

What do industrial switches do



Article Overview

Industrial switches are specialized networking devices designed to ensure reliable communication and data transfer in harsh industrial environments.

What Industrial Switches Are

Industrial switches, also known as industrial Ethernet switches, are network communication devices specifically engineered for industrial settings. Unlike commercial switches, which operate in controlled server rooms, industrial switches are built to withstand extreme temperatures, dust, humidity, vibration, and corrosive gases, often with protection ratings of IP40 to IP67 . They provide high-speed, stable, and reliable data transmission between devices in industrial automation systems and the Industrial Internet of Things (IIoT), . Many models also feature dual power redundancy and fanless cooling to maintain continuous operation under challenging conditions .

Key Features

- **Rugged Design:** Metal or reinforced enclosures to resist shock, vibration, and environmental hazards .
- **Temperature Tolerance:** Operate in extreme temperatures from -40°C to 85°C .
- **Advanced Networking:** Managed or unmanaged options, PoE (Power over Ethernet) support, and protocols like ERPS and Spanning Tree for network reliability .
- **Lightning and Surge Protection:** Some models include 6KV protection for outdoor applications .

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