



H3C IE4320-EI Series

Din-rail Industrial

Ethernet Switches

Release Date: April, 2025



New H3C Technologies Co., Limited

Product Overview

H3C Industrial Ethernet 4320-EI series switches are H3C's latest industrial Ethernet switches designed for rugged environment and wide operating temperature. H3C IE4320-EI series industrial switches adhere to industrial grade hardware design and adopts highly reliable industrial grade components, while using the highly developed and tested Comware platform to provide a trustworthy Ethernet solution in wide operating temperature scenarios. IE4320-EI industrial switch series offer extensive industrial environmental compliance and certifications, and can be widely used in public transport, traffic management, smart building, and other extreme temperature scenarios.

H3C IE4320-EI series industrial switches include the following models:

- IE4320-8T2P2X-EI (DC): 8*10/100/1000 BASE-T Ports, 2*1000 BASE-X SFP Ports, 2*1G/10GBASE-X SFP+ Ports and 2*RS485 Ports, 24-28VDC, Redundant Inputs;
- IE4320-8T2P2X-EI (AC): 8*10/100/1000 BASE-T Ports, 2*1000 BASE-X SFP Ports, and 2*1G/10GBASE-X SFP+ Ports, 100-240VAC, Single Input;
- IE4320-8T2P2X-PWR-EI: 8*10/100/1000 BASE-T PoE+ Ports, 2*1000 BASE-X SFP Ports, 2*1G/10G BASE-X SFP+ Ports and 2*RS485 Ports, 52-57VDC, Redundant Inputs;
- IE4320-16T4X-EI: 16*10/100/1000 BASE-T Ports, 4*1G/10GBASE-X SFP+ Ports and 2*RS485 Ports, 24-48VDC, Redundant Inputs;
- IE4320-8T8P4X-EI: 8*10/100/1000BASE-T Ports, 8*100/1000BASE-X SFP Ports, 4*1G/10GBASE-X SFP+ Ports and 2*RS485 Ports, 24-48VDC, Redundant Inputs.



IE4320-8T2P2X-EI (DC)



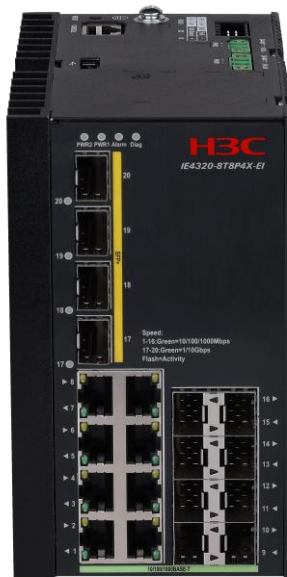
IE4320-8T2P2X-EI (AC)



IE4320-8T2P2X-PWR-EI



IE4320-16T4X-EI



IE4320-8T8P4X-EI

Features and Benefits

Exceptional Quality, Solid as a Rock

H3C IE4320-EI series industrial switches are the latest Ethernet switches developed with industrial compliance and wide operating temperature in mind. All models are built with industrial grade components, with reliability significantly higher than commercial counterparts running under the same conditions.

- Fanless natural cooling design. Multiple heat dissipation components such as embedded heatsink and thermal adhesive make it perform consistently under harsh environment. Operating temperature ranges from -40°C to 75°C.
- Shock and vibration resistant, dust proof, IP51 compliant.
- Support high level electromagnetic shielding, capable of withstanding electrostatic discharge, surge/burst/electrical fast transients, pulse magnetic field, radiated electrical field.

Rich Software Features

H3C IE4320-EI series industrial switches integrated the switching, routing, ring network protection and security.

Support full layer-2 Ethernet feature sets, with 802.1Q VLAN, protocol based VLAN, Voice VLAN, Guest VLAN, Q-in-Q, flexible Q-in-Q encapsulation, and multicast VLAN. STP/RSTP/MSTP, 802.3x Ethernet flow control protocol; support QoS congestion management through data classification and prioritization to ensure transmission of mission critical data; support Link Layer Discovery Protocol (LLDP), Link Aggregation Control Protocol (LACP), Device Link Detection Protocol (DLDP), Generic Attribute Registration Protocol (GARP), multicasting at layer 2 and layer 2 features such as VLAN registration protocol and broadcast storm suppression.

