Cisco 250 Series Smart Switches

Build a reliable, easy-to-use business network at an affordable price

In today's hyper-connected world, reliable access to network resources is critical to all businesses. However, you also need to invest wisely to stay competitive, knowing how to separate the essential from the extraneous and get the most value for your dollar. For investment in network infrastructure, building a solid foundation for your business is essential, but it doesn't mean you need the most advanced feature set on the market.

For businesses requiring high performance, advanced security, and rich manageability from the network, fully managed switches are an excellent choice. However, they also typically come with high price tags. Smart switches provide the right level of network features and capabilities for growing businesses at a lower price, so you'll have more dollars to put toward other areas of your business.

With Cisco® 250 Series Smart Switches (Figure 1), you can achieve business-class network performance and security without paying for advanced network features that you will not use. When you need a reliable solution to share online resources and connect computers, phones, and wireless access points, but low cost is a top priority, Cisco 250 Series Smart Switches provide the ideal solution.

Figure 1. Cisco 250 Series Smart Switches

The Cisco 250 Series is the next generation of affordable smart switches that combine powerful network performance and reliability with a complete suite of the network features you need for a solid business network. These powerful Fast Ethernet or Gigabit Ethernet switches, with Gigabit or 10 Gigabit Ethernet uplinks, provide multiple management options, sophisticated security capabilities, fine-tuned Quality-of-Service (QoS) and Layer 3 static routing features far beyond those of an unmanaged or consumer-grade switch, at a lower cost than for fully managed switches. And with an easy-to-use web user interface, Smart Network Application, and Power over Ethernet Plus (PoE+) capability, you can deploy and configure a complete business network in minutes.

Business applications

Whether you need basic, high-speed connectivity for your computers and servers or a comprehensive voice, data, and wireless technology solution, Cisco 250 Series switches can meet your business needs. Possible deployment scenarios include:

- **High-speed desktop connectivity:** Cisco 250 Series switches can quickly and securely connect employees working in small offices with one another and with all of the printers, servers, and other devices they use. High performance and reliable connectivity help speed up file transfers and data processing, improve network uptime, and keep your employees productive.
- **Flexible wireless connectivity:** Cisco 250 Series switches work with Cisco and third-party wireless solutions to extend the reach of your network. With security features, Power over Ethernet (PoE), VLAN, and QoS, these switches are the perfect foundation to add business-grade wireless to a network.

  The capability of up to 30W of power per port provided through the Ethernet cable means you can easily deploy innovative 802.11ac wireless technology to maximize workforce productivity.
- **Unified communications:** The Cisco 250 Series provides QoS features to enable you to prioritize delay-sensitive traffic in your network and let you converge all of your communications solutions such as IP telephony and video surveillance onto a single Ethernet network. Cisco offers a complete portfolio of IP telephony and other unified communications products designed for small businesses, and Cisco 250 Series switches have been rigorously tested to help ensure easy integration and full compatibility with these and other vendor products.

Features and benefits

Cisco 250 Series Smart Switches provide all of the features you need to create a basic business-class network at an affordable price. These features include:

- **Easy configuration and management:** Cisco 250 Series switches are designed to be easy to deploy and use by small businesses or the partners that serve them:
  - Smart Network Application (SNA) is an innovative network-level monitoring and management tool embedded in the Cisco 100 to 500 Series switches. It can discover network topology, display link status, monitor events, apply configurations, and upgrade software images across multiple switches in the network.
  - The FindIT Network Manager and Probe are designed to manage Cisco 100 to 500 Series switches, routers, and wireless access points. They let you proactively manage the network instead of just reacting to events. Cisco 250 Series switches support the embedded FindIT Network Probe, eliminating the need to set up a separate hardware or virtual machine on site. For more information, visit https://www.cisco.com/c/en/us/products/cloud-systems-management/findit-network-management/index.html.
  - The FindIT Network Discovery Utility works through a simple toolbar on the user's web browser to discover Cisco devices on the network and display basic device information, inventory, and new firmware updates to aid in the configuration and speed the deployment of Cisco Small Business products. For more information, visit https://www.cisco.com/c/en/us/products/cloud-systems-management/small-business-findit-network-discovery-utility/index.html.
  - Simple or advanced-mode graphic user interfaces reduce the time required to deploy, troubleshoot, and manage the network. Configuration wizards simplify the most common configuration tasks and provide the ultimate tool for anyone to set up and manage the network.

    - Cisco Smartports technology provides more advanced capabilities and hands-on control by automatically configuring ports with specific levels of security, QoS, and availability according to the type of connected device, based on Cisco best practices and pretested configurations. The Auto Smartports feature automatically applies the intelligence delivered through the Smartports roles to the port based on the device types discovered over Cisco Discovery Protocol or LLDP-MED. This capability facilitates zero-touch deployments.
    - The USB port on the front panel of the switch enables easy image and configuration transfer for faster deployment or upgrades.
- **Reliability and performance:** Cisco 250 Series switches have been tested to deliver the high performance and reliability you would expect from a Cisco switch and help you prevent costly downtime. The switches speed file transfer times, improve slow and sluggish networks, keep your vital business applications available, and help your employees respond more quickly to customers and each other. With a network based on Cisco 250 Series switches, you can address all of your business communications and connectivity needs and reduce the total cost of ownership of your technology infrastructure. Cisco 250 Series switches also support 10 Gigabit Ethernet uplinks on select models, so you can build a high-performance and future-ready network to support your thriving business.
- **Layer 3 static routing***:* This capability allows you to segment your network into separate workgroups and communicate across VLANs without degrading application performance. As a result, you can manage internal routing with your switches and dedicate your router to external traffic and security, helping your network run more efficiently.
- **Power over Ethernet Plus (PoE+):** Cisco 250 Series switches are available with PoE+ on both Fast Ethernet and Gigabit Ethernet models. This capability simplifies the deployment of IP telephony, wireless, video surveillance, and other solutions by allowing you to send data and power to network endpoints over the single network cable, eliminating the need for separate power supplies or outlets. PoE+ provides up to 30W of power per port, enabling deployments for 802.11ac wireless access points, Pan-Tilt-Zoom (PTZ) IP cameras, videophones, and thin client devices, delivering more flexibility and investment protection.
- **PoE powered device and PoE pass-through:** The 10-port compact models of Cisco 250 Series can work as PoE powered devices and draw power from upstream PoE switches in the wiring closet, simplifying the deployment in meeting rooms, classrooms, hotel rooms, and other flexible locations. Each switch can accept up to 60W of power per uplink port to power itself and pass through the power to the downstream PoE end devices if needed.
- **Network security:** Cisco 250 Series switches provide the security and network management features you need to maintain a high level of security for your business, keep unauthorized users off the network, and protect your business data. The switches include integrated network security to reduce the risk of a security breach, with IEEE 802.1X port security to control access to your network, Denial-of-Service (DoS) attack prevention to increase network uptime during an attack, and extensive Access Control Lists (ACLs) to protect sensitive portions of the network from unauthorized users and guard against network attacks.
- **IPv6 support:** As the IP network addressing scheme evolves to accommodate more devices, you can have peace of mind that your network is ready. Cisco 250 Series switches provide native support for IPv6 alongside traditional IPv4. With USGv6 and IPv6 Gold Logo certifications, the 250 Series will enable you to take full advantage of IPv6-enabled operating systems and applications in the future, without having to upgrade your network equipment.

