

Do industrial switches support gateways



Article Overview

No, industrial switches are not gateways; switches manage data within a network, while gateways connect different networks and handle protocol translation.

Key Differences

Industrial Switches: Industrial switches are network devices that connect multiple devices within the same local network, such as controllers, sensors, drives, and HMIs on a plant floor. They operate primarily at the data link layer (Layer 2), directing data packets to the correct destination within the LAN. Switches ensure deterministic communication, redundancy, and high reliability in harsh industrial environments, but they do not translate protocols or connect separate networks . **Industrial Gateways:** Gateways serve as bridges between different networks or communication layers, often connecting operational technology (OT) devices on the plant floor to IT systems, cloud platforms, or enterprise applications. They perform protocol conversion, edge data processing, device management, and secure transmission. Gateways can handle multiple protocols like Modbus, OPC UA, PROFINET, and CAN, enabling communication between legacy equipment and modern Ethernet-based systems .

Functional Summary

Feature	Industrial Switch	Industrial Gateway
Primary Role	Connect devices within a LAN	Connect different networks or layers
Protocol Handling	Typically Ethernet only	Protocol translation (Modbus, OPC UA, PROFINET, etc.)
Data Processing	Minimal, mainly forwarding	Edge computing, filtering, aggregation
Network Scope	Local network	LAN to WAN, OT to IT, or cloud integration
Security	Basic network segmentation	Advanced security, access control, and monitoring...

Article Content

Industrial Gateway Selection Guide

With growing diversity in industrial IoT applications, the need for scenario-specific gateways has become critical. This blog aims to provide a comprehensive guide to selecting the right gateway for your

Industrial IoT Ecosystem: Comparison of Major IoT Module

Innovative companies like Wavetel IoT focus on IoT terminal devices such as industrial routers, gateways, and

What Is an Industrial IoT Gateway? Functions, Architecture & Use Cases

Learn what an industrial IoT gateway does, how it's architected, and where it's deployed — with real-world use cases across factory

Ethernet Switches

Moxa provides a wide range of industrial Ethernet switches that feature industrial-grade reliability, network redundancy, strengthened

Industrial IoT Networking

These rack-mount switches provide versatile connectivity with PoE, high-speed ports, stacking capabilities, and built-in security. These attributes make them ideal for access, distribution, or

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We offer a complete portfolio of Ethernet switches, cellular routers, gateways, wireless access points/clients, and

What is The Difference Between Industrial Gateways and Routers?

Industrial gateways act as protocol translators, connecting industrial devices and controllers that use different protocols and allowing

Protocol Converters | Network Gateways | HMS Networks

Effortlessly connect industrial devices, machines or networks Gateways & protocol converters HMS

Read what is an industrial gateway

The industrial gateway supports multiple communication methods, such as Ethernet, WiFi, 4G, 5G etc oose the

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Definitive Guide on Industrial gateway_Industry

Industrial gateways play an important role in modern industrial systems, especially in realizing Industry 4.0

Industrial gateway technology depth analysis: from architecture to ...

At the same time, the 5G industrial intelligent gateway also has powerful edge computing capabilities, which can perform preliminary

Wikipedia, the free encyclopedia

Wikipedia is a free online encyclopedia, created and edited by volunteers around the world and hosted by

A Complete Guide to Network Gateways: How They Work and Why

Learn what a network gateway is, how it works, and why it's essential for connecting different networks. Understand

Industrial IoT & Edge IoT Gateways: 10+ Best Models for 2025

The ten Modbus-compatible industrial IoT gateways highlighted in this guide represent some of the best options

Introduction to Industrial Network Gateways

This article teaches the basics of gateways in industrial networks and PLC-to-PLC communication.

Industrial Gateways Bridge Network Infrastructure | DigiKey

Industrial gateways allow for a staged introduction of Industry 4.0 by bridging existing RS-232/RS-485 networks and

FS Community

Hier sollte eine Beschreibung angezeigt werden, diese Seite lässt dies jedoch nicht zu.

The Basics of Industrial Gateways | Rockwell Automation | US

Get a quick tutorial on gateways and the types of common industrial communication protocols, and how they can be used in mix-protocol environments.

IoT Gateway Devices & Secure Industrial Switches | RAD

Deploy reliable IoT gateway devices for utilities & enterprises with RAD. Designed for secure and efficient IoT networking & industrial connectivity.

Industrial Ethernet Switches | WAGO

Industrial Switches WAGO's switch portfolio provides scalable Ethernet network infrastructure with excellent electrical and

Industrial Ethernet Switches

Switches for every industry and every use case Built to endure the demanding conditions of factories, transportation infrastructure,

Advantech Industrial Intelligent Connectivity Solutions

We offer a complete portfolio of Ethernet switches, cellular routers, gateways, wireless access points/clients, and media converters built for demanding operating conditions.

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In closing, gateways stand as critical elements in smoothing operational transitions, optimizing data utilization, and updating outdated

HMS Networks

HMS creates products that enable industrial equipment to communicate and share information with

Industrial Networking Products & Communication Solutions Expert

Maisvch is a leading manufacturer of industrial networking products, including rugged Ethernet switches, gateways, routers, media

Industrial communication, gateways & switches | Schneider Electric ...

Schneider supports numerous communication protocols including industrial ethernet, EtherNet/IP, Modbus, Modbus TCP, Modbus

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