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Cisco Catalyst IE9300
Rugged Series

Contents

The Cisco Catalyst™ IE9300 Rugged Series ushers in mainstream adoption of Gigabit Ethernet connectivity in compact 1RU, rack-mount switches that are purpose-built for a wide variety of industrial and extended enterprise applications.

Product overview

Cisco Catalyst IE9300 Rugged Series switches with 28 Gigabit Ethernet interfaces deliver high-speed Gigabit Ethernet connectivity in a compact form factor and are designed for a wide range of industrial applications for which hardened products are required. The platform is built to withstand harsh environments in manufacturing, energy, transportation, mining, smart cities, and oil and gas. The switches are ideal for outdoor enclosures or harsh environments while adhering to overall IT network design, compliance, and performance requirements.

These switches run Cisco IOS® XE, an operating system with built-in security and trust, featuring Secure Boot, image signing, and the Cisco® Trust Anchor module. Cisco IOS XE also provides API-driven configuration with open APIs and data models.

The Cisco Catalyst IE9300 Rugged Series can be managed with a powerful management tool, Cisco DNA Center, and can easily be set up with a completely redesigned user-friendly modern GUI tool called WebUI. The platform supports Full Flexible NetFlow (FNF) for real-time visibility into traffic patterns and threat analysis with Cisco Secure Network Analytics.

The IE9300 Rugged Series switches offer:

- Robust resiliency enabled by features such as dual ring design through four Gigabit Ethernet uplink ports, Resilient Ethernet Protocol (REP), Parallel Redundancy Protocol (PRP),[2] PROFINET, Media Redundancy Protocol (MRP)[1] ring, High Availability Seamless Redundancy (HSR)[1,2] ring, EtherChannel, integrated redundant power supplies, dying gasp,[1] etc.

- True zero-touch[1] replacement for middle-of-the-night or middle-of-nowhere failures

- Line-rate, low-latency forwarding with advanced hardware assist features[1,2]

- Simplified software management with universal images

- Support for industrial automation protocols EtherNet/IP (CIP)[1] and PROFINET[1]

[1] Support planned with future software updates.

[2] Supported on IE-9320 fiber variant only.

Figure 1.
IE-9310 Rugged Series switch

Figure 2.
IE-9320 Rugged Series switch with vertical stacking and advanced feature set

Features and benefits

Table 1.   Features and benefits

Feature	Benefits
Robust industrial design	• A utility-grade, fully managed 1-Rack-Unit (1RU) rack-mount Ethernet switch • Built for harsh environments and temperature ranges (-40° to 75°C) (-40° to 167°F) • Fanless, convection-cooled with no moving parts for extended durability • Hardened for vibration, shock and surge, and electrical noise immunity • Complies with multi-industry specifications for automation, Intelligent Transport Systems (ITS), and substation environments • Improves the uptime, performance, and safety of industrial systems and equipment • IEEE 1588v2 Precision Timing Protocol (PTP) (both power profile for utility and default profile for manufacturing are supported) • Alarm I/O for monitoring and signaling to external equipment
Full Gigabit Ethernet switch	• Total of 28 Gigabit Ethernet ports provide multiple resilient design options • Provides secure access for new high-speed applications in the industrial space • Enables new UHD IP cameras, Wi-Fi access points, and future-ready Gigabit speed automation devices • Allows IP-based Supervisory Control And Data Acquisition (SCADA) connectivity • Delivers multiple rings, redundant ring topology for new network configurations • Extends geographical scalability where connectivity over longer distances is required
User-friendly WebUI	• Allows for easy configuration and monitoring, even by nonspecialist personnel • Eliminates the need for more complex terminal emulation programs • Reduces the cost of deployment
Full Flexible NetFlow (FNF)	• Provides enhanced flow and threat visibility • Enables optimization of the network infrastructure, reduces operating costs, and improves capacity planning and security incident detection

Table 2.   Product feature sets

Product family	Platforms supported	Cisco IOS Software image (feature sets) supported
IE9300	IE-9310-26S2C-E/-A	Network Essentials, Network Advantage
	IE-9320-26S2C-E/-A	Network Essentials, Network Advantage

Product specifications

Table 3 highlights the hardware configuration for Cisco Catalyst IE9300 Rugged Series switches.