- **IP telephony support:** Cisco 250 Series switches include QoS features to prioritize delay-sensitive services such as voice and video, simplify unified communications deployments, and help ensure consistent network performance for all services.
- **Networkwide automatic voice deployment:** Using a combination of Cisco Discovery Protocol, LLDP-MED, Auto Smartports, and Voice Services Discovery Protocol (VSDP, a unique, patented Cisco protocol), customers can deploy an end-to-end voice network dynamically. The switches in the network automatically converge into a single voice VLAN and set of QoS parameters and then propagate them out to the phones on the ports where they are discovered. For example, automated voice VLAN capabilities let you plug any IP phone (including third-party phones) into your IP telephony network and receive an immediate dial tone. The switch automatically configures the device with the right VLAN and QoS parameters to prioritize voice traffic.
- **An energy-efficient solution:** Cisco 250 Series switches are designed to be energy efficient and eco friendly without compromising performance. They help conserve energy by optimizing power use, which helps protect the environment and lowers your energy costs. Power-saving features include:
  - Support for the Energy Efficient Ethernet (IEEE 802.3az) standard, which reduces energy consumption by monitoring the amount of traffic on an active link and putting the link into a sleep state during quiet periods
  - Automatic power shutoff on ports when a link is down
  - Embedded intelligence to adjust power based on cable length
  - Fanless design in most models, which reduces power consumption, increases reliability, and provides quieter operation
  - Ability to turn off LEDs to conserve power
- **Peace of mind and investment protection:** Cisco 250 Series switches offer the reliable performance, investment protection, and peace of mind you expect from a Cisco switch. When you invest in the Cisco 250 Series, you gain the benefits of:
  - Cisco limited lifetime warranty to protect your investment
  - Rigorous testing to help ensure easy integration and compatibility with other Cisco networking and communications products, including the complete Cisco Small Business portfolio
- **Limited lifetime warranty:** The Cisco 250 Series switches come with the Cisco limited lifetime hardware warranty, with return-to-factory replacement, software updates for bug fixes for the warranty term, and 1-year limited warranty for fans and power supplies. In addition, Cisco offers telephone technical support at no charge for the first 12 months following the date of purchase. To download software updates, go to https://www.cisco.com/cisco/web/download/index.html.
- **World-class support:** To extend the support coverage beyond the warranty provisions, choose Cisco Smart Net Total Care™, which helps you get the most value from Cisco Small Business solutions, providing peace of mind at an affordable price. Cisco Smart Net Total Care provides a single service platform for all Cisco networking products. With global coverage, flexible contract terms, and multiple advance hardware replacement options, this comprehensive service includes software upgrades, access to the Cisco Small Business Support Center, and extended telephone and online chat support. To learn more, visit https://www.cisco.com/c/en/us/solutions/small-business/services.html.

  To find out where Cisco Small Business Support Service is available by country, go to https://supportforums.cisco.com/t5/regional-service-support-options/bd-p/4626-discussions-smb-support-country.

- **Multiple language options:** The Cisco 250 Series switches are available in multiple languages. Product documentation and user interfaces are translated, giving you the ability to select your preferred language.

Product specifications

Table 1 describes product specifications.

Table 1. Product specifications

Feature	Description		
Performance			
Switching capacity and forwarding rate **All switches are wire-speed and nonblocking**	**Model**	**Capacity in millions of packets per second (mpps) (64-byte packets)**	**Switching capacity in gigabits per second (Gbps)**
	SF250-24	9.52	12.8
	SF250-24P	9.52	12.8
	SF250-48	13.10	17.6
	SF250-48HP	13.10	17.6
	SG250-08	11.90	16.0
	SG250-08HP	11.90	16.0
	SG250-10P	14.88	20.0
	SG250-18	26.78	36.0
	SG250-26	38.69	52.0
	SG250-26HP	38.69	52.0
	SG250-26P	38.69	52.0
	SG250-50	74.41	100.0
	SG250-50HP	74.41	100.0
	SG250-50P	74.41	100.0
	SG250X-24	95.23	128.0
	SG250X-24P	95.23	128.0
	SG250X-48	130.94	176.0
	SG250X-48P	130.94	176.0
Layer 2 switching			
Spanning Tree Protocol (STP)	Standard 802.1d spanning tree support Fast convergence using 802.1w (Rapid Spanning Tree Protocol [RSTP]), enabled by default Multiple spanning tree instances using 802.1s (MSTP); 8 instances are supported		
Port grouping/link aggregation	Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP) • Up to 4 groups • Up to 8 ports per group with 16 candidate ports for each (dynamic) 802.3ad LAG		
VLAN	Support for up to 256 active VLANs simultaneously Port-based and 802.1Q tag-based VLANs Management VLAN Guest VLAN		
Voice VLAN	Voice traffic is automatically assigned to a voice-specific VLAN and treated with appropriate levels of QoS. Auto voice capabilities deliver networkwide zero-touch deployment of voice endpoints and call control devices		
Generic VLAN Registration Protocol (GVRP) and Generic Attribute Registration Protocol (GARP)	Protocols for automatically propagating and configuring VLANs in a bridged domain		
IGMP (versions 1, 2, and 3) snooping	Internet Group Management Protocol (IGMP) limits bandwidth-intensive multicast traffic to only the requesters; supports 4K multicast groups (source-specific multicasting is also supported)		

