

Embedded Module for Industrial Switches



AI Overview

Embedded modules for industrial switches are compact, rugged Ethernet solutions designed to integrate into industrial devices, providing reliable connectivity, protocol support, and high-performance networking in harsh environments.

Overview Embedded Ethernet switch modules are specialized networking components designed to be integrated directly into industrial equipment or systems. They allow manufacturers to rapidly deploy Ethernet-enabled devices without designing a full switch from scratch, supporting both expansion and upgrade of automation equipment. These modules are particularly suited for industrial IoT, robotics, aerospace, defense, and harsh environmental applications.

Key Features

- Compact and Rugged Design:** Many embedded modules are ultra-compact, sometimes as small as two-thirds the size of a business card, and are engineered to withstand extreme temperatures, shock, and vibration.
- High-Speed Connectivity:** Modules support Gigabit Ethernet and, in some cases, 10-Gigabit Ethernet (10GE) for high-throughput applications.
- Protocol Support:** They often support all major Industrial Ethernet protocols, including time-sensitive networking (TSN) features, ensuring compatibility with a wide range of industrial controllers and processors.
- Managed Switching Capabilities:** Many embedded modules provide managed switch functions, such as VLANs, QoS, and security features, enabling robust network control and monitoring.
- Energy Efficiency:** Designed for low power consumption, making them suitable for space- and energy-constrained applications.

Applications

- Industrial Automation:** Embedded switches can be integrated into robots, PLCs, and other automation devices to provide reliable internal and external network connectivity.
- Mission-Critical Systems:** Modules like the Cisco Catalyst ESS9300 are optimized for defense, mining, and oil & gas, offering ruggedness and security for extreme environments.
- IoT and Edge Devices:** They enable compact, high-performance networking in edge devices.

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Embedded

Product Number: EES25-0600UHIHPH2E Embedded Ethernet Switch with redundancy function PRP Managed Fast Ethernet Switch according to IEEE 802.3, store-and-forward-switching

Ethernet switch module

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Cisco Embedded Services 3300 Series At-a-Glance

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Hirschmann Embedded Ethernet Switches

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Ethernet Embedded Modules

Our Ethernet embedded modules are designed for device manufacturers who want to enhance the performance and reliability of their solutions, and want to make

Ethernet Switch Module

Discover Maisvch industrial switch system on module where customers can build their own unique peripherals around them, designed for rugged and demanding

Industrial IoT Embedded Networks

New embedded switch module designed for open standards Addressing the needs of mission-critical applications, Cisco and Curtiss-Wright combine strengths to build the new VPX3-623 switch module.

XGSPON ONU SFP+ 1270nm-TX/1577nm-RX 9.953G-TX/9.953G-RX

Key Features Integrated MAC and OMCI stack: Performs all ONU functions and FCAPS management directly within the SFP+ module, allowing deployment in standard Ethernet switches and routers.

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