Table 3. Hardware configurations

Product number	Total ports	100/1000M SFP fiber ports (downlinks)	Combo (100/1000M SFP, 10/100/1000M RJ-45) ports (downlinks)	1G SFP fiber ports (uplinks)	Software license (default)
IE-9310-26S2C-E	28	22	2	4[1]	Network Essentials
IE-9310-26S2C-A	28	22	2	4[1]	Network Advantage
IE-9320-26S2C-E	28	22	2	4[2]	Network Essentials
IE-9320-26S2C-A	28	22	2	4[2]	Network Advantage

[1] Uplinks support 1000M operation

[2] Uplinks support 100/1000M operation

Tables 4 and 5 highlight the hardware specifications for the Cisco Catalyst IE9300 Rugged Series switches.

Table 4. Hardware specifications

Hardware specification	IE-9310-26S2C -E/-A	IE-9320-26S2C -E/-A
Hardware	4-GB DRAM 8-GB onboard flash memory[1]	4-GB DRAM 8-GB onboard flash memory[1]
Removable storage	USB,[2,3] SD card[2]	USB,[2,3] SD card[2]
Alarms	4 dry-contact alarm inputs 1 dry-contact Form-C relay alarm output	4 dry-contact alarm inputs 1 dry-contact Form-C relay alarm output
Console ports	1 RS-232 (via RJ-45), 1 Micro USB	1 RS-232 (via RJ-45), 1 Micro USB
Power inputs	Dual AC/DC power inputs	Dual AC/DC power inputs
Cisco StackWise® ports	–	2 stacking ports

[1] User-accessible flash memory is 2.5 GB.

[2] The SD card and USB are optional and are not shipped by default with the switch.

[3] USB 2.0 to load system images and set configurations.

Table 5.   Physical configurations

Product number	Dimensions (H x W x D)	Weight	Mounting	Power consumption
IE-9310-26S2C-E/-A	• 1.72 x 17.5 x 14.0 in. with PWR-RGD-AC-DC-H / PWR-RGD-LOW-DC-H • 1.72 x 17.5 x 15.18 in. with PWR-RGD-AC-DC-250	12.2 lb (5.53 kg)[1]	Rack mount	61W[2]
IE-9320-26S2C-E/-A	• 1.72 x 17.5 x 14.0 in. with PWR-RGD-AC-DC-H / PWR-RGD-LOW-DC-H • 1.72 x 17.5 x 15.18 in. with PWR-RGD-AC-DC-250	12.2 lb (5.53 kg)[1]	Rack mount	64W[2]

[1]Chassis only (does not include power supplies or blank cover)

[2]System power consumption is indicative only and will depend on multiple factors:

- The type and number of Small Form-Factor Pluggable (SFP) modules used

- The type and efficiency of the power supply used

- The number of power supplies: One power supply versus two power supplies used in the system

Table 6 highlights the performance and scalability features of the Cisco Catalyst IE9300 Rugged Series switches.

Table 6.   Performance and scalability features

Feature	IE-9310-26S2C -E/-A	IE-9320-26S2C -E/-A
Forwarding rate	28 Gbps (line rate/nonblocking)	28 Gbps (line rate/nonblocking)
Switching bandwidth	56 Gbps (switching bandwidth is full-duplex capacity)	56 Gbps (switching bandwidth is full-duplex capacity)
Number of queues	8 egress	8 egress
Unicast MAC addresses	16,000	16,000
Internet Group Management Protocol (IGMP) multicast groups	1000	1000
VLANs	1024	1024
IPv4 indirect routes	4000	4000
Spanning Tree Protocol (STP) instances	128	128
Access Control List (ACL) entries (port ACL [PACL], VLAN ACL [VACL], router ACL [RACL])	1408	1408
DRAM	4 GB	4 GB
Flash (user accessible)	2.5 GB	2.5 GB
SD card capacity[1]	4 GB	4 GB

[1] The SD card is optional and is not shipped by default with the switch.