Feature	Description
IGMP querier	Used to support a Layer 2 multicast domain of snooping switches in the absence of a multicast router
HOL blocking	Head-Of-Line (HOL) blocking
Loopback detection	Provides protection against loops by transmitting loop protocol packets out of ports on which loop protection has been enabled. It operates independently of STP
Layer 3 routing	
IPv4 routing	Wire-speed routing of IPv4 packets Up to 32 static routes and up to 16 IP interfaces
IPv6 routing	Wire-speed routing of IPv6 packets
Layer 3 interface	Configuration of Layer 3 interface on physical port, LAG, VLAN interface, or loopback interface
Classless Interdomain Routing (CIDR)	Support for CIDR
DHCP relay at Layer 3	Relay of DHCP traffic across IP domains
User Datagram Protocol (UDP) relay	Relay of broadcast information across Layer 3 domains for application discovery or relaying of bootP/DHCP packets
Security	
SSL	Secure Sockets Layer (SSL) encrypts all HTTPS traffic, allowing secure access to the browser-based management GUI in the switch
Secure Shell (SSH) Protocol	SSH is a secure replacement for Telnet traffic. Secure Copy (SCP) also uses SSH. SSH v1 and v2 are supported
IEEE 802.1X (authenticator role)	RADIUS authentication, guest VLAN, single/multiple host mode, and single/multiple sessions
Secure Core Technology (SCT)	Ensures that the switch will receive and process management and protocol traffic no matter how much traffic is received
Secure Sensitive Data (SSD)	A mechanism to manage sensitive data (such as passwords, keys, and so on) securely on the switch, populating this data to other devices, and secure autoconfig. Access to view the sensitive data as plaintext or encrypted is provided according to the user-configured access level and the access method of the user
Port security	Ability to lock source MAC addresses to ports and limit the number of learned MAC addresses
RADIUS	Supports RADIUS authentication for management access. Switch functions as a client
Storm control	Broadcast, multicast, and unknown unicast
DoS prevention	Denial-of-Service (DoS) attack prevention
Access Control Lists (ACLs)	Support for up to 512 rules Drop or rate limit based on source and destination MAC, VLAN ID or IP address, protocol, port, differentiated services code point (DSCP)/IP precedence, TCP/UDP source and destination ports, 802.1p priority, Ethernet type, Internet Control Message Protocol (ICMP) packets, IGMP packets, TCP flag
STP loopback guard	Provides additional protection against Layer 2 forwarding loops (STP loops)
Quality of service	
Priority levels	8 hardware queues
Scheduling	Strict priority and Weighted Round-Robin (WRR) queue assignment based on DSCP and class of service (802.1p/CoS)
Class of service	Port based; 802.1p VLAN priority based; IPv4/v6 IP precedence/Type of Service (ToS)/DSCP based; Differentiated Services (DiffServ); classification and re-marking ACLs, trusted QoS
Rate limiting	Ingress policer; egress shaping and rate control; per VLAN, per port, and flow based
Congestion avoidance	A TCP congestion avoidance algorithm is required to reduce and prevent global TCP loss synchronization
Standards	
Standards	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet, IEEE 802.3ab 1000BASE-T Gigabit Ethernet, IEEE 802.3ad Link Aggregation Control Protocol, IEEE 802.3z Gigabit Ethernet, IEEE 802.3x Flow Control, IEEE 802.3 ad LACP, IEEE 802.1D (STP), IEEE 802.1Q/p VLAN, IEEE 802.1w RSTP, IEEE 802.1s Multiple STP, IEEE 802.1X Port Access Authentication, IEEE 802.3af, IEEE 802.3at, RFC 768, RFC 783, RFC 791, RFC 792, RFC 793, RFC 813, RFC 879, RFC 896, RFC 826, RFC 854, RFC 855, RFC 856, RFC 858, RFC 894, RFC 919, RFC 920, RFC 922, RFC 950, RFC 951, RFC 1042, RFC 1071, RFC 1123, RFC 1141, RFC 1155, RFC 1157, RFC 1213, RFC 1215, RFC 1286, RFC 1350, RFC 1442, RFC 1451, RFC 1493, RFC 1533, RFC 1541, RFC 1542, RFC 1573, RFC 1624, RFC 1643, RFC 1700, RFC 1757, RFC 1867, RFC 1907, RFC 2011, RFC 2012, RFC 2013, RFC 2030, RFC 2131, RFC 2132, RFC 2233, RFC 2576, RFC 2616, RFC 2618, RFC 2665, RFC 2666, RFC 2674, RFC 2737, RFC 2819, RFC 2863, RFC 3164, RFC 3411, RFC 3412, RFC 3413, RFC 3414, RFC 3415, RFC 3416, RFC 4330

