

# Cisco Catalyst IE9300 Rugged Series

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The Cisco Catalyst™ IE9300 Rugged Series ushers in mainstream adoption of Gigabit / 10 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 ports of Gigabit and 10 Gigabit Ethernet interfaces deliver high-speed 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 Catalyst 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. With Cisco Cyber Vision included\*, the IE9300 identifies connected assets, their profiles, vulnerabilities, and communication patterns to assess your OT security posture and help drive cybersecurity best practices. With Cisco Secure Equipment Access included\*, it enables zero-trust remote access to connected assets to help you control risks from remote users.

The Cisco IE9300 Rugged Series, by building a high-performance, reliable, and secure industrial network, provides the foundational infrastructure that transports and protects the massive amounts of data required for software-defined automation and Industrial AI applications to function effectively and deliver actionable insights for operations.

The IE9300 Rugged Series switches offer:

- Robust resiliency enabled by features such as dual ring design, Resilient Ethernet Protocol (REP), Parallel Redundancy Protocol (PRP)<sup>1</sup>, PROFINET, Media Redundancy Protocol (MRP) ring, High Availability Seamless Redundancy (HSR)<sup>1</sup> ring, EtherChannel, integrated redundant power supplies, dying gasp, etc.
- True zero-touch replacement for middle-of-the-night or middle-of-nowhere failures
- Line-rate, low-latency forwarding
- Simplified software management
- Support for industrial automation protocols EtherNet/IP (CIP) and PROFINET

<sup>1</sup> Supported on IE-9320-26S2C, IE-9320-22S2C4X and IE-9310-16P8S4X only.

\*Please see Ordering Information section for more details



**Figure 1.**  
IE-9310-26S2C switch



**Figure 2.**  
IE-9320-26S2C switch with advanced feature set



**Figure 3.**  
IE-9320-22S2C4X Switch with conformal coating and advanced feature set, including support for GPS/IRIG-B input



**Figure 4.**  
IE-9320-24P4S Switch



**Figure 5.**  
IE-9320-24T4X Switch



**Figure 6.**  
IE-9320-24P4X Switch



**Figure 7.**  
IE-9320-16P8U4X Switch with multi-gigabit and 4PPoE



**Figure 8.**  
IE-9310-16P8S4X Switch with GE SFP and GE RJ-45 downlinks and 4x 1/10G SFP+ uplinks

## Features and benefits

**Table 1.** Features and benefits

Feature	Benefits
<b>Robust industrial design</b>	<ul style="list-style-type: none"> <li>• A utility-grade, fully managed 1-Rack-Unit (1RU) rack-mount Ethernet switch</li> <li>• Built for harsh environments and temperature ranges (-40° to 75°C / -40° to 167°F)</li> <li>• Fanless, convection-cooled with no moving parts for extended durability</li> <li>• Hardened for vibration, shock and surge, and electrical noise immunity</li> <li>• Complies with multi-industry specifications for automation, Intelligent Transport Systems (ITS), and substation environments</li> <li>• Improves the uptime, performance, and safety of industrial systems and equipment</li> <li>• IEEE 1588v2 Precision Timing Protocol (PTP) (both power profile for utility and default profile for manufacturing are supported)</li> <li>• Alarm I/O for monitoring and signaling to external equipment</li> </ul>
<b>High density Ethernet switch with GE / mGig / 10G options</b>	<ul style="list-style-type: none"> <li>• Total of 28 Ethernet ports provide multiple resilient design options</li> <li>• Provides secure access for new high-speed applications in the industrial space</li> <li>• Enables new UHD IP cameras, Wi-Fi access points, and future-ready Gigabit speed automation devices</li> <li>• Allows IP-based Supervisory Control And Data Acquisition (SCADA) connectivity</li> <li>• Delivers multiple rings, redundant ring topology for new network configurations</li> <li>• Extends geographical scalability where connectivity over longer distances is required</li> </ul>
<b>High-density industrial Power over Ethernet (PoE)</b>	<ul style="list-style-type: none"> <li>• Support for up to 24 Ports of Power over Ethernet with 802.3af, 802.3at and 802.3bt options</li> <li>• Controls costs by limiting wiring, distribution panels, and circuit breakers</li> <li>• Reduces equipment needs, thus requiring less space and reducing heat dissipation.</li> <li>• Enables ready-to-use high-power PoE devices, such as IP phones, next-generation PTZ cameras, and Wi-Fi 6 wireless access points.</li> <li>• PoE Power budget of up to 720W with two 400W power supplies on PoE variants with 10G uplinks</li> <li>• Perpetual PoE Support: With Perpetual PoE, the PoE power is maintained during a switch reload. This is important for IoT endpoints such as PoE-powered lights, so that there is no disruption during switch reboot.</li> <li>• Fast PoE Support: When power is restored to a switch, PoE starts delivering power to endpoints without waiting for the operating system to fully load, thereby speeding up the time for the endpoint to start up.</li> </ul>

Feature	Benefits
<b>Network security</b>	<ul style="list-style-type: none"> <li>• Device security for secure boot with its hardware-anchored root of trust in Cisco Trust Anchor Module</li> <li>• Support for MACSEC-256 to prevent man-in-the-middle attack</li> <li>• Cisco Cyber Vision included* to identify all connected assets, their activities and your security posture</li> <li>• Supports Cisco TrustSec technology-based network segmentation to help reduce the spread of malware</li> <li>• Cisco Secure Equipment Access included for zero-trust remote access to connected assets, enabling secure troubleshooting, monitoring, and maintenance, without requiring VPNs</li> </ul>
<b>User-friendly WebUI</b>	<ul style="list-style-type: none"> <li>• Allows for easy configuration and monitoring, even by nonspecialist personnel</li> <li>• Eliminates the need for more complex terminal emulation programs</li> <li>• Reduces the cost of deployment</li> </ul>
<b>Full Flexible NetFlow (FNF)</b>	<ul style="list-style-type: none"> <li>• Provides enhanced flow and threat visibility</li> <li>• Enables optimization of the network infrastructure, reduces operating costs, and improves capacity planning and security incident detection</li> </ul>

\*Please see Ordering Information section for more details

**Table 2.** Product feature sets

Product family	Platforms supported	Cisco IOS Software image (feature sets) supported
<b>IE9300</b>	IE-9310-26S2C-E/-A	Network Essentials, Network Advantage
	IE-9320-26S2C-E/-A	Network Essentials, Network Advantage
	IE-9320-22S2C4X-E/-A	Network Essentials, Network Advantage
	IE-9320-24P4S-E/-A	Network Essentials, Network Advantage
	IE-9320-24T4X-E/-A	Network Essentials, Network Advantage
	IE-9320-24P4X-E/-A	Network Essentials, Network Advantage
	IE-9320-16P8U4X-E/-A	Network Essentials, Network Advantage
	IE-9310-16P8S4X-E/-A <sup>1</sup>	Network Essentials, Network Advantage

<sup>1</sup> Supported in releases IOS XE 17.18.1 onwards.

