

IP Protection Level of Industrial Switches



Overview

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Key Takeaways

Industrial switches are commonly rated IP65, IP66, or IP67, indicating strong protection against dust and water ingress. Understanding IP Ratings

The IP (Ingress Protection) rating is a standardized measure that defines how well an enclosure protects electronic devices from solid particles and liquids. The rating consists of two digits following "IP":

- First digit (0-6): Protection against solid objects and dust.
 - 0: No protection
 - 5: Dust-protected; limited ingress allowed, no harmful deposits
 - 6: Dust-tight; complete protection against dust
- Second digit (0-9): Protection against liquids.
 - 0: No protection
 - 5: Protected against water jets
 - 6: Protected against powerful water jets
 - 7: Protected against temporary immersion in water (up to 1 meter for 30 minutes)

- 9: Protected against high-pressure, high-temperature water jets

Common IP Ratings for Industrial Switches

- IP65: Dust-tight and protected against water jets from any direction.
- IP66: Dust-tight and protected against powerful water jets.
- IP67: Dust-tight and protected against temporary immersion in water . These ratings ensure that industrial switches can operate reliably in harsh environments, including factory floors, outdoor installations, mines, and offshore facilities .

Examples and Features

Cisco IP66/IP67-rated industrial switches are designed for extreme conditions. They are dustproof and waterproof, withstand vibration, shock, and electrical noise, and support Power over Ethernet (PoE), high-speed copper and fiber ports, and secure network management . Such switches are ideal for industrial automation, AI applications, and outdoor deployments where environmental protection is critical.

Key Takeaways

- The first digit of the IP rating ensures protection against dust and solid objects.
- The second digit ensures protection against water exposure.
- IP65–IP67-rated switches are standard for industrial environments, providing reliable operation under dust, water jets, or temporary immersion.
- Selecting the appropriate IP rating depends on the specific environmental conditions where the switch will be deployed. By understanding IP ratings, engineers and facility managers can ensure long-term reliability and safety of industrial network infrastructure.

Article Content

What Is an IP Rating? Industrial Switch IP Rating Guide

Learn what IP protection ratings mean and how to choose the right IP rating for industrial Ethernet switches.

What Is IP Rating? A Practical Guide to Industrial Switch IP Ratings ...

The IP rating is one of the most important indicators when evaluating industrial Ethernet switches and other industrial networking

Industrial Ethernet Switches

Managed, unmanaged and Power-over-Ethernet (PoE) IP20- and IP67-rated Industrial Ethernet Switches are robust and versatile,

Related Video Reference

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