Table 7 highlights the power supply options for the Cisco Catalyst IE9300 Rugged Series switches.

Table 7. Power supply options

Product number	Wattage	Rated nominal input operating range	Supported input voltage operating range	Use case scenario
PWR-RGD-LOW-DC-H	150W	DC 24-60V/10A	DC 18-75V	Low-voltage DC power source Compliant for use in hazardous locations
PWR-RGD-AC-DC-H	150W	AC 100-240V/2.0A 50-60 Hz or DC 100-250V/2.0A	AC 85-264V or DC 88-300V	High-voltage AC or DC power source. Compliant for use in hazardous locations
PWR-RGD-AC-DC-250	250W	AC 100-240V 3.3A 50-60 Hz or DC 100-250V 3.3A	AC 85-264V or DC 88-300V	High-voltage AC or DC power source Compliant for use in hazardous locations

Tables 8 and 9 highlight the software features supported by the Cisco Catalyst IE9300 Rugged Series switches.

Table 8. Key supported software features (Network Essentials license)

Network Essentials license (perpetual)	Features
Layer 2 switching	802.1Q, 802.1w, 802.1ab, 802.1s, 802.3ad, Per-VLAN Rapid Spanning Tree (PVRST+), Per-VLAN Spanning Tree (PVST+), Rapid PVST (RPVST), Remote Switched Port Analyzer (RSPAN), Switched Port Analyzer (SPAN), STP, Storm Control, VLAN Trunk Protocol (VTP) v2/v3, 802.1Q Tunneling, Layer 2 Tunneling Protocol (L2TP), Q-in-Q, Selective Q-in-Q, EtherChannel
Multicast	IGMP v1/v2/v3, IGMP snooping, Multicast Listener Discovery (MLD) snooping
Management	WebUI, MIB, Simple Network Management Protocol (SNMP), syslog, Dynamic Host Configuration Protocol (DHCP) server, NETCONF, Embedded Event Manager (EEM), Cisco Plug and Play (PnP), Express Setup
Security	DHCPv6 Guard, IP Source Guard, IPv6 Destination Guard, IPv6 Neighbor Discovery Multicast Suppress, IPv6 Router Advertisement (RA) Guard, IPv6 Snooping, IPv6 Source/Prefix Guard, IPv6 Neighbor Discovery Duplicate Address Detection, Flexible NetFlow, PACL, VACL, Network Edge Authentication Topology (NEAT), HTTPS, RADIUS, TACACS+, X.509v3, Secure Shell (SSH), DHCP Snooping, 802.1X, Client Information Signaling Protocol (CISP), Dynamic ARP Inspection (DAI), authentication, authorization, and accounting (AAA), Secure Copy Protocol (SCP), IEEE 802.1AE MACsec-128[1]
Quality of Service (QoS)	802.1p, priority queuing, Modular QoS command-line interface (MQC), class-based shaping and marking, egress policing, egress queuing and shaping, Auto-QoS, Differentiated Services Code Point (DSCP) mapping and filtering, low-latency queuing
Layer 3 routing	Static routing, Open Shortest Path First (OSPF), OSPFv3, Routing Information Protocol (RIP), Policy-Based Routing (PBR)
Industrial Ethernet	Locate Switch, Swap Drive, Generic Object-Oriented Substation Events (GOOSE) messaging, SCADA Protocol Classification, PTP Default Profile and Power Profile 2011, Network Time Protocol (NTP) to PTP, Bidirectional Forwarding Detection (BFD)

Network Essentials license (perpetual)	Features
Redundancy	Resilient Ethernet Protocol (REP) ring, HSR,[1,2] PRP,[2] MRP[1]
Automation	YANG, NETCONF, RESTCONF

[1] Support planned with future software updates.

[2] Will be supported on the IE-9320-26S2C-E/-A only.