## Product specifications

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

**Table 3.** Hardware configurations

Product number	Total ports	Downlinks	Uplinks (SFP/SFP+)	Software license (default)
IE-9310-26S2C-E	28	22 ports 100/1000M SFP and 2 ports Dual-Media (100/1000M SFP or 10/100/1000M RJ45)	4 ports 1000M	Network Essentials
IE-9310-26S2C-A	28	22 ports 100/1000M SFP and 2 ports Dual-Media (100/1000M SFP or 10/100/1000M RJ45)	4 ports 1000M	Network Advantage
IE-9320-26S2C-E	28	22 ports 100/1000M SFP and 2 ports Dual-Media (100/1000M SFP or 10/100/1000M RJ45)	4 ports 100/1000M	Network Essentials
IE-9320-26S2C-A	28	22 ports 100/1000M SFP and 2 ports Dual-Media (100/1000M SFP or 10/100/1000M RJ45)	4 ports 100/1000M	Network Advantage
IE-9320-22S2C4X-E	28	22 ports 100/1000M SFP and 2 ports Dual-Media (100/1000M SFP or 10/100/1000M RJ45)	4 ports 1/10G	Network Essentials
IE-9320-22S2C4X-A	28	22 ports 100/1000M SFP and 2 ports Dual-Media (100/1000M SFP or 10/100/1000M RJ45)	4 ports 1/10G	Network Advantage
IE-9320-24P4S-E	28	24 ports 10/100/1000M RJ45 PoE+	4 ports 1000M	Network Essentials
IE-9320-24P4S-A	28	24 ports 10/100/1000M RJ45 PoE+	4 ports 1000M	Network Advantage
IE-9320-24T4X-E	28	24 ports 10/100/1000M RJ45	4 ports 1/10G	Network Essentials
IE-9320-24T4X-A	28	24 ports 10/100/1000M RJ45	4 ports 1/10G	Network Advantage
IE-9320-24P4X-E	28	24 ports 10/100/1000M RJ45 PoE+	4 ports 1/10G	Network Essentials
IE-9320-24P4X-A	28	24 ports 10/100/1000M RJ45 PoE+	4 ports 1/10G	Network Advantage
IE-9320-16P8U4X-E	28	16 ports 10/100/1000M PoE+ and 8 ports 100/1000/2500M 4PPoE (up to 90W/port)	4 ports 1/10G	Network Essentials
IE-9320-16P8U4X-A	28	16 ports 10/100/1000M PoE+ and 8 ports 100/1000/2500M 4PPoE (up to 90W/port)	4 ports 1/10G	Network Advantage

Product number	Total ports	Downlinks	Uplinks (SFP/SFP+)	Software license (default)
IE-9310-16P8S4X-E	28	16 ports 10/100/1000M PoE+ and 8 ports 100/1000M SFP	4 ports 1/10G	Network Essentials
IE-9310-16P8S4X-A	28	16 ports 10/100/1000M PoE+ and 8 ports 100/1000M SFP	4 ports 1/10G	Network Advantage

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 IE-9320-22S2C4X-E/-A IE-9320-24P4S-E/-A IE-9320-24T4X-E/-A IE-9320-24P4X-E/-A IE-9320-16P8U4X-E/-A	IE-9310-16P8S4X -E/-A
<b>Hardware</b>	4-GB DRAM 8-GB onboard flash memory <sup>1</sup>	4-GB DRAM 8-GB onboard flash memory <sup>1</sup>	8-GB DRAM 8-GB onboard flash memory <sup>1</sup>
<b>Removable storage</b>	USB <sup>2,3</sup> , SD card <sup>2</sup>	USB <sup>2,3</sup> , SD card <sup>2</sup>	USB <sup>2,3</sup> , SD card <sup>2</sup>
<b>Alarms</b>	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	4 dry-contact alarm inputs 1 dry-contact Form-C relay alarm output
<b>Console ports</b>	1 RS-232 (via RJ-45), 1 Micro USB	1 RS-232 (via RJ-45), 1 Micro USB	1 RS-232 (via RJ-45), 1 Micro USB
<b>Power inputs</b>	Dual AC/DC power inputs	Dual AC/DC power inputs	Dual AC/DC power inputs
<b>Cisco StackWise® ports</b>	-	2 stacking ports	-

<sup>1</sup> User-accessible flash memory is approximately 2.5 GB.

<sup>2</sup> The SD card and USB are optional and are not shipped by default with the switch.

<sup>3</sup> USB 2.0 to load system images and set configurations.

**Table 5.** Physical configurations

Product number	Dimensions (H x W x D)	Weight <sup>1</sup>	Mounting	Power consumption <sup>2</sup>
<b>IE-9310-26S2C-E/-A</b>	<ul style="list-style-type: none"> <li>• 1.72 x 17.5 x 14.0 in. with PWR-RGD-AC-DC-H / PWR-RGD-LOW-DC-H</li> </ul>	12.2 lb (5.53 kg)	Rack mount	61W
<b>IE-9320-26S2C-E/-A</b>	<ul style="list-style-type: none"> <li>• 1.72 x 17.5 x 14.0 in. with PWR-RGD-AC-DC-H / PWR-RGD-LOW-DC-H</li> </ul>	12.2 lb (5.53 kg)	Rack mount	64W
<b>IE-9320-22S2C4X-E/-A</b>	<ul style="list-style-type: none"> <li>• 1.72 x 17.5 x 14.0 in. with PWR-RGD-AC-DC-H / PWR-RGD-LOW-DC-H</li> </ul>	12.7 lb (5.76 kg)	Rack mount	73W
<b>IE-9320-24P4S-E/-A</b>	<ul style="list-style-type: none"> <li>• 1.72 x 17.5 x 14.0 in. with PWR-RGD-AC-DC-H / PWR-RGD-LOW-DC-H</li> <li>• 1.72 x 17.5 x 15.18 in. with PWR-RGD-AC-DC-250</li> <li>• 1.72 x 17.5 x 15.57 in. with PWR-RGD-AC-DC-400</li> </ul>	9.7 lb (4.4 kg)	Rack mount	37W
<b>IE-9320-24T4X-E/-A</b>	<ul style="list-style-type: none"> <li>• 1.72 x 17.5 x 14.0 in. with PWR-RGD-AC-DC-H / PWR-RGD-LOW-DC-H</li> </ul>	9.5 lb (4.3 kg)	Rack mount	35W
<b>IE-9320-24P4X-E/-A</b>	<ul style="list-style-type: none"> <li>• 1.72 x 17.5 x 14.0 in. with PWR-RGD-AC-DC-H / PWR-RGD-LOW-DC-H</li> <li>• 1.72 x 17.5 x 15.18 in. with PWR-RGD-AC-DC-250</li> <li>• 1.72 x 17.5 x 15.57 in. with PWR-RGD-AC-DC-400</li> </ul>	9.7 lb (4.4 kg)	Rack mount	39W
<b>IE-9320-16P8U4X-E/-A</b>	<ul style="list-style-type: none"> <li>• 1.72 x 17.5 x 14.0 in. with PWR-RGD-AC-DC-H / PWR-RGD-LOW-DC-H</li> <li>• 1.72 x 17.5 x 15.18 in. with PWR-RGD-AC-DC-250</li> <li>• 1.72 x 17.5 x 15.57 in. with PWR-RGD-AC-DC-400</li> </ul>	9.9 lb (4.5 kg)	Rack mount	45W

