Industrial Switch Technology Products



Overview

Learn about industrial network switch and Ruggedized Industrial Ethernet Switch solutions. Browse FiberPlex industrial switching products from Patton.

Key Takeaways

Industrial switches are specialized network devices designed for reliable connectivity in harsh industrial environments, supporting Ethernet, PoE, and IIoT applications.

Overview of Industrial Switches

Industrial switches are network switches engineered to operate in extreme conditions such as high/low temperatures, vibration, humidity, electrical noise, and exposure to oil or water sprays. They are widely used in manufacturing plants, railways, oil and gas facilities, water treatment, and smart factory automation. These switches ensure deterministic network performance for industrial automation and IIoT systems.

Types of Industrial Switches

Managed vs Unmanaged: Managed switches allow configuration, monitoring, and redundancy protocols, while unmanaged switches provide plug-and-play connectivity for simpler setups. Layer 2/Layer 3 Switches: Layer 2 switches handle basic Ethernet traffic, whereas Layer 3 switches support routing between subnets and advanced network management. DIN-Rail Mounting: Many industrial switches are designed for DIN-rail installation, a standard for mounting control equipment in industrial environments.

Po

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E (Power over Ethernet): Some switches deliver power to connected devices like IP cameras or IoT sensors, with outputs up to 90W per port and IEEE 802. 3bt compliance.

High-

Speed and Ruggedized Options: Industrial 10G switches, M12 connectors, and TSN (Time-Sensitive Networking) support high-bandwidth and precision timing for automation systems.

Environmental and Protection Features

Temperature Range: Typically -40°C to +75°C for extreme environments.

I

P Ratings: IP67-rated switches can be mounted directly in the field, while IP20-rated switches are suitable for control cabinets. Surge Protection and Smart Power Management: Protects devices from electrical spikes and ensures reliable operation.

Applications

Smart Factories: Supports AGV/AMR systems, real-time automation, and industrial IoT connectivity. Energy and Utilities: SCADA systems for solar PV plants, energy storage, and power grid monitoring. Transportation: Railway Ethernet switches compliant with EN 50155 standards for trains and rail networks.

Security and Surveillance: PoE switches for IP cameras and access control systems.

Leading Manufacturers

Hikvision: Offers industrial switches integrated with security and video surveillance solutions. Maisvch: Provides rugged Ethernet switches, gateways, routers, and serial-to-Ethernet converters for IIoT and Industry 4. 0 applications.

Patton: Focuses on industrial Ethernet switches for harsh environments and IoT integration. Murrelektronik: Supplies managed and unmanaged industrial switches for reliable connectivity. Turck: Offers IP67 and IP20 industrial switches for field and cabinet installations.

Industrial switches are essential for robust, high-performance networking in industrial environments, enabling seamless communication between devices, supporting automation, and ensuring reliable operation under challenging conditions.

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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.

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

Industrial switch, Industrial electric switch

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Industrial Ethernet

Industrial Ethernet PLANET Industrial Ethernet equipment is compliant with various industrial protocols and ITS certifications such as MQTT, Modbus, SCADA, EtherCAT EN50155 and E-Mark to meet all

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