Table 9. Key supported software features (Network Advantage license)

Network Advantage license (perpetual)[1]	Features
IP routing protocols	Hot Standby Router Protocol (HSRP), Border Gateway Protocol (BGP), Enhanced Interior Gateway Routing Protocol (EIGRP), Intermediate System-to-Intermediate System (IS-IS), Nonstop Forwarding (NSF)
Virtualization	VRF-lite
Security	Cisco TrustSec®: Security group ACL (SGACL), SGACL logging, Extensible Authentication Protocol – Transport Layer Security (EAP-TLS), IEEE 802.1AE MACsec-256[2]
IP Multicast	Auto-RP, Multicast Source Discovery Protocol (MSDP), Protocol Independent Multicast (PIM) v2, IPv6 Multicast with VRF-lite support

[1] Network Advantage license includes all Network Essentials features.

[2] Support planned with future software updates.

Table 10 highlights the details of Cisco DNA Essentials and Cisco DNA Advantage licenses for the IE9300 Rugged Series switches.

Table 10. Cisco DNA Essentials and Cisco DNA Advantage licenses

Feature	Description	Cisco DNA Essentials[2]	Cisco DNA Advantage[1,2]
Cisco DNA Center	Discovery, topology, inventory, software image management	Yes	Yes
Visibility	Cisco DNA Assurance, Device 360	Yes	Yes
Day-zero network bring-up automation	Cisco Network Plug-and-Play application	Yes	Yes

[1] Cisco DNA Advantage license can be paired only with the Network Advantage license.

[2] Cisco DNA licenses for Industrial Ethernet switches are add-on/optional and not mandatory. They do not include Network Tier features.

Table 11 highlights the compliance specifications for the Cisco Catalyst IE9300 Rugged Series switches.

Table 11.　Compliance specifications

Descriptions	Specifications
Electromagnetic emissions	FCC 47 CFR Part 15 Class A EN 55032 Class A VCCI Class A AS/NZS CISPR 32 Class A CISPR 11 Class A CISPR 32 Class A ICES 003 Class A CNS13438 Class A EN 300 386 EN 61000-3-2 Harmonic Current Emissions EN 61000-3-3 Voltage Fluctuations and Flicker KN32
Electromagnetic immunity	EN55024/EN5035 CISPR 24/CISPR35 AS/NZS CISPR 24 KN35 EN 61000-4-2 Electro Static Discharge EN 61000-4-3 Radiated RF EN 61000-4-4 Electromagnetic Fast Transients EN 61000-4-5 Surge EN 61000-4-6 Conducted RF EN 61000-4-8 Power Frequency Magnetic Field EN 61000-4-10 Oscillatory Magnetic Field EN 61000-4-11 AC Voltage Dips EN 61000-4-29 DC Voltage Dips

Descriptions	Specifications
Industry standards	EN 61000-6-2 Industrial EN 61000-6-4 Industrial EN 61000-6-1 Light Industrial EN 61326 Industrial Control EN 61131-2 Programmable Controllers DNV, ENV2 or ENV3[1] IEEE 1613:2009 (class2) Electric Power Stations Communications Networking[*] IEC 61850-3 Electric Substations Communications Networking[*] EN 50121-4[1] ODVA Industrial EtherNet/IP IP30 (per EN60529)
Safety standards and certifications	Information technology equipment: UL/CSA 60950-1 EN 60950-1, CB to IEC 60950-1 with all country deviations UL/CUL 62368-1, CB to IEC62368-1 with country deviations NOM to NOM-019-SCFI (through partners and distributor) Industrial floor (control equipment): CB report and certificate to IEC 61010-2-201 UL/CSA 61010-2-201 CSA C22.2, No.142 Hazardous locations: UL 121201 (Class I, Div 2, groups A-D) CSA 213 (Class I, Div 2, groups A-D) UL/CSA 60079-0, -7 (Class I, Zone 2, Gc/IIC) IEC 60079-0, -7 IECEx test report (Class I, Zone 2, Gc/IIC, ec) EN 60079-0, -7 ATEX certificate (Class I, Zone 2, Gc/IIC, ec)
Operating environment	Operating temperature: -40° to 75°C (-40° to 167°F) (blower-equipped cabinet) -40° to 60°C (-40° to 140°F) (sealed cabinet)[2] -40° to 70°C (-40° to 158°F) (vented cabinet) EN 60068-2-1 EN 60068-2-2 EN 61163 Altitude: Up to 15,000 feet (4572 m) with no temperature derating Up to 40,000 feet (12,192 m) with temperature derating down to 25°C (77°F)