Product number	Dimensions (H x W x D)	Weight <sup>1</sup>	Mounting	Power consumption <sup>2</sup>
<b>IE-9310-16P8S4X-E/-A</b>	<ul style="list-style-type: none"> <li>• 1.72 x 17.5 x 14.0 in. with PWR-RGD-AC-DC-H / PWR-RGD-LOW-DC-H</li> <li>• 1.72 x 17.5 x 15.18 in. with PWR-RGD-AC-DC-250</li> <li>• 1.72 x 17.5 x 15.57 in. with PWR-RGD-AC-DC-400</li> </ul>	10.6 lb (4.81 kg)	Rack mount	105W

<sup>1</sup> Chassis only (does not include power supplies or blank cover).

<sup>2</sup> 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	<b>IE-9310-26S2C - E/-A</b>	<b>IE-9320-26S2C - E/-A</b> <b>IE-9320-24P4S-E/-A</b>	<b>IE-9320-22S2C4X-E/-A</b> <b>IE-9320-24T4X-E/-A</b> <b>IE-9320-24P4X-E/-A</b>	<b>IE-9320-16P8U4X-E/-A</b>	<b>IE-9310-16P8S4X-E/-A</b>
<b>Forwarding rate<sup>1</sup></b>	41.66 Mpps	41.66 Mpps	95.23 Mpps	113.09 Mpps	95.23 Mpps
<b>Forwarding Bandwidth</b>	28 Gbps	28 Gbps	64 Gbps	76 Gbps	64 Gbps
<b>Switching bandwidth</b>	56 Gbps (switching bandwidth is full-duplex capacity)	56 Gbps (switching bandwidth is full-duplex capacity)	128 Gbps (switching bandwidth is full-duplex capacity)	152 Gbps (switching bandwidth is full-duplex capacity)	128 Gbps (switching bandwidth is full-duplex capacity)
<b>Number of queues / port</b>	8 egress	8 egress	8 egress	8 egress	8 egress
<b>Unicast MAC addresses<sup>3</sup></b>	24000	24000	24000	24000	24000
<b>Internet Group Management Protocol (IGMP) multicast groups</b>	1000	1000	1000	1000	1000
<b>VLAN IDs</b>	4096	4096	4096	4096	4096
<b>Active VLANs</b>	1024	1024	1024	1024	1024

Feature	IE-9310-26S2C - E/-A	IE-9320-26S2C - E/-A IE-9320-24P4S-E/-A	IE-9320-22S2C4X-E/-A IE-9320-24T4X-E/-A IE-9320-24P4X-E/-A	IE-9320-16P8U4X-E/-A	IE-9310-16P8S4X-E/-A
<b>IPv4 indirect routes<sup>3</sup></b>	7000	7000	7000	7000	7000
<b>IPv4 direct routes</b>	8192	8192	8192	8192	8192
<b>IPv6 indirect routes<sup>3</sup></b>	3500	3500	3500	3500	3500
<b>Spanning Tree Protocol (STP) instances</b>	128	128	128	128	128
<b>Access Control List (ACL) entries (port ACL [PACL], VLAN ACL [VACL], router ACL [RACL])</b>	1536	1536	1536	1536	1536
<b>DRAM</b>	4 GB	4 GB	4 GB	4 GB	8 GB
<b>Flash (user accessible)</b>	2.5 GB	2.5 GB	2.5 GB	2.5 GB	2.5 GB
<b>SD card capacity<sup>2</sup></b>	16 GB	16 GB	16 GB	16 GB	16 GB
<b>SD Access Fabric Edge Support</b>	Yes (32 VNs)	Yes (32 VNs)	Yes (32 VNs)	Yes (32 VNs)	Yes (32 VNs)
<b>SGT/DGT policies</b>	2000	2000	2000	2000	2000
<b>IPv4 to SGT binding</b>	10000	10000	10000	10000	10000
<b>Maximum SVIs</b>	984	984	984	984	984
<b>SXP Sessions</b>	200	200	200	200	200
<b>GRE Tunnels</b>	10	10	10	10	10
<b>Number of Stack Members supported</b>	-	4	4	4	-

<sup>1</sup> Measured with 64 byte packets

<sup>2</sup> The SD card is optional and is not shipped by default with the switch.

<sup>3</sup> Increased scale is applicable from IOS XE release 17.17.1 onwards. Prior to release IOS XE 17.17.1, the scale is as follows - IPv4 Indirect Routes: 3044, IPv6 Indirect Routes: 1522, Unicast MAC Addresses: 16000

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

**Table 7.** Power supply options<sup>1</sup>

Product number	Wattage	Rated nominal input operating range	Supported input voltage operating range	Use case scenario
<b>PWR-RGD-LOW-DC-H</b>	150W	DC 24-60V/10A	DC 18-75V	Low-voltage DC power source Compliant for use in hazardous locations
<b>PWR-RGD-AC-DC-H</b>	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
<b>PWR-RGD-AC-DC-250</b>	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
<b>PWR-RGD-AC-DC-400</b>	400W	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

<sup>1</sup> All power supplies have their power output galvanically isolated from the power input.

Table 8 highlights the PoE capability of the Cisco Catalyst IE9300 Rugged Series switches.

