H3C IE4300 Series Industrial Ethernet Switches

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New H3C Technologies Co., Limited

Product Overview

H3C Industrial Ethernet 4300 series switches are H3C's latest industrial Ethernet switches designed for rugged environment and wide operating temperature. H3C IE4300 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. H3C IE4300 series industrial switches 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 IE4300 series industrial switches include the following models:

- H3C IE4300-12P-AC: 8 × 10/100/1000 BASE-T Ethernet ports, 4 × 1000 BASE-X SFP optical ports;
- H3C IE4300-12P-PWR: 8 × 10/100/1000 BASE-T Ethernet ports (PoE+), 4 × 1000 BASE-X SFP optical ports;

IE4300-12P-AC

IE4300-12P-PWR

Features and Benefits

Exceptional Quality, Solid as a Rock

H3C IE4300 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, IP40 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 IE4300 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 IE4300 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 IE4300 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 50 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 IE4300 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.

Visualization

H3C IE4300 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 IE4300 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 IE4300 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.

Cloud Empowerment, Simplified Network

H3C IE4300 series industrial switches support H3C Cloudnet solution. Cloudnet empowers the network through unified operation and maintenance cloud, enabling minimal network deployment, achieving minute-level deployment, zero on-site operation and maintenance, and shortening the time for customer business to go online; AI empowerment enables minimal network operation and maintenance, intelligent network optimization, fault prediction, and provides customers with an excellent user experience; Cloudnet

can also empower business, and provide customers with business innovation through strong data operation capabilities. Improve the effectiveness of corporate operations.

Outstanding Management

H3C IE4300 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 IE4300 series industrial switches provide redundant power supply and support alarms based on power failure.

H3C IE4300 series industrial switches support IEEE Dying Gasp for alarms when a power outage occurs.

Hardware Specifications

Feature	**H3C IE4300-12P-AC**	**H3C IE4300-12P-PWR**
Switching capacity	24Gbps	24Gbps
Forwarding capacity	17Mpps	17Mpps
Dimensions(W × D × H)	149*129.8*44mm	149*129.8*44mm
Weight	≤ 1kg	≤1kg
10/100/1000Base-T port	8	8
SFP port	4	4
Input Voltage	Rated voltage range: 100 to 240 VAC @ 50 or 60 Hz Max voltage range: 85 to 264 VAC @ 45 to 65 Hz	Rated voltage range: 54 to 57 VDC Max voltage range: 54 to 57 VDC
Power consumption	MIN: 7W MAX: 12W	MIN: Single DC：11W　Dual DC：14W MAX: Single DC：141W　Dual DC：144W
POE	/	Single DC：125W Dual DC：125W
Operating temperature	-40 ~ 75℃	
Storage temperature	-40 ~ 75℃	
Operating & storage humidity	5% RH to 95% RH, non-condensing	

Operating Environment	International Protection Marking IP40 Lightning-proof Ethernet Port Electro Static Discharge Air Discharge: ≥±8.0kV Contact Discharge: ≥±6.0kV	International Protection Marking IP40 Lightning-proof Ethernet Port Electro Static Discharge Air Discharge: ≥±8.0kV Contact Discharge: ≥±6.0kV

Software Specifications

Feature	IE4300 Series Industrial Switches
Cluster Management	Support
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

Feature	IE4300 Series Industrial Switches
	DHCP Snooping Trust
	DHCP Snooping option 82 / DHCP Relay option 82
IP Services	Static ARP
	Gratuitous ARP
	ARP anti-attack
	ARP Rate Limiting
	ICMP, ICMPv6
IP Routing	Routed Port
	IPv4 Routing: Static Route, RIP
	IPv6 Routing: Static Route, Unicast Route
Multicast	IGMP v1/v2/v3 Snooping
	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

Feature	IE4300 Series Industrial Switches
	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
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
	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/v2/v3
	iMC NMS
	RMON (Remote Network Monitoring)
	Web-based NMS
	System Log, Alarms based on Severities, and Output of Debugging Information
	Alarms based on Power Failure
	NTP

Feature	IE4300 Series Industrial Switches
	Temperature Alarm
	Ping, Tracert, Telnet
Reliability	Alarms based on Power Failure (only for IE4300 switch series)
	ERPS (G.8032)
	Alarm input/output connection

Performance Specification

Entries	IE4300 Series Industrial Switches
MAC address entries	16K
VLAN	4K
VLAN interface	32
IPv4 routing entries	1K
IPv4 ARP entries	1K
IPv4 ACL entries	512
IPv6 unicast routing entries	240
IPv6 ACL entries	512
IPv6 ND entries	240
Multicast L2 entries	1000
Jumbo frame length	10000
QOS forward queues	8
Link group num	124
MAX num in one link group	8

Ordering Information

Product ID	Product Description
H3C IE4300-12P-AC	8 10/100/1000 BASE-T Ethernet ports + 4 1000 BASE-X SFP optical ports;
H3C IE4300-12P-PWR	8 10/100/1000 BASE-T Ethernet ports (POE)+ 4 1000 BASE-X SFP optical ports;
Power supply	

DG-240-5501	H3C DIN-Rail-Mount 200W PoE Power Supply Module for Industrial Ethernet Switches(Input Voltage Range:90VAC-264VAC,Output Voltage:55VDC)
Transceivers	
SFP-STACK-Kit	SFP Stacking Cable (150cm,including two 1000BASE-T SFP module and one stacking cable)
SFP-GE-LX-SM1310-A	1000BASE-LX SFP Transceiver, Single Mode (1310nm, 10km, LC)
SFP-GE-LX-SM1310-D	1000BASE-LX SFP Transceiver, Single Mode (1310nm, 10km, LC)
SFP-GE-LH40-SM1310	1000BASE-LH40 SFP Transceiver, Single Mode (1310nm, 40km, LC)
SFP-GE-LH40-SM1550	1000BASE-LH40 SFP Transceiver, Single Mode (1550nm, 40km, LC)
SFP-GE-LH80-SM1550	1000BASE-LH80 SFP Transceiver, Single Mode (1550nm, 80km, LC)
SFP-GE-LH80-SM1550-D	1000BASE-LH80 SFP Transceiver, Single Mode (1550nm, 80km, LC)
SFP-GE-SX-MM850-A	1000BASE-SX SFP Transceiver, Multi-Mode (850nm, 550m, LC)
SFP-GE-SX-MM850-D	1000BASE-SX SFP Transceiver, Multi-Mode (850nm, 550m, LC)
SFP-GE-LX-SM1310-BIDI	1000BASE-LX BIDI SFP Transceiver, Single Mode (TX1310/RX1490, 10km, LC)
SFP-GE-LX-SM1490-BIDI	1000BASE-LX BIDI SFP Transceiver, Single Mode (TX1490/RX1310, 10km, LC)
SFP-GE-T	SFP GE Copper Interface Transceiver Module (100m,RJ45)
SFP-GE-T-D	SFP GE Copper Interface Transceiver Module (100m,RJ45)

Datasheet history

Description	Location	Date
Updated the performance specification	'Performance Specification'	May, 2025

The Leader in Digital Solutions

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