H3C IE4320-EI series industrial switches support IPv4 and IPv6 dual stack protocols as well as IPv4 and IPv6 forwarding at full line speed on hardware. It supports IPv4/v6 static routing, routed port, RIP and OSPF (in small scale). In addition, it supports IGMP Snooping, DHCP Server, DHCP Client, DHCP Snooping, DHCP Relay (option 82) and Domain Name System (DNS).

H3C IE4320-EI series industrial switches support Rapid Ring Protection Protocol (RRPP). The Rapid Ring Protection Protocol (RRPP) is a link layer protocol dedicated to Ethernet rings. It prevents broadcast storms caused by data loops when an Ethernet ring is healthy, and rapidly restores the communication paths between the nodes after a link is disconnected on the ring by bringing up the backup link. Compared with STP, RRPP has the following advantages: fast topology convergence (within 20 milliseconds); convergence time independent of Ethernet ring size. On intersecting rings, topology update of an RRPP ring does not ripple to other rings, data transmission thus becomes more stable. RRPP also supports load balancing in Ethernet rings, which improves physical link bandwidth utilization.

H3C IE4320-EI series industrial switches implement full Ethernet security features. By enforcing multiple sets of security mechanisms, they effectively limit malware spread and traffic flow attack. The switches support layer 2 to 4 ACL control, block CPU, ARP, and DoS attacks. IEEE 802.1x port-based authentication is a client-server-based access control and authentication protocol that restricts unauthorized clients from connecting to a LAN through publicly accessible ports. TACACS+ and RADIUS authentication can implement centralized management for switches, and prevent unauthorized change in user allocation. They also support rapid deployment of End-point Admission Domination (EAD), as well as SAVI-based IPv6 source address validation.

Ethernet Ring Protection Switching (ERPS) is a ring network protection protocol defined by ITU, G.8032. It is a link layer protocol specially applied to the Ethernet ring network. When the Ethernet ring network is complete, it can prevent broadcast storms caused by the data loop, and when a link on the Ethernet ring network is disconnected, it can quickly restore the communication between various nodes on the ring network (within 20 milliseconds).

Intelligent Resilient Framework 2 (IRF2)

H3C IE4320-EI series industrial switches support IRF2 (Second Generation Intelligent Resilient Architecture) technology, which connects multiple physical devices to each other, making it virtual as a logical device, that is, users can regard these multiple devices as a single device manage and use. H3C IE4320-EI series industrial switches can not only perform virtualization through 10G optical interfaces, but also it can be virtualized through the gigabit optical port and the gigabit electrical port, and the IRF2 function can be realized through the network cable. IRF2 provides the following benefit:

- **Simplify management:** After the IRF architecture is formed, it can be connected to any port of any device to log in to a unified logical device. By configuring a single device, the entire intelligent elastic system and all member devices in the system can be managed without physical connection. Configure and manage them separately on each member device.
- **Simplify business:** The various control protocols running in the logical device formed by IRF are also run as a single device. For example, the routing protocol will be calculated as a single device. With the application of the cross-device link aggregation technology, it can replace the original spanning tree protocol, which saves the interaction of significant protocol packets between devices, simplifies network operation, and shortens the convergence time when the network is turbulent.
- **High performance:** For Ethernet switches, the improvement in performance and port density is limited by the hardware structure. The performance and port density of an IRF system is the sum of the performance and port numbers of all devices inside the IRF. Therefore, IRF technology can easily expand the switching capability of the device and the density of user ports several times, thereby greatly improving the performance of the device.
- **High reliability:** The high reliability of IRF is reflected in three aspects: link, equipment, and protocol. The physical ports between the member devices support the aggregation function, and the physical connections between the IRF system and the upper- and lower-layer devices also support the aggregation function, which improves the reliability of the link through multi-link backup; the IRF system consists of multiple member devices. Once the master device fails, the system will quickly and automatically elect a new master to ensure uninterrupted services through the system, thus achieving device-level 1: N backup; the IRF system will have a real-time protocol hot backup function responsible for the configuration information of the protocol. Backup to all other member devices to achieve 1: N protocol reliability.