**Table 8.** Available power<sup>1</sup> budget for PoE/PoE+ with different power supply wattage

Product number	150W	150W (dual)	250W	250W + 150W	250W (dual)	400W	400W (dual)
<b>IE-9320-24P4S-E/-A</b>	70W	190W	170W	280W	370W	320W	480W <sup>3</sup>
<b>IE-9320-24P4X-E/-A</b>	70W	190W	170W	280W	370W	320W	720W
<b>IE-9320-16P8U4X-E/-A<sup>2</sup></b>	70W	190W	170W	280W	370W	320W	720W
<b>IE-9310-16P8S4X-E/-A</b>	50W	170W	150W	260W	350W	300W	480W

<sup>1</sup> 150W and 250W Power Supplies cannot be used with the 400W Power Supply in a load sharing configuration.

<sup>2</sup> 400W power supplies are required to support 4PPoE Type 4 (PoE Class 7 and 8, PDs requiring greater than 60W). Any of the supported power supplies can be used for PoE+ and 4PPoE Type 3 (PoE Class 1 through 6) up to 60W.

<sup>3</sup> System PoE budget for IE-9320-24P4S-E/-A has been increased from 385W to 480W from release IOS XE 17.18.1 onwards.

Tables 9 and 10 highlight the software features supported by the Cisco Catalyst IE9300 Rugged Series switches.

**Table 9.** Key supported software features (Network Essentials license)

Network Essentials license (perpetual)	Features
<b>Layer 2 switching</b>	802.1Q, 802.1w, 802.1ab, 802.1s, 802.3ad, 802.3x, 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 Protocol Tunneling (L2PT), Q-in-Q, Selective Q-in-Q, EtherChannel, VLAN Mapping, Loop Detection Guard
<b>Multicast</b>	IGMP v1/v2/v3, IGMP snooping, Multicast Listener Discovery (MLD) snooping
<b>Management</b>	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, Resilient Ethernet Protocol (REP) Zero Touch Provisioning (ZTP)
<b>Security</b>	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, Full Flexible NetFlow, ACL, 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, TLS 1.3
<b>Quality of Service (QoS)</b>	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
<b>Layer 3 routing</b>	Static routing, Open Shortest Path First (OSPF - 1000 routes), OSPFv3, Routing Information Protocol (RIP), Policy-Based Routing (PBR)
<b>Industrial Ethernet</b>	Locate Switch, Swap Drive, Generic Object-Oriented Substation Events (GOOSE) messaging, SCADA Protocol Classification, PTP1 (Default Profile, Power Profile 2011, Power Profile 2017), Network Time Protocol (NTP) to PTP, Bidirectional Forwarding Detection (BFD), PTP as refclock for NTP, PROFINET support, Common Industrial Protocol (CIP) Support, Cisco IOx support, Layer 2 Network Address Translation (L2 NAT), ModBus TCP, ERSPAN, Inter-Range Instrumentation Group (IRIG-B) Input and Output interface (B002, B003, B006, B007, B122, B123, B126, B127 timecode) <sup>2</sup> , Global Navigation Satellite System (GNSS)/Global Positioning System (GPS) <sup>2</sup> , dying gasp
<b>Redundancy</b>	REP rings, REP Fast, HSR <sup>3</sup> , PRP <sup>3</sup> , MRP, PTP over PRP <sup>3</sup> , MRP over Stacking <sup>4</sup> , Fast MRP, PTP over MRP
<b>Automation</b>	YANG, NETCONF, RESTCONF

<sup>1</sup> PTP is not supported on 2.5G ports of the IE-9320-16P8U4X-E/A

<sup>2</sup> Supported on IE-9320-22S2C4X-E/-A only

<sup>3</sup> Supported on the IE-9320-26S2C-E/-A, IE-9320-22S2C4X-E/-A and IE-9310-16P8S4X-E/-A only

<sup>4</sup> Available on Stackable, IE-9320 variants only

**Table 10.** Key supported software features (Network Advantage license)

Network Advantage license (perpetual) <sup>1</sup>	Features
<b>IP routing protocols</b>	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), LISP, OSPF, BGP-EVPN over VxLAN
<b>Virtualization</b>	VRF-lite
<b>Security</b>	Cisco TrustSec <sup>®</sup> : Security group ACL (SGACL), SGACL logging, Extensible Authentication Protocol - Transport Layer Security (EAP-TLS), IEEE 802.1AE MACsec-256, SD-Access Policy Extended Node, SD-Access Fabric Edge Node, Generic Routing Encapsulation (GRE), TrustSec over PRP <sup>2</sup>
<b>IP Multicast</b>	Auto-RP, Multicast Source Discovery Protocol (MSDP), Protocol Independent Multicast (PIM) v2, IPv6 Multicast with VRF-lite support
<b>Industrial Ethernet</b>	Layer 3 Network Address Translation (L3 NAT)
<b>Network Features</b>	Audio Video Bridging (AVB, IEEE 802.1BA) <sup>3</sup> , IP SLA

<sup>1</sup> Network Advantage license includes all Network Essentials features.

<sup>2</sup> Supported on IE-9320-26S2C-A, IE-9320-22S2C4X-A and IE-9310-16P8S4X-A only.

<sup>3</sup> Not supported on IE-9320-26S2C-A, IE-9320-22S2C4X-A and IE-9310-16P8S4X-A. Please refer to the [AVB configuration guide](#) for more details.

Table 11 highlights the details of Cisco Catalyst Center Essentials and Cisco Catalyst Center Advantage licenses for the IE9300 Rugged Series switches.

**Table 11.** Cisco Catalyst Center DNA Essentials and Cisco Catalyst Center DNA Advantage licenses

Feature	Description	Cisco Catalyst Center DNA Essentials <sup>2</sup>	Cisco Catalyst Center DNA Advantage <sup>1,2</sup>
<b>Cisco Catalyst Center</b>	Discovery, topology, inventory, software image management	Yes	Yes
<b>Visibility</b>	Overall Health Dashboard	Yes	Yes
<b>Day-zero network bring-up automation</b>	Cisco Network Plug-and-Play application	Yes	Yes
<b>SD-Access Extended Node</b>	SD-Access fabric overlay extension	Yes	Yes
<b>Industrial Support</b>	MRP Monitoring, REP Configuration, REP Topology View PRP Topology Monitoring (SD-Access) <sup>3</sup>	Yes	Yes
<b>LAN Automation</b>	Lan automation helps create error-free underlay network for SDA deployments	No	Yes
<b>SD-Access Policy Extended Node</b>	SD-Access fabric overlay extension and segmentation	No	Yes

Feature	Description	Cisco Catalyst Center DNA Essentials <sup>2</sup>	Cisco Catalyst Center DNA Advantage <sup>1,2</sup>
<b>SD-Access Fabric Edge Node</b>	A fabric device that connects wired endpoints to the SDA fabric.	No	Yes
<b>Device 360</b>	Device 360, Client 360, and Network Health Insights	No	Yes
<b>Patch/SMU Lifecycle Management</b>	Management of Software Maintenance Upgrades (SMU) or Patches via Cisco Catalyst Center	No	Yes
<b>Application Visibility and Control (NBAR2)</b>	Provides application-level classification, monitoring, and traffic control	No	Yes

<sup>1</sup> Cisco Catalyst Center DNA Advantage license can be paired only with the Network Advantage license.