Descriptions	Specifications
Storage environment	Temperature: -40° to 85°C (-40° to 185°F) Altitude: 15,000 feet (4572 m) IEC 60068-2-14
Humidity	Relative humidity of 5% to 95% noncondensing IEC 60068-2-3 IEC 60068-2-30
Shock and vibration	IEC 60068-2-6 (Vibration) IEC 60068-2-27 (Shock) IEC 60068-2-31 (Shock) IEC 60068-2-32 (Shock) IEC 60068-2-64 (Vibration)
Corrosion	IEC 60068-2-52 (salt fog)[1] IEC 60068-2-60 (flowing mixed gas)[1]
Warranty	Five-year limited hardware warranty on all IE9300 product IDs and all Industrial Ethernet (IE) power supplies. See more information in the Warranty section.

[1]Pending

[2]Safety approved up to 60°

Table 12 highlights the Mean Time Between Failures (MTBF) for the Cisco Catalyst IE9300 Rugged Series switches.

Table 12. MTBF information

Product ID	Rated MTBF (hours) based on Telcordia Issue 4
IE-9310-26S2C -E/-A	435,092
IE-9320-26S2C -E/-A	413,687

Table 13 highlights information about management and standards for the Cisco Catalyst IE9300 Rugged Series switches.

Table 13.   Management and standards*

Description	Specifications	
IEEE standards	• IEEE 802.1D MAC Bridges, STP • IEEE 802.1p Layer2 COS prioritization • IEEE 802.1q VLAN • IEEE 802.1s Multiple Spanning-Trees • IEEE 802.1w Rapid Spanning-Tree • IEEE 802.1x Port Access Authentication • IEEE 802.1AB LLDP • IEEE 802.3ad Link Aggregation (LACP)	• IEEE 802.3ah 100BASE-X SMF/MMF only • IEEE 802.3u 100BASE-TX specification • IEEE 802.3ab 1000BASE-T specification • IEEE 802.3z 1000BASE-X specification • IEEE 1588v2 PTP Precision Time Protocol
RFC compliance	• RFC 768: UDP • RFC 783: TFTP • RFC 791: IPv4 protocol • RFC 792: ICMP • RFC 793: TCP • RFC 826: ARP • RFC 854: Telnet • RFC 951: BOOTP • RFC 959: FTP • RFC 1157: SNMPv1 • RFC 1901,1902-1907 SNMPv2 • RFC 2273-2275: SNMPv3 • RFC 2571: SNMP Management • RFC 1166: IP Addresses • RFC 1256: ICMP Router Discovery	• RFC 1305: NTP • RFC 1492: TACACS+ • RFC 1493: Bridge MIB Objects • RFC 1534: DHCP and BOOTP interoperation • RFC 1542: Bootstrap Protocol • RFC 1643: Ethernet Interface MIB • RFC 1757: RMON • RFC 2068: HTTP • RFC 2131, 2132: DHCP • RFC 2236: IGMP v2 • RFC 3376: IGMP v3 • RFC 2474: DiffServ Precedence • RFC 3046: DHCP Relay Agent Information Option • RFC 3580: 802.1x RADIUS • RFC 4250-4252 SSH Protocol
SNMP MIB objects	• BRIDGE-MIB • CALISTA-DPA-MIB • CISCO-ACCESS-ENVMON-MIB • CISCO-ADMISSION-POLICY-MIB • CISCO-AUTH-FRAMEWORK-MIB • CISCO-BRIDGE-EXT-MIB • CISCO-BULK-FILE-MIB • CISCO-CABLE-DIAG-MIB • CISCO-CALLHOME-MIB • CISCO-CAR-MIB • CISCO-CDP-MIB • CISCO-CIRCUIT-INTERFACE-MIB • CISCO-CLUSTER-MIB • CISCO-CONFIG-COPY-MIB • CISCO-CONFIG-MAN-MIB • CISCO-DATA-COLLECTION-MIB • CISCO-DHCP-SNOOPING-MIB	• CISCO-SNMP-TARGET-EXT-MIB • CISCO-STACK-MIB • CISCO-STACKMAKER-MIB • CISCO-STACKWISE-MIB • CISCO-STP-EXTENSIONS-MIB • CISCO-SYSLOG-MIB • CISCO-TCP-MIB • CISCO-UDLDP-MIB • CISCO-VLAN-IFTABLE-RELATIONSHIP-MIB • CISCO-VLAN-MEMBERSHIP-MIB • CISCO-VTP-MIB • ENTITY-MIB • ETHERLIKE-MIB • HC-RMON-MIB • IEEE8021-PAE-MIB • IEEE8023-LAG-MIB • IF-MIB

