISW) | Extreme NetworksExtreme Industrial Switches are a family of ruggedized Layer 2 switches designed to operate under harsh environ.

Key Takeaways

Industrial-grade Series 3 switches are rugged Layer 3 managed switches designed for high-performance, mission-critical applications in harsh environments, offering advanced network protocols, PoE support, and extended temperature operation.

Key Features

Port Configurations and Bandwidth Industrial Series 3 switches typically offer 8 to 24 Gigabit Ethernet ports with high-speed 10G SFP+ uplinks, supporting data-intensive applications such as rail transit, mining, and large-scale surveillance networks (Altai IES3100). Cisco and Extreme Networks models provide flexible port configurations, including modular options with up to 24 GE ports and high-wattage PoE for powering devices like cameras and access points. Environmental Resilience These switches are engineered for harsh industrial conditions, featuring fanless designs, natural heat dissipation, and extended operating temperatures from –40°C to 70°C (Altai IES3100).

They also include surge protection, electromagnetic shielding, and ruggedized enclosures, ensuring stable long-term operation in extreme environments. Network Protocols and Layer 3 Capabilities Series 3 switches support a comprehensive set of Layer 2 and Layer 3 protocols, including VLAN, STP/RSTP/MSTP, ERPS, OSPF, static routing, and multicast control. Advanced resiliency protocols and MLAG or redundant ring technologies enable rapid network convergence and high availability, critical for industrial automation and intelligent transportation systems.

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Power over Ethernet (PoE) Many industrial switches provide IEEE 802. 3af/at/bt PoE, delivering up to 90W per port, which eliminates the need for separate power cabling for devices like IP cameras, wireless APs, and IoT sensors. Cisco and Extreme Networks offer high-wattage PoE options for power-hungry devices.

Security and Management Industrial Series 3 switches include network security features such as IEEE 802. 1X, MAC authentication, RADIUS, uRPF, and Cisco TrustSec for microsegmentation. Management interfaces are flexible, supporting Console, Telnet, SSH, SNMP, Web GUI, and integration with platforms like Cisco Catalyst Center or Meraki for centralized monitoring and device-to-cloud performance tracking.

Applications These switches are ideal for industrial automation, smart cities, utilities, transportation systems, and large-scale surveillance networks, providing reliable connectivity, high availability, and simplified deployment in challenging environments. SummaryIndustrial-grade Series 3 switches combine rugged hardware, advanced Layer 3 networking, PoE support, and comprehensive management to meet the demands of mission-critical industrial applications. They are designed to ensure continuous uptime, network security, and scalability in environments where commercial-grade switches would fail.

Manufacturers like Altai Technologies, Cisco, Extreme Networks, Allied Telesis, and Belden offer a range of models to suit different deployment needs and environmental conditions.

Article Content

Industrial Switches (ISW) | Extreme Networks

Extreme Industrial Switches are a family of ruggedized Layer 2 switches designed to operate under harsh environments and extended temperature conditions. They provide continuous uptime,

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

Ethernet Switches

Moxa provides a wide range of industrial Ethernet switches that feature industrial-grade reliability, network redundancy, strengthened security, easy management, and competitive price-to

H3C IE4320-EI Series Din-rail Industrial Ethernet Switches

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H3C IE4320-EI series industrial switches adhere to industrial grade hardware design and adopts highly reliable industrial grade components, while using the highly developed and tested Comware platform

Layer 3 Managed Switches

Moxa''s Layer 3 managed switches feature industrial-grade reliability, multicast availability, and security enhancements based on the IEC 62443 standard. We offer toughened industry-specific products with

Durable Industrial Switches

With Gigabit Ethernet, rapid failover, powerful security, and certifications for vibration, shock, and free-fall, these rugged switches protect your network.

H3C IE4300 Series Industrial Switches

H3C IE4300 series industrial switches offer extensive industrial environmental compliance and certifications, and can be widely used in public transport, traffic management, smart building, and

Industrial Layer 3 GbE PoE Switch | Industrial & Telecom Network ...

CTC Union offers a full spectrum of products, including Industrial Layer 3 GbE PoE Switch, Industrial Ethernet, PoE, EN50155 and E-Mark certified switches. CTC Union''s goal is to provide reliable,

Industrial Ethernet Switches

Cisco IE3500 Rugged Series switches With high-speed 10-GE uplinks, high-wattage PoE options, ultra-low jitter, advanced network security features, and device-to-cloud performance monitoring with the

Networking Products and Solutions

Industrial networking Industrial-grade networking bridging IT and OT, built on the same platform as campus and branch, with ruggedized capabilities for factory,

Products and Technology | onsemi

Standard Products provide reliable, cost-effective semiconductor solutions for industrial, automotive and consumer designs. The portfolio includes LDOs, amplifiers, comparators, logic, EEPROMs and

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Cisco Industrial Ethernet 3010 Series Switches Layer

This data sheet describes the benefits, specifications, and ordering information for the Cisco Industrial Ethernet 3010 Series Switches Layer 2/Layer 3.

monaco Gigabit 1 Fiber 4 Copper Industrial Ethernet Switch JXRD14G

With rail-mounting capability, wide-temperature operation, an IP40-rated enclosure, and LED indicators, the JXRD14G-SFP series is a plug-and-play industrial-grade device that provides a reliable and

Cisco Catalyst IE3400 Rugged Series industrial switches

Cisco Catalyst IE3400 Rugged Series industrial switches help to build robust networks for manufacturing, utilities, transportation, and other industrial sectors.

Cisco Catalyst IE9300 Rugged Series switches: Enterprise-grade ...

Figure 1: Catalyst IE9300 Rugged Series all-fiber models The new all-fiber and all-copper models of these rackmount, Layer 3 switches deliver the same security, scalability, and automation

monaco 100 Mbps 24-Port Industrial Ethernet PoE Switch JXRD024F-AC

JIAXUN JXRD024FP-AC 100M 24-Port Industrial PoE Switch (24-port 100 Mbps electrical ports, industrial-grade Ethernet switch with PoE support) The 24-port 100 Mbps PoE switch supports 24

Layer 3 Industrial Ethernet Switches | Industrial Grade L3 Switch ...

Explore industrial Layer 3 Ethernet switches designed for routing, VLAN control, and large-scale industrial networks. Rugged industrial grade L3 switches with fiber and Gigabit options. OEM &

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