ZITHA TECH SPECIALTY CABLES (Pty) Ltd

3C Certification for Industrial Ethernet Switches



Overview

H3C IE4320-EI Series Din-rail Industrial Ethernet SwitchesIE4320-EI industrial switch series offer extensive industrial environmental compliance and certif.

Key Takeaways

3C Certification (China Compulsory Certification) ensures that industrial Ethernet switches meet mandatory safety and quality standards for use in China.Overview of 3C Certification

3C Certification, also known as China Compulsory Certification, is a mandatory safety and quality certification required for many electrical and electronic products sold in China. For industrial Ethernet switches, 3C certification ensures that the devices comply with Chinese safety regulations, electromagnetic compatibility (EMC), and environmental standards. This certification is similar in purpose to CE marking in Europe or UL certification in the United States, but it is legally required for products entering the Chinese market.

Importance for Industrial Ethernet Switches

Industrial Ethernet switches are often deployed in harsh environments, such as transportation systems, smart buildings, and industrial automation, where reliability and safety are critical . 3C certification confirms that the switch has been tested for:

• Electrical safety under high voltage and current conditions

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• Fire and thermal resistance

• EMC compliance to prevent interference with other devices

• Durability under industrial operating conditions, including wide temperature ranges and vibration Switches like the H3C IE4300 series and Cisco Catalyst IE3400 Heavy Duty Series are designed for industrial-grade reliability, often featuring IP-rated enclosures, fanless cooling, and wide operating temperature ranges . While these products may carry multiple international certifications (IEC, EN, ISO), 3C certification is specifically required for legal sale and deployment in China.

Certification Process

The 3C certification process typically involves:

• Application Submission: Manufacturer submits product details and technical documentation to a certified testing laboratory in China.

• Product Testing: The switch undergoes safety, EMC, and environmental testing according to Chinese standards.

• Factory Inspection: The manufacturing facility is inspected to ensure consistent production quality.

• Certification Issuance: Upon passing all tests and inspections, the product receives the 3C mark, which must be affixed to the device.

• Ongoing Compliance: Periodic audits and retesting may be required to maintain certification.

Related Industrial Certifications

In addition to 3C, industrial Ethernet switches often carry other certifications to ensure global compliance and reliability:

• IEC 61850-3 / EN 50155: Railway and transportation standards

• IEC 62443: Industrial cybersecurity compliance

• IP Ratings (IP40, IP67): Protection against dust and water ingress

• PoE Standards (IEEE 802.3af/at): Power over Ethernet compliance These certifications complement 3C by ensuring the switch meets both safety and operational standards in industrial environments.

Key Takeaway

For manufacturers and users of industrial Ethernet switches in China, 3C certification is mandatory and guarantees that the product meets national safety and quality requirements. When combined with other industrial certifications, it ensures that switches are robust, reliable, and safe for deployment in mission-critical and harsh environments .

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Article Content

H3C IE4300 Series Industrial Switches

Exceptional Quality, Solid as A RockRich Software FeaturesVisualizationGreen FeaturesComprehensive Authentication StrategiesOutstanding ManagementPower Failure AlarmsIE4300 industrial switch series supports AAA, RADIUS authentication, user-based account, IP, MAC, VLAN and port based dynamic or static user identification and binding. The switches also support H3C iMC to implement real-time user management, diagnose and remove illicit network attack.See more on h3c Advantech

IEC61850-3 Ethernet Switches - Advantech

Advantech offers high quality IEC61850-3 certification industrial Ethernet switches for the power and energy automation applications.

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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