

# Reasons for Communication Interruption in Industrial Switches



## Overview

In industrial automation, one of the most frequently encountered issues is unstable Ethernet communication, manifested as sporadic connection drops, disappearing SCADA devices, Modbus TCP frame errors, or frozen HMI panels. Communication faults are among the most common yet costly issues in automated environments, often masking deeper system vulnerabilities. At Hale Engineering, we've supported hundreds of industrial sites across the UK dealing with unexpected downtime and control issues. Many of these incidents trace. When PLCs lose I/O, drives drop offline, or HMIs stop updating, the system may still be powered—but it's effectively blind. As a networking. Troubleshooting industrial network communication issues should start with network diagnostics, not PLC code or sensor checks, because a physical communication failure is a common root cause. Tools like the ping command and network mapping software are essential for quickly confirming physical.



## Article Content

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System Communication Timeout in Industrial Robots | Cable & Signal ...

A System Communication Timeout is one of the most common industrial robot faults — and also one of the most

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Top 7 Causes of PLC Communication Failures (and How to Prevent

In this article, we unpack the top seven causes of PLC communication breakdowns and explain how to prevent them

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PLC Communication Troubleshooting: Protocol Stack, Physical Layer,

PLC Communication Troubleshooting provides systematic diagnostic workflow for industrial network failures. Protocol

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Effective troubleshooting of industrial network communication failures ...

Troubleshooting industrial network communication issues should start with network diagnostics, not PLC code or sensor checks,

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A Quick Guide to Industrial Switches

Industrial switches play a crucial role in various industrial applications to help your network stay up and keep it running

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5 possible reasons for frequent disconnection of industrial switches ...

Here are 5 possible reasons for frequent network disconnections in industrial switches and corresponding solutions.

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Network Switch Troubleshooting Guide: Common Problems and

A comprehensive switch troubleshooting from the physical layer to the data link layer to the network layer to find out

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## Application scenarios of industrial switches in multiple industries

As a bridge connecting industrial equipment and networks, industrial switches play a vital role in many industries due to their high

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## 5 possible reasons for frequent disconnection of industrial switches ...

In industrial environments, industrial switches play a crucial role in network connectivity. However, frequent network

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## PLC Communication Troubleshooting Guide

Learn how to troubleshoot and prevent PLC communication failures in industrial automation with practical engineering solutions.

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## Industrial Switches: Everything You Need to Know

Industrial Protocol Support The term Industrial Protocol Support refers to the ability of an industrial switch to communicate using

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## How Automation Systems Stay Stable Even When Communication Isn't

This article breaks down the exact mechanisms, hardware, and protocol-level details that keep automation systems

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## Industrial Switches in Industrial Automation

Industrial switches play a crucial role in industrial automation by enabling reliable and efficient networks. As the

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## Diagnosing and Fixing Signal Dropouts in Automated Plant Systems

In modern industrial environments, automated plant systems play a crucial role in optimizing production, ensuring

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## Comprehensive Analysis of Industrial Switches

September 5, 2025 Comprehensive Analysis of Industrial Switches Comprehensive Analysis of Industrial Switches: An In-Depth

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When Automation Communication Fails: How to Diagnose PLC,

This guide walks through the most common causes of industrial automation communication failures, how to diagnose

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Most Common Network Problems & Causes of Network Downtime

Routers and switches often fail, causing performance issues or complete outages. External factors like power surges, water, voltage

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Intermittent Connection Loss between Switches

I have a connection between two switches that have been working fine for about two years, but now intermittently loses

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Why Ethernet Drops Connections? Industrial Network Guide

Discover why industrial Ethernet becomes unstable: EMC noise, temperature, power issues, and how IES2100SL switches restore

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Common Switch Issues

This guide explores the most common switch issues, the symptoms that hint at trouble, and a structured troubleshooting

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Troubleshooting and maintenance skills of industrial switches in ...

Industrial switches are widely used in many fields such as security monitoring, power industry, and transportation industry. Its core

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Industrial Switches for Modern Manufacturing and Automation

As someone working in manufacturing or industrial automation, you understand the critical role that industrial

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Top 9 Reasons for Network Switches Failure

The switch will inevitably encounter failures during normal use. Network switch failures can cause network downtime,

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When Automation Communication Fails: How to Diagnose PLC,

High-Risk Components in Communication Failures While cables and switches are frequent culprits, certain

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Common Causes of Programmable Logic Controller(PLC) Failure and ...

Discover common causes of PLC failure and effective mitigation strategies for ensuring industrial efficiency and

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When Automation Communication Fails: Diagnosing PLC, Drive, and

In modern industrial facilities, a single communication failure can cost thousands per hour in lost production, even

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Fix Control System Communication Failures

Fix industrial network issues fast. Learn proven methods to troubleshoot control system communication failures and

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SCADA Communication Problems and Solutions

Learn the top SCADA communication problems, real plant symptoms, root causes, and proven fixes for PLC-SCADA

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For example, in air traffic control, communication with the pilot might be considered as an external interruption, while talking with a

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When Automation Communication Fails: Diagnosing PLC, Drive, and

This guide explains what communication failures really look like, the most common root causes behind them, which

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## What Is Network Redundancy? Key Strategies for Industrial Switches

Learn what network redundancy is and why it matters for industrial communication systems. Explore device, link, ring,

## Contact Us

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