Visualization

H3C IE4320-EI series industrial switches support Telemetry technology. The real-time resource information and alarm information of the switch can be sent to the operation and maintenance platform through the GRPC protocol. The operation and maintenance platform analyzes real-time data, which can realize network quality backtracking, troubleshooting, risk warning, structure optimization and other functions to accurately guarantee user experience.

Green Features

H3C IE4320-EI series industrial switches implement a variety of green energy saving features, including auto-power-down (port automatic energy saving). If the interface status is always down for a period, the system automatically stops the interface power and the system enters power-saving mode. They also support EEE energy feature, by which if a port stays idle for a period, the system will set the port to energy-saving mode. The switches are also compliant with material environmental protection and the EU RoHS safety standard.

Comprehensive Authentication Strategies

H3C IE4320-EI series industrial switches support 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.

Outstanding Management

H3C IE4320-EI series industrial switches management interface supports SNMPv1/V2/v3, Intelligent Management Center (iMC), Command Line Interface (CLI), Web based management, TELNET and FTP configuration. They also support SSH2.0 and SSL encryption to make management safer.

Power Failure Alarms

H3C IE4320-EI series industrial switches provide redundant power supply and support alarms based on power failure.

H3C IE4320-EI series industrial switches support IEEE Dying Gasp for alarms when a power outage occurs.

Hardware Specifications

Feature	IE4320-8T2P2X-EI (DC)	IE4320-8T2P2X-EI (AC)	IE4320-8T2P2X-PWR-EI	IE4320-16T4X-EI	IE4320-8T8P4X-EI
Switching capacity	60Gbps	60Gbps	60Gbps	112Gbps	112Gbps
Forwarding capacity	45Mpps	45Mpps	45Mpps	84Mpps	84Mpps

H3C IE4320-EI Series Din-rail Industrial Ethernet Switches

Feature	IE4320-8T2P2X-EI (DC)	IE4320-8T2P2X-EI (AC)	IE4320-8T2P2X-PWR-EI	IE4320-16T4X-EI	IE4320-8T8P4X-EI
Dimensions (W × D × H)	44.0×129.4×149.2mm	48.0×129.3×149.2mm	44.0mm×129.4mm×149.2mm	78.6×129.4×149.2mm	78.6×129.4×149.2mm
Weight	≤ 1.2kg	≤ 1.2kg	≤ 1.2kg	≤ 1.2kg	≤ 1.2kg
10/100/1000M Base-T port	8	8	8	16	8
100/1000M SFP port	2	2	2	-	8
10G SFP port	2	2	2	4	4
Input voltage	Rated DC voltage: 24-48V (1+1 hot-swappable)	Rated AC voltage: 100-240V	Rated DC voltage: 54-57V (1+1 hot-swappable)	Rated DC voltage: 24-48V	Rated DC voltage: 24-48V (1+1 hot-swappable)
Power consumption	MIN: 4.7WW MAX: 12.9W	MIN: 5WW MAX: 12W	MIN: 5.7WW MAX: 144W	MIN: 6.4W MAX: 17.6W	MIN: 7.2WW MAX: 20W
POE	-		125W	-	-
MTBF(Year)	152.32	130.98	151.88	119.89	165.03
MTTR(Hour)	1	1	1	1	1
Operating temperature	-40°C ~ 70°C				
Storage temperature	-40°C ~ 85°C				
Operating & storage humidity	5% RH to 95% RH, non-condensing				
Operating Environment	International Protection Marking IP51 Lightning-proof Ethernet Port Electro Static Discharge Air Discharge: ≥±8.0kV Contact Discharge: ≥±6.0kV				

Note: This content is applicable only to regions outside mainland China. H3C reserves the right to interpret the content.