Description	Specifications	
	• CISCO-EMBEDDED-EVENT-MGR-MIB	• IP-FORWARD-MIB
	• CISCO-ENTITY-ALARM-MIB	• LLDP-EXT-MED-MIB
	• CISCO-ENTITY-VENDORTYPE-OID-MIB	• LLDP-EXT-PNO-MIB
	• CISCO-ENVMON-MIB	• LLDP-MIB
	• CISCO-ERR-DISABLE-MIB	• NETRANGER
	• CISCO-FLASH-MIB	• NOTIFICATION-LOG-MIB
	• CISCO-FTP-CLIENT-MIB	• OLD-CISCO-CHASSIS-MIB
	• CISCO-IGMP-FILTER-MIB	• OLD-CISCO-CPU-MIB
	• CISCO-IMAGE-MIB	• OLD-CISCO-FLASH-MIB
	• CISCO-IP-STAT-MIB	• OLD-CISCO-INTERFACES-MIB
	• CISCO-LAG-MIB	• OLD-CISCO-IP-MIB
	• CISCO-LICENSE-MGMT-MIB	• OLD-CISCO-MEMORY-MIB
	• CISCO-MAC-AUTH-BYPASS-MIB	• OLD-CISCO-SYS-MIB<
	• CISCO-MAC-NOTIFICATION-MIB	• OLD-CISCO-SYSTEM-MIB
	• CISCO-MEMORY-POOL-MIB	• OLD-CISCO-TCP-MIB
	• CISCO-PAE-MIB	• OLD-CISCO-TS-MIB
	• CISCO-PAGP-MIB	• RMON-MIB
	• CISCO-PING-MIB	• RMON2-MIB
	• CISCO-PORT-QOS-MIB	• SMON-MIB
	• CISCO-PORT-SECURITY-MIB	• SNMP-COMMUNITY-MIB
	• CISCO-PORT-STORM-CONTROL-MIB	• SNMP-FRAMEWORK-MIB
	• CISCO-PRIVATE-VLAN-MIB	• SNMP-MPD-MIB
	• CISCO-PROCESS-MIB	• SNMP-NOTIFICATION-MIB
	• CISCO-PRODUCTS-MIB	• SNMP-PROXY-MIB
	• CISCO-RESILIENT-ETHERNET-PROTOCOL-MIB	• SNMP-TARGET-MIB
	• CISCO-RTTMON-ICMP-MIB	• SNMP-USM-MIB
	• CISCO-RTTMON-IP-EXT-MIB	• SNMP-VIEW-BASED-ACM-MIB
	• CISCO-RTTMON-MIB	• SNMPv2-MIB
	• CISCO-RTTMON-RTP-MIB	• TCP-MIB
		• UDP-MIB

*The list of standards is not final and may change.

Table 14 highlights information about supported SFP modules for the Cisco Catalyst IE9300 Rugged Series switches.