Feature	Description	
IPv6		
IPv6	IPv6 host mode IPv6 over Ethernet Dual IPv6/IPv4 stack IPv6 neighbor and Router Discovery (ND) IPv6 stateless address auto configuration Path Maximum Transmission Unit (MTU) discovery Duplicate Address Detection (DAD) Internet Control Message Protocol (ICMP) version 6 IPv6 over IPv4 network with Intrasite Automatic Tunnel Addressing Protocol (ISATAP) support USGv6 and IPv6 Gold Logo certified	
IPv6 QoS	Prioritize IPv6 packets in hardware	
IPv6 ACL	Drop or rate limit IPv6 packets in hardware	
Multicast Listener Discovery (MLD v1/2) snooping	Deliver IPv6 multicast packets only to the required receivers	
IPv6 applications	Web/SSL, Telnet server/SSH, Ping, Traceroute, Simple Network Time Protocol (SNTP), Trivial File Transfer Protocol (TFTP), Simple Network Management Protocol (SNMP), Remote Authentication Dial-In User Service (RADIUS), Syslog, DNS client, DHCP client, DHCP autoconfig	
IPv6 RFCs supported	RFC 4443 (which obsoletes RFC 2463): ICMPv6 RFC 4291 (which obsoletes RFC 3513): IPv6 address architecture RFC 4291: IPv6 Addressing Architecture RFC 2460: IPv6 Specification RFC 4861 (which obsoletes RFC 2461): Neighbor Discovery for IPv6 RFC 4862 (which obsoletes RFC 2462): IPv6 Stateless Address Autoconfiguration RFC 1981: Path MTU Discovery RFC 4007: IPv6 Scoped Address Architecture RFC 3484: Default address selection mechanism RFC 5214 (which obsoletes RFC 4214): ISATAP tunneling RFC 4293; MIB IPv6: Textual Conventions and General Group RFC 3595: Textual Conventions for IPv6 Flow Label	
Management		
Web user interface	Built-in switch configuration utility for easy browser-based device configuration (HTTP/HTTPS). Supports configuration, wizards, system dashboard, system maintenance, and monitoring Basic and advanced mode for maximum operational efficiency	
Smart Network Application (SNA)	An innovative network-level monitoring and management tool embedded in Cisco 250 to 550X Series switches. It can discover network topology, display link status, monitor events, apply configurations, and upgrade software images across multiple switches in the network	
SNMP	SNMP versions 1, 2c, and 3 with support for traps, and SNMP v3 User-based Security Model (USM)	
Standard MIBs	lldp-MIB lldpextdot1-MIB lldpextdot3-MIB lldpextmed-MIB rfc2674-MIB rfc2575-MIB rfc2573-MIB rfc2233-MIB rfc2013-MIB rfc2012-MIB rfc2011-MIB RFC-1212 RFC-1215 SNMPv2-CONF SNMPv2-TC p-bridge-MIB	rfc2665-MIB rfc2668-MIB rfc2737-MIB rfc2925-MIB rfc3621-MIB rfc4668-MIB rfc4670-MIB trunk-MIB tunnel-MIB udp-MIB draft-ietf-bridge-8021x-MIB draft-ietf-bridge-rstpmib-04-MIB draft-ietf-hubmib-etherif-mib-v3-00-MIB draft-ietf-syslog-device-MIB ianaaddrfamnumbers-MIB ianaifty-MIB

Feature	Description	
	q-bridge-MIB	ianaprot-MIB
	rfc1389-MIB	inet-address-MIB
	rfc1493-MIB	ip-forward-MIB
	rfc1611-MIB	ip-MIB
	rfc1612-MIB	RFC1155-SMI
	rfc1850-MIB	RFC1213-MIB
	rfc1907-MIB	SNMPv2-MIB
	rfc2571-MIB	SNMPv2-SMI
	rfc2572-MIB	SNMPv2-TM
	rfc2574-MIB	RMON-MIB
	rfc2576-MIB	rfc1724-MIB
	rfc2613-MIB	dcb-raj-DCBX-MIB-1108-MIB
		rfc1213-MIB
		rfc1757-MIB
Private MIBs	CISCOSB-lldp-MIB	CISCOSB-ip-MIB
	CISCOSB-brgmulticast-MIB	CISCOSB-iprouter-MIB
	CISCOSB-bridgemibobjects-MIB	CISCOSB-ipv6-MIB
	CISCOSB-bonjour-MIB	CISCOSB-mnginf-MIB
	CISCOSB-dhcpcl-MIB	CISCOSB-lcli-MIB
	CISCOSB-MIB	CISCOSB-localization-MIB
	CISCOSB-wrandomtaildrop-MIB	CISCOSB-mcmngr-MIB
	CISCOSB-traceroute-MIB	CISCOSB-mng-MIB
	CISCOSB-telnet-MIB	CISCOSB-physdescription-MIB
	CISCOSB-stormctrl-MIB	CISCOSB-PoE-MIB
	CISCOSBssh-MIB	CISCOSB-protectedport-MIB
	CISCOSB-socket-MIB	CISCOSB-rmon-MIB
	CISCOSB-sntp-MIB	CISCOSB-rs232-MIB
	CISCOSB-smon-MIB	CISCOSB-SecuritySuite-MIB
	CISCOSB-phy-MIB	CISCOSB-snmp-MIB
	CISCOSB-multisessionterminal-MIB	CISCOSB-specialbpdu-MIB
	CISCOSB-mri-MIB	CISCOSB-banner-MIB
	CISCOSB-jumboframes-MIB	CISCOSB-syslog-MIB
	CISCOSB-gvrp-MIB	CISCOSB-TcpSession-MIB
	CISCOSB-endofmib-MIB	CISCOSB-traps-MIB
	CISCOSB-dot1x-MIB	CISCOSB-trunk-MIB
	CISCOSB-deviceparams-MIB	CISCOSB-tuning-MIB
	CISCOSB-cli-MIB	CISCOSB-tunnel-MIB
	CISCOSB-cdb-MIB	CISCOSB-udp-MIB
	CISCOSB-brgmacswitch-MIB	CISCOSB-vlan-MIB
	CISCOSB-3sw2swtables-MIB	CISCOSB-ipstdacl-MIB
	CISCOSB-smartPorts-MIB	CISCOSB-eee-MIB
	CISCOSB-tbi-MIB	CISCOSB-ssl-MIB
	CISCOSB-macbaseprio-MIB	CISCOSB-digitalkeymanage-MIB
	CISCOSB-env_mib-MIB	CISCOSB-qosclimib-MIB
	CISCOSB-policy-MIB	CISCOSB-digitalkeymanage-MIB
	CISCOSB-sensor-MIB	CISCOSB-tbp-MIB
	CISCOSB-aaa-MIB	CISCOSMB-MIB
	CISCOSB-application-MIB	CISCOSB-secsd-MIB
	CISCOSB-bridgesecurity-MIB	CISCOSB-draft-ietf-entmib-sensor-MIB
	CISCOSB-copy-MIB	CISCOSB-draft-ietf-syslog-device-MIB
	CISCOSB-CpuCounters-MIB	CISCOSB-rfc2925-MIB
	CISCOSB-Custom1BonjourService-MIB	CISCO-SMI-MIB
	CISCOSB-dhcp-MIB	CISCOSB-DebugCapabilities-MIB
	CISCOSB-dlf-MIB	CISCOSB-CDP-MIB