Software Specifications

Feature	IE4320-EI Series Industrial Switches
Cluster Management	Support

Feature	IE4320-EI Series Industrial Switches
Port Aggregation	Support
Ethernet Switching	Store-and-Forward
MAC Address Table	Static MAC Address Black hole MAC Address MAC Address Learning Limit
VLAN	Port-based VLAN MAC-based VLAN Protocol-based VLAN Voice VLAN Guest VLAN QinQ and Selective QinQ VLAN Mapping
ACL	Time Range-based ACL Layers 2-4 ACL IPv4/IPv6 ACL Ingress ACL Rate-limited ACL
QoS	Diff-Serv QoS Flexible queue scheduling algorithms based on ports and queues, including SP, WRR and SP+WRR 802.1p DSCP remarking
DHCP	DHCP Client DHCP Snooping DHCP Snooping Trust DHCP Snooping option 82 / DHCP Relay option 82
ARP	Static ARP Gratuitous ARP ARP anti-attack ARP Rate Limiting
IP Routing	Routed Port IPv4 Routing: Static Route, RIP IPv6 Routing: Static Route, Unicast Route
Multicast	IGMP v1/v2/v3 Snooping

Feature	IE4320-EI Series Industrial Switches
	IGMP Snooping Fast-leave IGMP Snooping Group-policy IGMP Snooping Proxy IPv4/IPv6 Multicast VLAN MLD v1/v2 Snooping MVR
Spanning Tree	STP / RSTP / MSTP STP Root Guard BPDU Guard Loop Guard
Mirroring	Port Mirroring Remote SPAN (RSPAN)
Security	Hierarchical User Management and Password Protection 802.1X Authentication AAA Authentication Public Key Infrastructure (PKI) HWTACACS SSH 2.0 IP/MAC/Port/VLAN Binding IP Source Guard HTTPs SSL Dynamic ARP Inspection, Preventing Man-in-the-Middle Attacks and ARP DoS Attacks SAVI
Energy Saving	EEE (802.3az Energy Efficient Ethernet)
IEEE	IEEE 802.3x IEEE 802.3ad IEEE 802.3af IEEE 802.3at IEEE 802.1p IEEE 802.1x IEEE 802.1q IEEE 802.1d

Feature	IE4320-EI Series Industrial Switches
	IEEE 802.1w IEEE 802.1s
Management and maintenance	Loading and Upgrading through Xmodem / FTP / TFTP Configuration through CLI, Telnet and Console Port TR069 802.1ag and 802.3ah SNMPv1/v2c/v3 iMC NMS Web-based NMS System Log, Alarms based on Severities, and Output of Debugging Information Alarms based on Power Failure NTP SNTP Temperature Alarm Ping, Tracert, Telnet
Alarm Contact Channels	Uses a relay for output, with a current carrying capacity of 1A @ 24 VDC The relay outputs alarms by opening or closing the contact.
Reliability	Dying Gasp RRPP ERPS(G.8032) MRP
Standards and Certifications	Safety: EN 62368-1, UL61010 EMC: CE/FCC/VCCI EMI: EN55035/EN55032/EN55024,CISPR 32, FCC Part 15B ,VCCI-CIPER32,Class A EMS: IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 6 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 4 Kv/2kv; Signal: 6 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF 30A Railway: EN 50121-4 Freefall: IEC 60068-2-31 Shock: IEC 60068-2-27 Vibration: IEC 60068-2-6

Performance Specification

Entries	IE4320-EI Series Industrial Switches
MAC address entries	16K
VLAN	4K
VLAN interface	32
IPv4 routing entries	3000
IPv4 ARP entries	2K
IPv4 ACL entries	1024
IPv6 unicast routing entries	750
IPv6 ACL entries	1024
IPv6 ND entries	750
Multicast L2 entries	999
Jumbo frame length	10000
QOS forward queues	8
Link group num	124
MAX num in one link group	8

Standards and Protocols Compliance

Organization	Standards And Protocols
IEEE	802.1x Port based network access control protocol
	802.1ab Link Layer Discovery Protocol
	802.1ak MVRP and MRP
	802.1ax Link Aggregation
	802.1d Media Access Control Bridges
	802.1p Priority
	802.1q VLANs
	802.1s Multiple Spanning Trees
	802.1ag Connectivity Fault Management
	802.1v VLAN classification by Protocol and Port