Table 14. SFP support

Part number	Specification	SFP type	Max distance	Cable type	Temperature range[1]	Digital optical monitoring (DOM) support
GLC-FE-100FX-RGD=	100BASE-FX	FE	2 km	MMF	IND	Yes
GLC-FE-100LX-RGD=	100BASE-LX10	FE	10 km	SMF	IND	Yes
GLC-FE-100FX=	100BASE-FX	FE	2 km	MMF	COM	No
GLC-FE-100LX=	100BASE-LX10	FE	10 km	SMF	COM	No
GLC-FE-100EX=	100BASE-EX	FE	40 km	SMF	COM	No
GLC-FE-100ZX=	100BASE-ZX	FE	80 km	SMF	COM	No
GLC-FE-100BX-D=	100BASE-BX10	FE	10 km	SMF	COM	No
GLC-FE-100BX-U=	100BASE-BX10	FE	10 km	SMF	COM	Yes
GLC-SX-MM-RGD=	1000BASE-SX	GE	550 m	MMF	IND	Yes
GLC-LX-SM-RGD=	1000BASE-LX/LH	GE	550 m/10 km	MMF/SMF	IND	Yes
GLC-ZX-SM-RGD=	1000BASE-ZX	GE	70 km	SMF	IND	Yes
GLC-BX40-U-I=	1000BASE-BX40	GE	40 km	SMF	IND	Yes
GLC-BX40-D-I=	1000BASE-BX40	GE	40 km	SMF	IND	Yes
GLC-BX40-DA-I=	1000BASE-BX40	GE	40 km	SMF	IND	Yes
GLC-BX80-U-I=	1000BASE-BX80	GE	80 km	SMF	IND	Yes
GLC-BX80-D-I=	1000BASE-BX80	GE	80 km	SMF	IND	Yes
GLC-SX-MMD=	1000BASE-SX	GE	550 m	MMF	EXT	Yes
GLC-LH-SMD=	1000BASE-LX/LH	GE	550 m/10 km	MMF/SMF	EXT	Yes
GLC-EX-SMD=	1000BASE-EX	GE	40 km	SMF	EXT	Yes
GLC-ZX-SMD=	1000BASE-ZX	GE	70 km	SMF	EXT	Yes
GLC-BX-D=	1000BASE-BX10	GE	10 km	SMF	COM	Yes
GLC-BX-U=	1000BASE-BX10	GE	10 km	SMF	COM	Yes
CWDM-SFP-xxxx=	CWDM 1000BASE-X	GE		SMF	COM	Yes
DWDM-SFP-xxxx=	DWDM	GE		SMF	COM	Yes

Part number	Specification	SFP type	Max distance	Cable type	Temperature range[1]	Digital optical monitoring (DOM) support
	1000BASE-X					
SFP-GE-S=	1000BASE-SX	GE	550 m	MMF	EXT	Yes
SFP-GE-L=	1000BASE-LX/LH	GE	550 m/10 km	MMF/SMF	EXT	Yes
SFP-GE-Z=	1000BASE-ZX	GE	70 km	SMF	EXT	Yes
GLC-SX-MM=	1000BASE-SX	GE	550 m	MMF	COM	No
GLC-LH-SM=	1000BASE-LX/LH	GE	550 m/10 km	MMF/SMF	COM	No
GLC-ZX-SM=	1000BASE-ZX	GE	70 km	SMF	COM	Yes
GLC-TE=[2]	1000BASE-T	GE	100 m	Copper	EXT	NA
GLC-T=[2]	1000BASE-T	GE	100 m	Copper	COM	NA
GLC-T-RGD=[2]	1000BASE-T	GE	100 m	Copper	IND	NA
ONS-SI-GE-SX=	1000BASE-SX	GE	500 m	MMF	IND	
ONS-SI-GE-LX=	1000BASE-LX	GE	10 km	SMF	IND	
ONS-SI-GE-EX=	1000BASE-EX	GE	40 km	SMF	IND	
ONS-SI-GE-ZX=	1000BASE-ZX	GE	80 km	SMF	IND	
ONS-SE-GE-BXU=	1000BASE-BX	GE	10 km	SMF	EXT	
ONS-SE-GE-BXD=	1000BASE-BX	GE	10 km	SMF	EXT	

[1] If nonindustrial SFPs (EXT, COM) are used, the switch operating temperature must be derated.