Feature	Description	
	CISCOSB-dnscl-MIB	CISCOSB-vlanVoice-MIB
	CISCOSB-embweb-MIB	CISCOSB-EVENTS-MIB
	CISCOSB-fft-MIB	CISCOSB-sysmng-MIB
	CISCOSB-file-MIB	CISCOSB-sct-MIB
	CISCOSB-greeneth-MIB	CISCO-TC-MIB
	CISCOSB-greeneth-MIB	CISCO-VTP-MIB
	CISCOSB-interfaces-MIB	CISCO-CDP-MIB
	CISCOSB-interfaces_recovery-MIB	
Remote monitoring (RMON)	Embedded RMON software agent supports 4 RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis	
IPv4 and IPv6 dual stack	Coexistence of both protocol stacks to ease migration	
Firmware upgrade	Web browser upgrade (HTTP/HTTPS) and TFTP and upgrade over SCP running over SSH Dual images for resilient firmware upgrades	
Port mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe. Up to 4 source ports can be mirrored to one destination port	
VLAN mirroring	Traffic from a VLAN can be mirrored to a port for analysis with a network analyzer or RMON probe. Up to 4 source VLANs can be mirrored to one destination port	
Dynamic Host Configuration Protocol (DHCP) (options 12, 66, 67, 129, and 150)	DHCP options facilitate tighter control from a central point (DHCP server), to obtain IP address, autoconfiguration (with configuration file download), DHCP Relay, and host name	
Secure Copy (SCP)	Securely transfers files to and from the switch	
Autoconfiguration with SCP file download	Enables mass deployment with protection of sensitive data	
Text-editable configs	Config files can be edited with a text editor and downloaded to another switch, facilitating easier mass deployment	
Smartports	Simplified configuration of QoS and security capabilities	
Auto Smartports	Automatically applies the intelligence delivered through the Smartports roles to the port based on the devices discovered over Cisco Discovery Protocol or LLDP-MED. This facilitates zero-touch deployments	
Textview Command-Line Interface (CLI)	Scriptable CLI. A full CLI as well as a menu-based CLI is supported. User privilege levels 1, 7, and 15 are supported for the CLI	
Cloud services	Support for Cisco FindIT Network Manager and Cisco Active Advisor	
Embedded FindIT Network Probe	Support for embedded FindIT Network Probe running on the switch. Eliminates the need to set up a separate hardware or virtual machine for the FindIT Network Probe on site	
Cisco Network Plug and Play (PnP) agent	The Cisco Network Plug and Play solution provides a simple, secure, unified, and integrated offering to ease new branch or campus device rollouts or for provisioning updates to an existing network. The solution provides a unified approach to provision Cisco routers, switches, and wireless devices with a near-zero-touch deployment experience	
Localization	Localization of GUI and documentation into multiple languages	
Login banner	Configurable multiple banners for web as well as CLI	
Other management	Traceroute; single IP management; HTTP/HTTPS; RADIUS; port mirroring; TFTP upgrade; DHCP client; Simple Network Time Protocol (SNTP); cable diagnostics; Ping; syslog; Telnet client (SSH secure support); automatic time settings from Management Station	
Green (power efficiency)		
Energy detect	Automatically turns power off on RJ-45 port when detecting link down. Active mode is resumed without loss of any packets when the switch detects the link is up	
Cable length detection	Adjusts the signal strength based on the cable length. Reduces the power consumption for shorter cables	
EEE compliant (802.3az)	Supports IEEE 802.3az on all copper Gigabit Ethernet ports	
Disable port LEDs	LEDs can be manually turned off to save on energy	
Time-based port operation	Link up or down based on user-defined schedule (when the port is administratively up)	
Time-based PoE	PoE power can be on or off based on user-defined schedule to save energy	
General		
Jumbo frames	Frame sizes up to 9K bytes. The default MTU is 2K bytes	
MAC table	8K addresses	

Feature	Description
Discovery	
Bonjour	The switch advertises itself using the Bonjour protocol
Link Layer Discovery Protocol (LLDP) (802.1ab) with LLDP-MED extensions	Link Layer Discovery Protocol (LLDP) allows the switch to advertise its identification, configuration, and capabilities to neighboring devices that store the data in a MIB. LLDP-MED is an enhancement to LLDP that adds the extensions needed for IP phones
Cisco Discovery Protocol	The switch advertises itself using the Cisco Discovery Protocol. It also learns the connected device and its characteristics using Cisco Discovery Protocol
Product specifications	
802.3at PoE+ and 802.3af PoE delivered over any of the RJ-45 ports within the listed power budgets	The following switches support 802.3at PoE+, 802.3af, and Cisco prestandard (legacy) PoE. Maximum power of 30.0W to any 10/100 or Gigabit Ethernet port, until the PoE budget for the switch is reached. The total power available for PoE per switch is as follows:

Model	Power dedicated to PoE	Number of ports that support PoE
SF250-24P	185W	24
SF250-48HP	195W	48
SG250-08HP	45W	8
SG250-10P	62W	8
SG250-26HP	100W	24
SG250-26P	195W	24
SG250-50HP	192W	48
SG250-50P	375W	48
SG250X-24P	195W	24
SG250X-48P	382W	48

PoE Powered Device (PD) and PoE pass-through

Besides AC power, select compact switch models can work as PoE Powered Device (PD) and be powered by PoE switches connected to the uplink ports. The switch can also pass through the power to downstream PoE end devices if required

Maximum of 60W can be drawn per uplink port if the peer PoE switch supports 60W PoE. When multiple uplink ports are connected to PoE switches, the power drawn from these ports is combined

When AC power is connected and functioning correctly, it is preferred over PoE power. The PoE power can function as a backup to the AC power source or be used as the sole power source for the switch