Organization	Standards And Protocols
	802.1w Rapid Reconfiguration of Spanning Tree
	802.3ad Link Aggregation Control Protocol
	802.3af Power over Ethernet
	802.3at Power over Ethernet
	802.3bt Power over Ethernet
	802.3az Energy Efficient Ethernet
	802.3ah Ethernet in the First Mile
	802.3x Full Duplex and flow control
	802.3u 100BASE-T
	802.3ab 1000BASE-T
	802.3z 1000BASE-X
	802.3ae 10-Gigabit Ethernet
IETF	RFC 768 User Datagram Protocol (UDP)
	RFC 791 Internet Protocol (IP)
	RFC 792 Internet Control Message Protocol (ICMP)
	RFC 793 Transmission Control Protocol (TCP)
	RFC 813 Window and Acknowledgement Strategy in TCP
	RFC 815 IP datagram reassembly algorithms
	RFC 8201 Path MTU Discovery for IP version 6
	RFC 826 Address Resolution Protocol (ARP)
	RFC 879 TCP maximum segment size and related topics
	RFC 896 Congestion control in IP/TCP internetworks
	RFC 917 Internet subnets
	RFC 919 Broadcasting Internet Datagrams
	RFC 922 Broadcasting Internet Datagrams in the Presence of Subnets (IP_BROAD)
	RFC 951 BOOTP
	RFC 1027 Proxy ARP
	RFC 1122 Requirements for Internet Hosts - Communications Layers
	RFC 1213 MIB-2 Stands for Management Information Base
	RFC 1215 Convention for defining traps for use with the SNMP

Organization	Standards And Protocols
	RFC 1256 ICMP Router Discovery Messages
	RFC 1350 TFTP Protocol (revision 2)
	RFC 1393 Traceroute Using an IP Option
	RFC 1519 Classless Inter-Domain Routing (CIDR)
	RFC 1542 BOOTP Extensions
	RFC 1583 OSPF Version 2
	RFC 1591 Domain Name System Structure and Delegation
	RFC 1757 Remote Network Monitoring Management Information Base
	RFC 1772 Application of the Border Gateway Protocol in the Internet
	RFC 1812 Requirements for IP Version 4 Router
	RFC 1918 Address Allocation for Private Internet
	RFC 2131 Dynamic Host Configuration Protocol (DHCP)
	RFC 2132 DHCP Options and BOOTP Vendor Extensions
	RFC 2273 SNMPv3 Applications
	RFC 2328 OSPF Version 2
	RFC 2375 IPv6 Multicast Address Assignments
	RFC 2401 Security Architecture for the Internet Protocol
	RFC 2402 IP Authentication Header
	RFC 2460 Internet Protocol, Version 6 (IPv6) Specification
	RFC 2464 Transmission of IPv6 over Ethernet Networks
	RFC 2576 (Coexistence between SNMP V1, V2, V3)
	RFC 2579 Textual Conventions for SMIv2
	RFC 2580 Conformance Statements for SMIv2
	RFC 2711 IPv6 Router Alert Option
	RFC 2787 Definitions of Managed Objects for the Virtual Router Redundancy Protocol
	RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations
	RFC 3101 OSPF Not-so-stubby-area option
	RFC 3046 DHCP Relay Agent Information Option
	RFC 3056 Connection of IPv6 Domains via IPv4 Clouds

