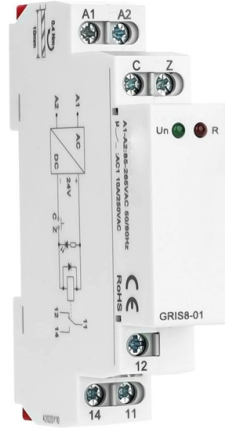


What is an industrial level 3 switch



AI Overview

An industrial Level 3 switch is a ruggedized network device that combines Layer 2 switching with Layer 3 routing capabilities, designed for harsh industrial environments. Overview An industrial Level 3 switch functions as both a switch and a router. It efficiently connects devices within the same subnet or VLAN while also performing IP routing between different subnets, supporting static and dynamic routing protocols such as OSPF, RIP, and BGP. This allows seamless communication across multiple network segments, which is essential in large or segmented industrial networks.

Key Features

- Rugged Design:** Built to withstand extreme temperatures (-40°C to +75°C), high vibration, shock, and electrical surges, often with metal housings and DIN-rail or rack-mountable options.
- Routing Capabilities:** Supports inter-VLAN routing, static routes, dynamic routing protocols, and advanced features like Access Control Lists (ACLs) and route filtering.
- Industrial Protocol Support:** Includes features like Ethernet Ring Protection (ERPS), Rapid Spanning Tree Protocol (RSTP), IGMP snooping, and Quality of Service (QoS) prioritization for critical industrial traffic.
- High Availability:** Many models support Virtual Router Redundancy Protocol (VRRP) and link aggregation to ensure reliable network operation.
- Power and Connectivity:** Often supports dual power inputs, Power over Ethernet (PoE/PoE+), and wide voltage ranges to maintain continuous operation in industrial settings.

Applications

- Industrial Level 3 switches are widely used in:**
- Factory Automation:** Connecting control systems, sensors, and machines across multiple network segments.
- Energy and Utility Networks:** Managing substation or water system networks with high reliability requirements.
- Transportation Systems:** Supporting train, metro, or highway communication networks where multiple VLANs and subnets must interconnect.
- Remote Edge Routing:** Providing routing and segmentation in distributed industrial sites.

Advantages Over Layer 2 Switches Unlike Layer 2 switches, which only forward...

Article Content

Layer 3 Switches | Industrial Ethernet Switches | EtherWAN

All lite Layer 3 switches support SNMP, port mirroring, QoS, flow control, VLANs, Link Aggregation, IGMP snooping, DHCP, and DDM. EtherWAN's Layer 3 switches can make routing decisions based

Layer 3 Switches | Industrial Ethernet Switches | EtherWAN

Additionally, these Hardened / Industrial Ethernet switches support Virtual Router Redundancy Protocol (VRRP), which increases the availability and reliability of routing paths on an IP subnetwork. All lite

Industrial Ethernet Switches

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What is a Layer 3 Switch?

A Layer 3 switch functions as both a switch and a router. These devices are a perfect solution for VLANs, as they do not have a WAN interface. In addition, Layer 3 switches are a robust and scalable

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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 &

Why and when do you need an Industrial Layer 3 switch?

To put it simply, a Layer 3 switch combines the functionalities of both a switch and a router and operates as a switch, efficiently linking devices within the same subnet or Virtual Local Area Network (VLAN),

Layer 3 Network Switches

The GL5080 features Layer 3 switching capabilities and offers wire-speed switching across 16 ports. GL5080 incorporates a comprehensive set of security mechanisms that include high level

Industrial Layer 3 Ethernet Switches | Westermo

Westermo industrial Layer 3 Ethernet switches provide secure and reliable routing for mission-critical networks. Designed for harsh industrial, rail and energy environments, they enable advanced

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Choosing the Best Industrial Switch: L2 vs. L2+ vs. L3

Discover the ideal industrial switch for your needs. Explore the differences between L2, L2+, and L3 switches and make informed decisions for

Types of Industrial Grade Network Switches

Learn about L2 and L3 Industrial Grade Network Switches, PoE vs non-PoE types, and how to choose the right rugged switch for your industrial setup.

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Layer-2 vs Layer-3 Switches: Features, Top Picks, meet your need 2025

Discover the differences between Layer-2 and Layer-3 switches, their key features, and top 5 models. Find out switch fits home, small business, or industrial.

Choosing the Best Industrial Switch: L2 vs. L2+ vs. L3

Layer 3 switches, operating at the Network Layer, offer advanced routing capabilities, making them the go-to choice for complex industrial networks. These switches enable the creation of

Layer 2 vs. Layer 3 Industrial Switches

In this article, we'll compare FS Layer 2 and Layer 3 industrial switches, highlighting their features and discussing six key factors to consider when choosing between them.

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

Built for reliability, L3 Ethernet switches are ideal for applications requiring high-speed communication, redundancy, and scalability. The robust design of these L3 network switches ensures they operate

Cisco Industrial Ethernet 3000 Layer 2/Layer 3 Series Switches Data ...

The Cisco ® Industrial Ethernet 3000 Series (IE 3000 Series) is a family of Layer 2 and Layer 3 switches that bring Cisco's leadership in switching to Industrial Ethernet applications with

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Industrial Layer 3 Ethernet Switches | Westermo

Designed for harsh industrial, rail and energy environments, they enable advanced network segmentation and long service life. Built on Westermo's WeOS operating system with IEC 62443

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

Types of Industrial Grade Network Switches

An L3 industrial PoE switch combines the routing functionality of a Layer-3 industrial switch with built-in PoE capability on data ports. In effect, such a switch can

Understanding Industrial DMZ (L3.5) in the Purdue Model

Explaining the Security Buffer That Keeps Industrial Systems Safe Let's understand what is Industrial DMZ or L3.5 in the Purdue model.

Contact Us

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