Model	Power option	Available PoE pass-through power (W)	Can switch be powered with uplinks?
SG250-08	1 x PoE uplink	N/A	Yes
	1 x PoE+ uplink	N/A	Yes
	AC Power	N/A	Yes
SG250-10P	1 x PoE uplink	0W	Yes
	2 x PoE uplink	0W	Yes
	1 x PoE+ uplink	0W	Yes
	2 x PoE+ uplink	22W	Yes
	1 x 60W PoE uplink	22W	Yes
	2 x 60W PoE uplink	50W	Yes
	AC Power	62W	Yes

Power consumption (worst case)

Model	Green power (mode)	System power consumption	Power consumption (with PoE)	Heat dissipation (BTU/hr)
SF250-24	EEE, Energy Detect	110V=10.6W 220V=10.9W	–	37.19
SF250-24P	EEE, Energy Detect	110V=29.2W 220V=28.3W	110V=238W 220V=230W	812.09
SF250-48	EEE, Energy Detect	110V=23.4W 220V=24.2W	–	82.57
SF250-48HP	EEE, Energy Detect	110V=43.1W 220V=44.3W	110V=265.2W 220V=255.8W	904.90

Feature	Description				
	SG250-08	EEE, Energy Detect, Short Reach	110V=7.6W 220V=7.6W	–	25.93
	SG250-08HP	EEE, Energy Detect, Short Reach	110V=9.1W 220V=10.1W	110V=61.4W 220V=59.8W	209.51
	SG250-10P	EEE, Energy Detect, Short Reach	110V=13.25W 220V=13.42W	110V=85.19W 220V=84.17W	290.68
	SG250-18	EEE, Energy Detect, Short Reach	110V=13.1W 220V=13.0W	–	44.70
	SG250-26	EEE, Energy Detect, Short Reach	110V=18.1W 220V=18.9W	–	64.49
	SG250-26HP	EEE, Energy Detect, Short Reach	110V=23.5W 220V=24.4W	110V=135.2W 220V=133.9W	461.32
	SG250-26P	EEE, Energy Detect, Short Reach	110V=34.2W 220V=37.2W	110V=262W 220V=254.5W	893.98
	SG250-50	EEE, Energy Detect, Short Reach	110V=35.2W 220V=35.4W	–	120.79
	SG250-50HP	EEE, Energy Detect, Short Reach	110V=57.5W 220V=59.3W	110V=267.2W 220V=263.5W	911.72
	SG250-50P	EEE, Energy Detect, Short Reach	110V=58.5W 220V=60.3W	110V=481.9W 220V=468.1W	1,644.31
	SG250X-24	EEE, Energy Detect, Short Reach	110V=28.7W 220V=29.1W	–	99.29
	SG250X-24P	EEE, Energy Detect, Short Reach	110V=46.8W 220V=49.2W	110V=260.1W 220V=257.1W	887.50
	SG250X-4 8	EEE, Energy Detect, Short Reach	110V=46.0W 220V=45.6W	–	156.96
	SG250X-48P	EEE, Energy Detect, Short Reach	110V=68.4W 220V=70.3W	110V=502.3W 220V=487.1W	1,713.92

Ports	Model name	Total system ports	RJ-45 ports	Combo ports (RJ-45 + SFP)
	SF250-24	24 Fast Ethernet + 4 Gigabit Ethernet	24 Fast Ethernet	2 Gigabit Ethernet combo + 2 SFP
	SF250-24P	24 Fast Ethernet + 4 Gigabit Ethernet	24 Fast Ethernet	2 Gigabit Ethernet combo + 2 SFP
	SF250-48	48 Fast Ethernet + 4 Gigabit Ethernet	48 Fast Ethernet	2 Gigabit Ethernet combo + 2 SFP
	SF250-48HP	48 Fast Ethernet + 4 Gigabit Ethernet	48 Fast Ethernet	2 Gigabit Ethernet combo + 2 SFP
	SG250-08	8 Gigabit Ethernet	8 Gigabit Ethernet	–
	SG250-08HP	8 Gigabit Ethernet	8 Gigabit Ethernet	–
	SG250-10P	10 Gigabit Ethernet	8 Gigabit Ethernet	2 Gigabit Ethernet combo
	SG250-18	18 Gigabit Ethernet	16 Gigabit Ethernet	2 Gigabit Ethernet combo
	SG250-26	26 Gigabit Ethernet	24 Gigabit Ethernet	2 Gigabit Ethernet combo
	SG250-26HP	26 Gigabit Ethernet	24 Gigabit Ethernet	2 Gigabit Ethernet combo
	SG250-26P	26 Gigabit Ethernet	24 Gigabit Ethernet	2 Gigabit Ethernet combo
	SG250-50	50 Gigabit Ethernet	48 Gigabit Ethernet	2 Gigabit Ethernet combo
	SG250-50HP	50 Gigabit Ethernet	48 Gigabit Ethernet	2 Gigabit Ethernet combo
	SG250-50P	50 Gigabit Ethernet	48 Gigabit Ethernet	2 Gigabit Ethernet combo