<sup>2</sup> Cisco Catalyst Center licenses for Industrial Ethernet switches are add-on/optional and not mandatory. They do not include Network Tier features.

<sup>3</sup> Requires relevant Catalyst Center SD-Access licensing

Table 12 highlights the compliance specifications for the Cisco Catalyst IE9300 Rugged Series switches.

**Table 12.** Compliance specifications<sup>1</sup>

Descriptions	Specifications
<b>Electromagnetic emissions</b>	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 CNS15936 EN 300 386 EN 61000-3-2 Harmonic Current Emissions EN 61000-3-3 Voltage Fluctuations and Flicker KS C9832
<b>Radio</b>	EN 303 413 <sup>2</sup>

Descriptions	Specifications
<b>Electromagnetic immunity</b>	EN55024/EN5035 CISPR 24/CISPR35 KS C9835 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 EN 301 489-19 and -1 <sup>2</sup>
<b>Industry standards</b>	EN 61000-6-2 Industrial EN 61000-6-4 Industrial EN 61000-6-1 Light Industrial EN 61326 Industrial Control IEEE 1613:2009 Electric Power Stations Communications Networking IEC 61850-3 Electric Substations Communications Networking EN 50121-4 EN 50121-3-2:2016 +A1:2019 EN 50125-3:2003 EN 50125-1:2014 AREMA C&S Manual 2019 part 11.5.1 and 11.5.2 IP30 (per EN60529) IEC 61850-9-3 (Power Utility Profile)
<b>Safety standards and certifications</b>	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)

Descriptions	Specifications
	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)
<b>Operating environment</b>	Operating temperature: -40° to 75° C (-40° to 167° F) (blower-equipped cabinet) -40° to 60° C (-40° to 140° F) (sealed cabinet) <sup>3</sup> -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)
<b>Storage environment</b>	Temperature: -40° to 85° C (-40° to 185° F) Altitude: 15,000 feet (4572 m) IEC 60068-2-14
<b>Humidity</b>	Relative humidity of 5% to 95% noncondensing IEC 60068-2-3 IEC 60068-2-30
<b>Shock and vibration</b>	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)
<b>Corrosion</b>	IEC 60068-2-52 (salt fog) <sup>2</sup> IEC 60068-2-60 (flowing mixed gas) <sup>2</sup>
<b>Warranty</b>	Five-year limited hardware warranty on all IE9300 product IDs and all Industrial Ethernet (IE) power supplies. See more information in the Warranty section.

Descriptions	Specifications
<b>Certifications</b>	IEC/ANSI/ISA-62443-4-1-2018 ANSI/ISA-62443-4-2-2018, IEC-62443-4-2-2019 FIPS 140-2 USGv6-r1 Ready Logo Version 5 Common Criteria ODVA Industrial EtherNet/IP NEMA TS2:2021

<sup>1</sup> Compliance Pending for IE-9310-16P8S4X-E/-A

<sup>2</sup> For IE-9320-22S2C4X-E/A only

<sup>3</sup> Safety approved up to 60°

Table 13 highlights the Mean Time Between Failures (MTBF) for the Cisco Catalyst IE9300 Rugged Series switches.

**Table 13.** MTBF information

Product ID	Rated MTBF (hours)
<b>IE-9310-26S2C -E/-A</b>	530,890
<b>IE-9320-26S2C -E/-A</b>	492,370
<b>IE-9320-22S2C4X -E/-A</b>	323,733
<b>IE-9320-24P4S -E/-A</b>	489,710
<b>IE-9320-24T4X -E/-A</b>	651,580
<b>IE-9320-24P4X -E/-A</b>	489,710
<b>IE-9320-16P8U4X -E/-A</b>	472,070
<b>IE-9310-16P8S4X -E/-A</b>	265,827

Table 14 highlights information about management and standards for the Cisco Catalyst IE9300 Rugged Series switches.

**Table 14.** Management and standards

Description	Specifications	
<b>IEEE standards</b>	<ul style="list-style-type: none"> <li>• IEEE 802.1D MAC Bridges, STP</li> <li>• IEEE 802.1p Layer2 COS prioritization</li> <li>• IEEE 802.1q VLAN</li> <li>• IEEE 802.1s Multiple Spanning-Trees</li> <li>• IEEE 802.1w Rapid Spanning-Tree</li> <li>• IEEE 802.1x Port Access Authentication</li> <li>• IEEE 802.1AB LLDP</li> <li>• IEEE 802.3ad Link Aggregation (LACP)</li> </ul>	<ul style="list-style-type: none"> <li>• IEEE 802.3ah 100BASE-X SMF/MMF only</li> <li>• IEEE 802.3u 100BASE-TX specification</li> <li>• IEEE 802.3ab 1000BASE-T specification</li> <li>• IEEE 802.3z 1000BASE-X specification</li> <li>• IEEE 1588v2 PTP Precision Time Protocol</li> <li>• IEEE 802.1BA Audio Video Bridging</li> <li>• IEEE 802.3af</li> <li>• IEEE 802.3at</li> <li>• IEEE 802.3bt Type 4</li> </ul>
<b>RFC compliance</b>	<ul style="list-style-type: none"> <li>• RFC 768: UDP</li> <li>• RFC 783: TFTP</li> <li>• RFC 791: IPv4 protocol</li> <li>• RFC 792: ICMP</li> <li>• RFC 793: TCP</li> <li>• RFC 826: ARP</li> <li>• RFC 854: Telnet</li> <li>• RFC 951: BOOTP</li> <li>• RFC 959: FTP</li> <li>• RFC 1157: SNMPv1</li> <li>• RFC 1901,1902-1907 SNMPv2</li> <li>• RFC 2273-2275: SNMPv3</li> <li>• RFC 2571: SNMP Management</li> <li>• RFC 1166: IP Addresses</li> <li>• RFC 1256: ICMP Router Discovery</li> </ul>	<ul style="list-style-type: none"> <li>• RFC 1305: NTP</li> <li>• RFC 1492: TACACS+</li> <li>• RFC 1493: Bridge MIB Objects</li> <li>• RFC 1534: DHCP and BOOTP interoperation</li> <li>• RFC 1542: Bootstrap Protocol</li> <li>• RFC 1643: Ethernet Interface MIB</li> <li>• RFC 1757: RMON</li> <li>• RFC 2068: HTTP</li> <li>• RFC 2131, 2132: DHCP</li> <li>• RFC 2236: IGMP v2</li> <li>• RFC 3376: IGMP v3</li> <li>• RFC 2474: DiffServ Precedence</li> <li>• RFC 3046: DHCP Relay Agent Information Option</li> <li>• RFC 3580: 802.1x RADIUS</li> <li>• RFC 4250-4252 SSH Protocol</li> </ul>