Organization	Standards And Protocols
	RFC 3137 OSPF Stub Router Advertisement sFlow
	RFC 3416 (SNMP Protocol Operations v2)
	RFC 3417 (SNMP Transport Mappings)
	RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP)
	RFC 3484 Default Address Selection for IPv6
	RFC 3509 Alternative Implementations of OSPF Area Border Routers
	RFC 3580 IEEE 802.1X Remote Authentication Dial In User Service (RADIUS) Usage Guidelines
	RFC 3623 Graceful OSPF Restart
	RFC 3768 Virtual Router Redundancy Protocol (VRRP)
	RFC 4022 MIB for TCP
	RFC 4113 MIB for UDP
	RFC 4213 Basic Transition Mechanisms for IPv6 Hosts and Routers
	RFC 4251 The Secure Shell (SSH) Protocol
	RFC 4252 SSHv6 Authentication
	RFC 4253 SSHv6 Transport Layer
	RFC 4254 SSHv6 Connection
	RFC 4291 IP Version 6 Addressing Architecture
	RFC 4292 IP Forwarding Table MIB
	RFC 4293 Management Information Base for the Internet Protocol (IP)
	RFC 4419 Key Exchange for SSH
	RFC 4443 ICMPv6
	RFC 4541 IGMP & MLD Snooping Switch
	RFC 4552 Authentication/Confidentiality for OSPFv3
	RFC 4750 OSPFv2 MIB partial support no SetMIB
	RFC 4861 IPv6 Neighbor Discovery
	RFC 4862 IPv6 Stateless Address Auto-configuration
	RFC 4940 IANA Considerations for OSPF
	RFC 5095 Deprecation of Type 0 Routing Headers in IPv6
	RFC 5187 OSPFv3 Graceful Restart

Organization	Standards And Protocols
	RFC 5340 OSPFv3 for IPv6
	RFC 5424 Syslog Protocol
	RFC 5798 VRRP (exclude Accept Mode and sub-sec timer)
	RFC 5880 Bidirectional Forwarding Detection
	RFC 5905 Network Time Protocol Version 4: Protocol and Algorithms Specification
	RFC 6620 FCFS SAVI
	RFC 6987 OSPF Stub Router Advertisement
	RFC 5280 Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile
	RFC 5381 Experience of Implementing NETCONF over SOAP
ITU	ITU-T Y.1731
	ITU-T Rec G.8032/Y.1344 Mar. 2010

Ordering Information

Product ID	Product Description
LS-IE4320-8T2P2X-EI-DC	H3C IE4320-8T2P2X-EI Industrial Ethernet Switch with 8*10/100/1000 BASE-T Ports, 2*1000 BASE-X SFP Ports, 2*1G/10GBASE-X SFP+ Ports and 2*RS485 Ports, 24-28VDC, Redundant Inputs
LS-IE4320-8T2P2X-EI-AC	H3C IE4320-8T2P2X-EI Industrial Ethernet Switch 8*10/100/1000 BASE-T Ports, 2*1000 BASE-X SFP Ports, and 2*1G/10GBASE-X SFP+ Ports, 100-240VAC, Single Input
LS-IE4320-8T2P2X-PWR-EI-DC	H3C IE4320-8T2P2X-PWR-EI Industrial Ethernet Switch with 8*10/100/1000 BASE-T PoE+ Ports, 2*1000 BASE-X SFP Ports, 2*1G/10G BASE-X SFP+ Ports and 2*RS485 Ports, 52-57VDC, Redundant Inputs
LS-IE4320-16T4X-EI-DC	H3C IE4320-16T4X-EI Industrial Ethernet Switch with 16*10/100/1000 BASE-T Ports, 4*1G/10GBASE-X SFP+ Ports and 2*RS485 Ports, 24-48VDC, Redundant Inputs
LS-IE4320-8T8P4X-EI-DC	H3C IE4320-8T8P4X-EI Industrial Ethernet Switch with 8*10/100/1000BASE-T Ports, 8*100/1000BASE-X SFP Ports, 4*1G/10GBASE-X SFP+ Ports and 2*RS485 Ports, 24-48VDC, Redundant Inputs
SMB-IE Adapter 30W	IE Adapter 30W,(Input Voltage Range: 90-264Vac/120-370Vdc, Output Voltage Range:+24V)
DG-240-5501	H3C DIN-Rail-Mount 200W PoE Power Supply Module for Industrial Ethernet Switches(Input Voltage Range:90VAC-264VAC,Output Voltage:55VDC)

Datasheet history

Description	Location	Date
Officially released	-	April, 2025



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