Feature	Description			
	SG250X-24	24 Gigabit Ethernet + 4 10 Gigabit Ethernet	24 Gigabit Ethernet	2 10 Gigabit Ethernet copper + 2 SFP+
	SG250X-24P	24 Gigabit Ethernet + 4 10 Gigabit Ethernet	24 Gigabit Ethernet	2 10 Gigabit Ethernet copper + 2 SFP+
	SG250X-48	48 Gigabit Ethernet + 4 10 Gigabit Ethernet	48 Gigabit Ethernet	2 10 Gigabit Ethernet copper + 2 SFP+
	SG250X-48P	48 Gigabit Ethernet + 4 10 Gigabit Ethernet	48 Gigabit Ethernet	2 10 Gigabit Ethernet copper + 2 SFP+
USB slot	USB Type-A slot on the front panel of the switch for easy file and image management			
Buttons	Reset button			
Cabling type	Unshielded Twisted Pair (UTP) Category 5 or better for 10BASE-T/100BASE-TX; UTP Category 5e or better for 1000BASE-T			
LEDs	System, Link/Act, PoE, Speed			
Flash	256 MB			
CPU	800 MHz ARM			
CPU memory	512 MB			
Packet buffer	All numbers are aggregate across all ports because the buffers are dynamically shared:			
	Model name		**Packet buffer**	
	SF250-24		12 Mb	
	SF250-24P		12 Mb	
	SF250-48		24 Mb	
	SF250-48HP		24 Mb	
	SG250-08		12 Mb	
	SG250-08HP		12 Mb	
	SG250-10P		12 Mb	
	SG250-18		12 Mb	
	SG250-26		12 Mb	
	SG250-26HP		12 Mb	
	SG250-26P		12 Mb	
	SG250-50		24 Mb	
	SG250-50HP		24 Mb	
	SG250-50P		24 Mb	
	SG250X-24		12 Mb	
	SG250X-24P		12 Mb	
	SG250X-48		24 Mb	
	SG250X-48P		24 Mb	
Supported SFP/SFP+ modules	**SKU**	**Media**	**Speed**	**Maximum distance**
	MGBBX1	Single-mode fiber	1000 Mbps	10 km
	MGBSX1	Multimode fiber	1000 Mbps	500 m
	MGBLH1	Single-mode fiber	1000 Mbps	40 km
	MGBLX1	Single-mode fiber	1000 Mbps	10 km
	MGBT1	UTP cat 5e	1000 Mbps	100 m
	GLC-LH-SMD=	Single-mode fiber	1000 Mbps	10 km
	GLC-BX-U=	Single-mode fiber	1000 Mbps	10 km
	SFP-H10GB-CU1M	Copper coax	10 Gig	1 m

Feature	Description			
	SFP-H10GB-CU3M	Copper coax	10 Gig	3 m
	SFP-H10GB-CU5M	Copper coax	10 Gig	5 m
	SFP-10G-SR	Multimode fiber	10 Gig	26 m - 400 m
	SFP-10G-LR	Single-mode fiber	10 Gig	10 km
	SFP-10G-SR-S	Multimode fiber	10 Gig	26 m - 400 m
	SFP-10G-LR-S	Single-mode fiber	10 Gig	10 km
Environmental				
Unit dimensions (W x H x D)	**Model name**		**Unit dimensions**	
	SF250-24		440 x 44 x 202 mm (17.3 x 1.45 x 7.95 in)	
	SF250-24P		440 x 44 x 257 mm (17.3 x 1.45 x 10.12 in)	
	SF250-48		440 x 44 x 257 mm (17.3 x 1.45 x 10.12 in)	
	SF250-48HP		440 x 44 x 350 mm (17.3 x 1.45 x 13.78 in)	
	SG250-08		160 x 30 x 128 mm (6.3 x 1.18 x 5.04 in)	
	SG250-08HP		160 x 30 x 128 mm (6.3 x 1.18 x 5.04 in)	
	SG250-10P		280 x 44 x 170 mm (11.0 x 1.45 x 6.69 in)	
	SG250-18		440 x 44 x 202 mm (17.3 x 1.45 x 7.95 in)	
	SG250-26		440 x 44 x 202 mm (17.3 x 1.45 x 7.95 in)	
	SG250-26HP		440 x 44 x 257 mm (17.3 x 1.45 x 10.12 in)	
	SG250-26P		440 x 44 x 257 mm (17.3 x 1.45 x 10.12 in)	
	SG250-50		440 x 44 x 257 mm (17.3 x 1.45 x 10.12 in)	
	SG250-50HP		440 x 44 x 350 mm (17.3 x 1.45 x 13.78 in)	
	SG250-50P		440 x 44 x 350 mm (17.3 x 1.45 x 13.78 in)	
	SG250X-24		440 x 44 x 257 mm (17.3 x 1.45 x 10.12 in)	
	SG250X-24P		440 x 44 x 257 mm (17.3 x 1.45 x 10.12 in)	
	SG250X-48		440 x 44 x 257 mm (17.3 x 1.45 x 10.12 in)	
	SG250X-48P		440 x 44 x 350 mm (17.3 x 1.45 x 13.78 in)	
Unit weight	**Model name**		**Unit weight**	
	SF250-24		2.72 kg (6 lb)	
	SF250-24P		4.1 kg (9.04 lb)	
	SF250-48		3.57 kg (7.87 lb)	
	SF250-48HP		4.93 kg (10.87 lb)	
	SG250-08		0.54 kg (1.19 lb)	
	SG250-08P		0.56 kg (1.23 lb)	
	SG250-10P		1.2 kg (2.65 lb)	
	SG250-18		2.08 kg (4.59 lb)	
	SG250-26		2.72 kg (6.0 lb)	
	SG250-26HP		3.37 kg (7.43 lb)	
	SG250-26P		3.81 kg (8.40 lb)	
	SG250-50		2.94 kg (6.48 lb)	
	SG250-50HP		4.8 kg (10.58 lb)	
	SG250-50P		4.82 kg (10.63 lb)	
	SG250X-24		2.66 kg (5.86 lb)	
	SG250X-24P		3.86 kg (8.51 lb)	