Description	Specifications	
<b>SNMP MIB objects</b>	<ul style="list-style-type: none"> <li>• BRIDGE-MIB</li> <li>• CALISTA-DPA-MIB</li> <li>• CISCO-ACCESS-ENVMON-MIB</li> <li>• CISCO-ADMISSION-POLICY-MIB</li> <li>• CISCO-AUTH-FRAMEWORK-MIB</li> <li>• CISCO-BRIDGE-EXT-MIB</li> <li>• CISCO-BULK-FILE-MIB</li> <li>• CISCO-CABLE-DIAG-MIB</li> <li>• CISCO-CALLHOME-MIB</li> <li>• CISCO-CAR-MIB</li> <li>• CISCO-CDP-MIB</li> <li>• CISCO-CIRCUIT-INTERFACE-MIB</li> <li>• CISCO-CLUSTER-MIB</li> <li>• CISCO-CONFIG-COPY-MIB</li> <li>• CISCO-CONFIG-MAN-MIB</li> <li>• CISCO-DATA-COLLECTION-MIB</li> <li>• CISCO-DHCP-SNOOPING-MIB</li> <li>• CISCO-EMBEDDED-EVENT-MGR-MIB</li> <li>• CISCO-ENTITY-ALARM-MIB</li> <li>• CISCO-ENTITY-VENDORTYPE- OID-MIB</li> <li>• CISCO-ENVMON-MIB</li> <li>• CISCO-ERR-DISABLE-MIB</li> <li>• CISCO-FLASH-MIB</li> <li>• CISCO-FTP-CLIENT-MIB</li> <li>• CISCO-IGMP-FILTER-MIB</li> <li>• CISCO-IMAGE-MIB</li> <li>• CISCO-IP-STAT-MIB</li> <li>• CISCO-LAG-MIB</li> <li>• CISCO-LICENSE-MGMT-MIB</li> <li>• CISCO-MAC-AUTH-BYPASS-MIB</li> <li>• CISCO-MAC-NOTIFICATION-MIB</li> <li>• CISCO-MEMORY-POOL-MIB</li> <li>• CISCO-PAE-MIB</li> <li>• CISCO-PAGP-MIB</li> <li>• CISCO-PING-MIB</li> <li>• CISCO-PORT-QOS-MIB</li> </ul>	<ul style="list-style-type: none"> <li>• CISCO-SNMP-TARGET-EXT-MIB</li> <li>• CISCO-STACK-MIB</li> <li>• CISCO-STACKMAKER-MIB</li> <li>• CISCO-STACKWISE-MIB</li> <li>• CISCO-STP-EXTENSIONS-MIB</li> <li>• CISCO-SYSLOG-MIB</li> <li>• CISCO-TCP-MIB</li> <li>• CISCO-UDLDP-MIB</li> <li>• CISCO-VLAN-IFTABLE-RELATIONSHIP-MIB</li> <li>• CISCO-VLAN-MEMBERSHIP-MIB</li> <li>• CISCO-VTP-MIB</li> <li>• ENTITY-MIB</li> <li>• ETHERLIKE-MIB</li> <li>• HC-RMON-MIB</li> <li>• IEEE8021-PAE-MIB</li> <li>• IEEE8023-LAG-MIB</li> <li>• IF-MIB</li> <li>• IP-FORWARD-MIB</li> <li>• LLDP-EXT-MED-MIB</li> <li>• LLDP-EXT-PNO-MIB</li> <li>• LLDP-MIB</li> <li>• NETRANGER</li> <li>• NOTIFICATION-LOG-MIB</li> <li>• OLD-CISCO-CHASSIS-MIB</li> <li>• OLD-CISCO-CPU-MIB</li> <li>• OLD-CISCO-FLASH-MIB</li> <li>• OLD-CISCO-INTERFACES-MIB</li> <li>• OLD-CISCO-IP-MIB</li> <li>• OLD-CISCO-MEMORY-MIB</li> <li>• OLD-CISCO-SYS-MIB&lt;</li> <li>• OLD-CISCO-SYSTEM-MIB</li> <li>• OLD-CISCO-TCP-MIB</li> <li>• OLD-CISCO-TS-MIB</li> <li>• RMON-MIB</li> <li>• RMON2-MIB</li> <li>• SMON-MIB</li> <li>• SNMP-COMMUNITY-MIB</li> </ul>

Description	Specifications
	<ul style="list-style-type: none"> <li>• CISCO-PORT-SECURITY-MIB</li> <li>• CISCO-PORT-STORM-CONTROL-MIB</li> <li>• CISCO-PRIVATE-VLAN-MIB</li> <li>• CISCO-PROCESS-MIB</li> <li>• CISCO-PRODUCTS-MIB</li> <li>• CISCO-RESILIENT-ETHERNET-PROTOCOL-MIB</li> <li>• CISCO-RTTMON-ICMP-MIB</li> <li>• CISCO-RTTMON-IP-EXT-MIB</li> <li>• CISCO-RTTMON-MIB</li> <li>• CISCO-RTTMON-RTP-MIB</li> </ul>
	<ul style="list-style-type: none"> <li>• SNMP-FRAMEWORK-MIB</li> <li>• SNMP-MPD-MIB</li> <li>• SNMP-NOTIFICATION-MIB</li> <li>• SNMP-PROXY-MIB</li> <li>• SNMP-TARGET-MIB</li> <li>• SNMP-USM-MIB</li> <li>• SNMP-VIEW-BASED-ACM-MIB</li> <li>• SNMPv2-MIB</li> <li>• TCP-MIB</li> <li>• UDP-MIB</li> </ul>

Table 15 highlights information about supported SFP modules for the Cisco Catalyst IE9300 Rugged Series switches.