[2] Degrades PTP performance.

Ordering information

Table 15 lists the ordering information for the Cisco Catalyst IE9300 Rugged Series switches.

Table 15.   Ordering information

Product ID	Description
IE-9310-26S2C-E	Catalyst IE9300 w/ 24 Ports GE SFP Downlinks & 4 Ports GE SFP uplinks, NE
IE-9310-26S2C-A	Catalyst IE9300 w/ 24 Ports GE SFP Downlinks & 4 Ports GE SFP uplinks, NA
IE-9320-26S2C-E	Catalyst IE9300 w/ 24 Ports GE SFP Downlinks & 4 Ports GE SFP uplinks, Stackable, NE
IE-9320-26S2C-A	Catalyst IE9300 w/ 24 Ports GE SFP Downlinks & 4 Ports GE SFP uplinks, Stackable, NA
SD-IE-4GB=	4GB SD memory card for IE
CAB-STK-0.5M=	Cisco 0.5M stack cable
CAB-STK-1M=	Cisco 1M stack cable
RM-RGD-19IN=	Spare 19IN rack-mount kit
RM-RGD-23IN=	23IN NEBS rack-mount kit
RM-RGD-ETSI=	ETSI rack-mount kit
PWR-RGD-AC-DC-H	Hazloc Power Supply High AC/DC 85-264VAC/88-300VDC
PWR-RGD-LOW-DC-H	Hazloc Power Supply Low DC 24-60V/10A
PWR-RGD-AC-DC-250	Hazloc Power Supply 100-240VAC/100-250VDC
IE9300-NW-A=	Network Advantage License for IE9300, Perpetual
IE9300-DNA-E	Cisco DNA Essentials license for IE9300 Series
IE9300-DNA-E-3Y	IE 9300 Cisco DNA Essentials, 3 Year Term license
IE9300-DNA-E-5Y	IE 9300 Cisco DNA Essentials, 5 Year Term license
IE9300-DNA-E-7Y	IE 9300 Cisco DNA Essentials, 7 Year Term license
IE9300-DNA-A	Cisco DNA Advantage license for IE9300 Series
IE9300-DNA-A-3Y	IE 9300 Cisco DNA Advantage, 3 Year Term license
IE9300-DNA-A-5Y	IE 9300 Cisco DNA Advantage, 5 Year Term license
IE9300-DNA-A-7Y	IE 9300 Cisco DNA Advantage, 7 Year Term license

Warranty

Five-year limited hardware warranty on all IE9300 product IDs and power supplies (see Table 15 above). See the following link for more details on the warranty: https://www.cisco.com/c/en/us/products/warranties/warranty-doc-c99-740591.html.

Cisco environmental sustainability

Information about Cisco's environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the "Environment Sustainability" section of Cisco's Corporate Social Responsibility (CSR) Report.

Reference links to information about key environmental sustainability topics (mentioned in the "Environment Sustainability" section of the CSR Report) are provided in the following table:

Sustainability topic	Reference
Information on product material content laws and regulations	Materials
Information on electronic waste laws and regulations, including products, batteries, and packaging	WEEE compliance

Reference links to product-specific environmental sustainability information that is mentioned in relevant sections of this data sheet are provided in the following table:

Sustainability topic	Reference
Power	
Power specifications and consumption	Table 5. IE9300 physical configurations
Environmental characteristics	
Operating temperature, industry standards, EMC emissions	Table 11. Compliance specifications
Material	
Unit weight	Table 5: IE9330 physical configurations

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Cisco Services

For information on services, visit https://www.cisco.com/web/services/.

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Printed in USA

C78-2778848-00   01/22