Feature	Description			
	SG250X-48		3 kg (6.61 lb)	
	SG250X-48P		4.84 kg (10.67 lb)	
Power	100 to 240V 50 to 60 Hz, internal, universal: SF250-24, SF250-24P, SF250-48, SF250-48HP, SG250-26, SG250-26HP, SG250-26P, SG250-50, SG250-50HP, SG250-50P, SG250X-24, SG250X-24P, SG250X-48, SG250X-48P 100 to 240V 50 to 60 Hz, external: SG250-08, SG250-08HP, SG250-10P			
Certification	UL (UL 60950), CSA (CSA 22.2), CE mark, FCC Part 15 (CFR 47) Class A			
Operating temperature	32° to 122°F (0° to 50°C)			
Storage temperature	-4° to 158°F (-20° to 70°C)			
Operating humidity	10% to 90%, relative, noncondensing			
Storage humidity	10% to 90%, relative, noncondensing			
Acoustic noise and Mean Time Between Failures (MTBF)	**Model name**	**Fan (number)**	**Acoustic noise**	**MTBF at 50°C (hours)**
	SF250-24	No fan	–	630,719
	SF250-24P	2	0° to 25°C: 39.7dB 50°C: 52.2dB	314,040
	SF250-48	No fan	–	256,281
	SF250-48HP	2	0° to 30°C: 38.0dB 50°C: 52.7dB	286,555
	SG250-08	No fan	–	1,305,509
	SG250-08HP	No fan	–	506,682
	SG250-10P	No fan	–	205,647
	SG250-18	No fan	–	1,425,277
	SG250-26	No fan	–	343,592
	SG250-26HP	1	0° to 30°C: 37.5dB 50°C: 49.7dB	333,792
	SG250-26P	2	0° to 30°C: 36.0dB 50°C: 53.7dB	430,341
	SG250-50	1	0° to 30°C: 35.1dB 50°C: 47.5dB	134,933
	SG250-50HP	2	0° to 30°C: 34.2dB 50°C: 47.3dB	62,607
	SG250-50P	4	0° to 30°C: 35.6dB 50°C: 50.2dB	53,839
	SG250X-24	1	0° to 30°C: 32.6dB 50°C: 44.9dB	130,255
	SG250X-24P	2	0° to 30°C: 35.1dB 50°C: 46.2dB	62,949
	SG250X-48	2	0° to 30°C: 36.6dB 50°C: 49.3dB	68,585
	SG250X-48P	4	0° to 30°C: 35.9dB 50°C: 50.6dB	53,722
Warranty	Limited lifetime			

Feature	Description
Package contents	
	• Cisco 250 Series Smart Switch • Power cord (power adapter for 8-port and 10-port SKUs) • Mounting kit • Quick Start Guide
Minimum requirements	
	• Web browser: Mozilla Firefox version 36 or later; Microsoft Internet Explorer version 9 or later, Chrome version 40 or later, Safari version 5 or later • Category 5 Ethernet network cable • TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed

Ordering information

Table 2 provides ordering information.

Table 2. Ordering information

Model name	Product order ID number	Description
Fast Ethernet		
SF250-24	SF250-24-K9-xx	• 24 10/100 ports • 2 Gigabit copper/SFP combo + 2 SFP ports
SF250-24P	SF250-24P-K9-xx	• 24 10/100 PoE+ ports with 185W power budget • 2 Gigabit copper/SFP combo + 2 SFP ports
SF250-48	SF250-48-K9-xx	• 48 10/100 ports • 2 Gigabit copper/SFP combo + 2 SFP ports
SF250-48HP	SF250-48HP-K9-xx	• 48 10/100 PoE+ ports with 195W power budget • 2 Gigabit copper/SFP combo + 2 SFP ports
Gigabit Ethernet		
SG250-08	SG250-08-K9-xx	• 8 10/100/1000 ports (Port 8 with PoE+ power input support)
SG250-08HP	SG250-08HP-K9-xx	• 8 10/100/1000 PoE+ ports with 45W power budget
SG250-10P	SG250-10P-K9	• 8 10/100/1000 PoE+ ports with 62W power budget • 2 Gigabit copper/SFP combo ports with 60W PoE power input support
SG250-18	SG250-18-K9-xx	• 16 10/100/1000 ports • 2 Gigabit copper/SFP combo ports
SG250-26	SG250-26-K9-xx	• 24 10/100/1000 ports • 2 Gigabit copper/SFP combo ports
SG250-26HP	SG250-26HP-K9-xx	• 24 10/100/1000 PoE+ ports with 100W power budget • 2 Gigabit copper/SFP combo ports
SG250-26P	SG250-26P-K9-xx	• 24 10/100/1000 PoE+ ports with 195W power budget • 2 Gigabit copper/SFP combo ports
SG250-50	SG250-50-K9-xx	• 48 10/100/1000 ports • 2 Gigabit copper/SFP combo ports
SG250-50HP	SG250-50HP-K9-xx	• 48 10/100/1000 PoE+ ports with 192W power budget • 2 Gigabit copper/SFP combo ports
SG250-50P	SG250-50P-K9-xx	• 48 10/100/1000 PoE+ ports with 375W power budget • 2 Gigabit copper/SFP combo ports

Model name	Product order ID number	Description
10 Gigabit Ethernet		
SG250X-24	SG250X-24-K9-xx	• 24 10/100/1000 ports • 4 10 Gigabit Ethernet (2 x 10GBase-T + 2 x SFP+)
SG250X-24P	SG250X-24P-K9-xx	• 24 10/100/1000 PoE+ ports with 195W power budget • 4 10 Gigabit Ethernet (2 x 10GBASE-T + 2 x SFP+)
SG250X-48	SG250X-48-K9-xx	• 48 10/100/1000 ports • 4 10 Gigabit Ethernet (2 x 10GBASE-T + 2 x SFP+)
SG250X-48P	SG250X-48P-K9-xx	• 48 10/100/1000 PoE+ ports with 382W power budget • 4 10 Gigabit Ethernet (2 x 10GBASE-T + 2 x SFP+)

Each combo port has one 10/100/1000 copper Ethernet port and one SFP Gigabit Ethernet slot, with one port active at a time.

The -xx in the product order ID number is a country/region specific suffix. For example, the complete PID of SG250-26 for the United States is SG250-26-K9-NA. Please refer to the following table for the suffix to use for your country/region.

Table 3. Country/region suffix for product order ID number

Suffix	Country/region
-NA	USA, Canada, Mexico, Colombia, Chile, and rest of LATAM
-BR	Brazil
-AR	Argentina
-EU	EU, Russia, Ukraine, Israel, UAE, Turkey, Egypt, South Africa, Indonesia, Philippines, Vietnam, Thailand, India, Korea
-UK	United Kingdom, Saudi Arabia, Qatar, Kuwait, Singapore, Hong Kong, Malaysia
-AU	Australia, New Zealand
-CN	China
-IN	India
-JP	Japan
-KR	Korea

The products may also be available in countries or regions not listed above. Not all product models are offered in all countries/regions. For India, either the -EU or -IN suffix will be used, depending on product models. For Korea, either the -EU or -KR suffix will be used, depending on product models. Please consult with your local Cisco sales representative or Cisco partner for more details.

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