**Table 15.** SFP support

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

Part number	Specification	SFP type	Max distance	Cable type	Temperature range <sup>1</sup>	Digital optical monitoring (DOM) support
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 1000BASE-X	GE		SMF	COM	Yes
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= <sup>2</sup>	1000BASE-T	GE	100 m	Copper	EXT	NA
GLC-T= <sup>2</sup>	1000BASE-T	GE	100 m	Copper	COM	NA
GLC-T-RGD= <sup>2</sup>	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	
GLC-BX-U-I=	1000BASE-BX	GE	10 km	SMF	IND	

Part number	Specification	SFP type	Max distance	Cable type	Temperature range <sup>1</sup>	Digital optical monitoring (DOM) support
<b>GLC-BX-D-I=</b>	1000BASE-BX	GE	10 km	SMF	IND	
<b>SFP-10G-BXD-I=</b>	10GBASE-BX	10G	10 km	SMF	IND	Yes
<b>SFP-10G-BXU-I=</b>	10GBASE-BX	10G	10 km	SMF	IND	Yes
<b>SFP-10G-BX40D-I=</b>	10GBASE-BX	10G	40 km	SMF	IND	Yes
<b>SFP-10G-BX40U-I=</b>	10GBASE-BX	10G	40 km	SMF	IND	Yes
<b>SFP-10G-SR-X=</b>	10GBASE-SR	10G	400 m	MMF	EXT	Yes
<b>SFP-10G-SR-I=</b>	10GBASE-SR	10G	400 m	MMF	IND	Yes
<b>SFP-10G-LR-X=</b>	10GBASE-LR	10G	10 km	SMF	EXT	Yes
<b>SFP-10G-SR=</b>	10GBASE-SR	10G	400 m	MMF	COM	Yes
<b>SFP-10G-LR=</b>	10GBASE-LR	10G	10 km	SMF	COM	Yes
<b>SFP-10G-ER=</b>	10GBASE-ER	10G	40 km	SMF	COM	Yes
<b>SFP-10G-ZR=</b>	10GBASE-ZR	10G	80 km	SMF	COM	Yes
<b>SFP-H10GB-CUxM=</b>	Twinax Cable	10G	1m, 3m, 5m	-	COM	-
<b>SFP-H10GB-ACUxM=</b>	Twinax Cable	10G	7m, 10m	-	COM	-
<b>ONS-SI+-10G-SR=</b>	10GBASE-SR	10G	400 m	MMF	IND	Yes
<b>ONS-SI+-10G-LR=</b>	10GBASE-LR	10G	10 km	SMF	IND	Yes
<b>ONS-SI+-10G-ER=</b>	10GBASE-ER	10G	40 km	SMF	IND	Yes
<b>ONS-SI+-10G-ZR=</b>	10GBASE-ZR	10G	80 km	SMF	IND	Yes
<b>SFP-10G-ER-I=</b>	10GBASE-ER	10G	40 km	SMF	IND	Yes
<b>SFP-10G-ZR-I=</b>	10GBASE-ZR	10G	80 km	SMF	IND	Yes
<b>SFP-10G-T-X=</b>	10GBASE-T	10G	30 m	Copper	EXT	NA
<b>SFP-10G-LR10-I=</b>	10GBASE-LR	10G	10 km	SMF	IND	Yes
<b>DWDM-SFP10G-xxxx=</b>	DWDM 10GBASE-X	10G		SMF	COM	Yes
<b>CWDM-SFP10G-xxxx=</b>	CWDM 10GBASE-X	10G		SMF	COM	Yes

<sup>1</sup> If nonindustrial SFPs (EXT, COM) are used, the switch operating temperature must be derated.

<sup>2</sup> Degrades PTP performance. Not supported on Dual-Media SFP Ports (Combo Ports)

## Ordering information

Table 16 lists the ordering information for the Cisco Catalyst IE9300 Rugged Series switches.

Cisco Catalyst IE9300 Rugged Series Network Advantage license-based switch SKUs (e.g. IE-9310-26S2C-A, IE-9320-24T4X-A etc.) come with an option of 3-year limited term and 24 endpoints Advantage license (CV-A-IE) of [Cisco Cyber Vision](#) and [Secure Equipment Access](#) at no extra cost. Licenses for additional endpoints can be purchased separately.

Inclusion of CV-A-IE, under Network Advantage license-based switch SKUs, is applicable only for orders placed August 23, 2025 onwards.

**Table 16.** Ordering information

Product ID	Description
IE-9310-26S2C-E	Catalyst IE9300 w/ 24 Ports GE SFP Downlinks and 4 Ports GE SFP uplinks, NE
IE-9310-26S2C-A	Catalyst IE9300 w/ 24 Ports GE SFP Downlinks and 4 Ports GE SFP uplinks, NA
IE-9320-26S2C-E	Catalyst IE9300 w/ 24 Ports GE SFP Downlinks and 4 Ports GE SFP uplinks, Stackable, NE
IE-9320-26S2C-A	Catalyst IE9300 w/ 24 Ports GE SFP Downlinks and 4 Ports GE SFP uplinks, Stackable, NA
IE-9320-22S2C4X-E	Catalyst IE9300 w/ 24 Ports GE SFP Downlinks and 4 Ports 10G SFP+ uplinks, Stackable, NE, Conformal Coating
IE-9320-22S2C4X-A	Catalyst IE9300 w/ 24 Ports GE SFP Downlinks and 4 Ports 10G SFP+ uplinks, Stackable, NA, Conformal Coating
IE-9320-24P4S-E	Catalyst IE9300 w/ 24 Ports GE PoE+ Downlinks and 4 Ports GE SFP uplinks, Stackable, NE
IE-9320-24P4S-A	Catalyst IE9300 w/ 24 Ports GE PoE+ Downlinks and 4 Ports GE SFP uplinks, Stackable, NA
IE-9320-24T4X-E	Catalyst IE9300 w/ 24 Ports GE Cu Downlinks and 4 Ports 10G SFP+ uplinks, Stackable, NE
IE-9320-24T4X-A	Catalyst IE9300 w/ 24 Ports GE Cu Downlinks and 4 Ports 10G SFP+ uplinks, Stackable, NA
IE-9320-24P4X-E	Catalyst IE9300 w/ 24 Ports GE PoE+ Downlinks and 4 Ports 10G SFP+ uplinks, Stackable, NE
IE-9320-24P4X-A	Catalyst IE9300 w/ 24 Ports GE PoE+ Downlinks and 4 Ports 10G SFP+ uplinks, Stackable, NA
IE-9320-16P8U4X-E	Catalyst IE9300 w/ 16 Ports GE PoE+ and 8 Ports 2.5G 4PPoE Downlinks and 4 Ports 10G SFP+ uplinks, Stackable, NE
IE-9320-16P8U4X-A	Catalyst IE9300 w/ 16 Ports GE PoE+ and 8 Ports 2.5G 4PPoE Downlinks and 4 Ports 10G SFP+ uplinks, Stackable, NA
IE-9310-16P8S4X-E	Cisco Catalyst IE9300 w/ 16 Ports GE PoE+ and 8 Ports SFP Downlinks and 4 Ports 1/10G SFP+ uplinks, NE
IE-9310-16P8S4X-A	Cisco Catalyst IE9300 w/ 16 Ports GE PoE+ and 8 Ports SFP Downlinks and 4 Ports 1/10G SFP+ uplinks, NA
SD-IE-16GB=	16GB SD memory card for IE
CAB-STK-0.5M=	Cisco 0.5M stack cable

Product ID	Description
<b>CAB-STK-1M=</b>	Cisco 1M stack cable
<b>RM-RGD-19IN=</b>	Spare 19IN rack-mount kit
<b>RM-RGD-23IN=</b>	23IN NEBS rack-mount kit
<b>RM-RGD-ETSI=</b>	ETSI rack-mount kit
<b>PWR-RGD-AC-DC-H</b>	Hazloc Power Supply High AC/DC 85-264VAC/88-300VDC
<b>PWR-RGD-AC-DC-H=</b>	Spare Hazloc Power Supply High AC/DC 85-264VAC/88-300VDC
<b>PWR-RGD-LOW-DC-H</b>	Hazloc Power Supply Low DC 24-60V/10A
<b>PWR-RGD-LOW-DC-H=</b>	Spare Hazloc Power Supply Low DC 24-60V/10A
<b>PWR-RGD-AC-DC-250</b>	Hazloc Power Supply 100-240VAC/100-250VDC
<b>PWR-RGD-AC-DC-250=</b>	Spare Hazloc Power Supply 100-240VAC/100-250VDC
<b>PWR-RGD-AC-DC-400</b>	Hazloc Power Supply 100-240VAC/100-250VDC, 400W
<b>PWR-RGD-AC-DC-400=</b>	Spare Hazloc Power Supply 100-240VAC/100-250VDC, 400W
<b>IE9300-NW-A=</b>	Network Advantage License for IE9300, Perpetual
<b>IE9300-DNA-E</b>	Cisco Catalyst Center DNA Essentials license for IE9300 Series
<b>IE9300-DNA-E-3Y</b>	IE 9300 Cisco Catalyst Center DNA Essentials, 3 Year Term license
<b>IE9300-DNA-E-5Y</b>	IE 9300 Cisco Catalyst Center DNA Essentials, 5 Year Term license
<b>IE9300-DNA-E-7Y</b>	IE 9300 Cisco Catalyst Center DNA Essentials, 7 Year Term license
<b>IE9300-DNA-A</b>	Cisco Catalyst Center DNA Advantage license for IE9300 Series
<b>IE9300-DNA-A-3Y</b>	IE 9300 Cisco Catalyst Center DNA Advantage, 3 Year Term license
<b>IE9300-DNA-A-5Y</b>	IE 9300 Cisco Catalyst Center DNA Advantage, 5 Year Term license
<b>IE9300-DNA-A-7Y</b>	IE 9300 Cisco Catalyst Center 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	<a href="#">Materials</a>
Information on electronic waste laws and regulations, including products, batteries, and packaging	<a href="#">WEEE compliance</a>

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
<b>Power</b>	
Power specifications and consumption	<a href="#">Table 5. IE9300 physical configurations</a>
<b>Environmental characteristics</b>	
Operating temperature, industry standards, EMC emissions	<a href="#">Table 12. Compliance specifications</a>
<b>Material</b>	
Unit weight	<a href="#">Table 5: IE9330 physical configurations</a>

Cisco makes the packaging data available for informational purposes only. It may not reflect the most current legal developments, and Cisco does not represent, warrant, or guarantee that it is complete, accurate, or up to date. This information is subject to change without notice.

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## Cisco Services

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

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## For more information

For more information about the Cisco IE 9300 Series, visit <https://www.cisco.com/go/ie9300> or contact your local account representative.

## Document history

New or Revised Topic	Described In	Date
Updated Scale information, Features list, Ordering Information	<a href="#">Table 6</a> , <a href="#">Table 9</a> , <a href="#">Table 10</a> , <a href="#">Table 16</a>	September 2025
Updated Product Overview, Features and benefits, Performance and scalability features, Available power budget, Ordering information	<a href="#">Table 1</a> , <a href="#">Table 6</a> , <a href="#">Table 8</a>	August 2025
Added IE-9310-16P8S4X to the SKUs.	All sections	June 2025
SD Card Capacity, Feature Update, MTBF Information Update, Management and Standards update, SFP Support Footnote update, Ordering Information Update, Catalyst Center Feature update	<a href="#">Table 6</a> , <a href="#">Table 9</a> , <a href="#">Table 10</a> , <a href="#">Table 11</a> , <a href="#">Table 13</a> , <a href="#">Table 14</a> , <a href="#">Table 15</a> , <a href="#">Table 16</a>	February 2025
Feature update, Compliance update, SFP Temperature range update, Ordering information update	<a href="#">Table 9</a> , <a href="#">Table 12</a> , <a href="#">Table 15</a> , <a href="#">Table 16</a>	October 2024
Power supplies footnote update, REP ZTP feature addition, Certifications, Removed Full Flexible Netflow from Catalyst Center Visibility row	<a href="#">Table 7</a> , <a href="#">Table 9</a> , <a href="#">Table 11</a> , <a href="#">Table 12</a>	April 2024
Footnotes update, PID Description update, Figure 3 description update and ModBus TCP feature update, DNA name change to Catalyst Center	<a href="#">Figure 3</a> , <a href="#">Table 7</a> , <a href="#">Table 8</a> , <a href="#">Table 9</a> , <a href="#">Table 12</a> , <a href="#">Table 16</a>	October 19, 2023
Updated Features L2 NAT, PTP as Ref for NTP, CIP, PROFINET. REP Fast, Power Profile 2017, SD-Access Fabric Edge Node and Cisco DNA Centre License Matrix	<a href="#">Table 9</a> , <a href="#">Table 10</a> and <a href="#">Table 11</a>	April 12, 2023

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