

# Cisco 250 Series Smart Switches

## Build a Reliable, Easy-to-Use Basic Business Network at an Affordable Price

In today's hyperconnected 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.

With Cisco® 250 Series Smart Switches (Figure 1), you can achieve business-class network performance and security without paying for advanced network management 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 the essential network management features you need for a solid business network. These expandable Fast Ethernet or Gigabit Ethernet switches provide basic management, security, and quality-of-service (QoS) features beyond those of an unmanaged or consumer-grade switch, at a lower cost than managed switches. And with an easy-to-use web user interface, Auto Smartports, and flexible Power over Ethernet (PoE) Plus 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:
  - Simple and 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.
  - The USB port on the front panel of the switch enables easy image and configuration transfer for faster deployment or upgrade.
  - 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.
  - Multiple Spanning Tree Protocol (MSTP) provides a simple configuration to take full advantage of redundant paths in the network and maximize network throughput.
  - The Cisco 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 and to download the utility, visit <http://www.cisco.com/go/findit>.
- **Performance and reliability:** Cisco 250 Series switches have been tested to deliver the high availability and performance 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.

- **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 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 provide 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 increases network uptime in the presence of an attack.
- **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.
- **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, you can take full advantage of IPv6-enabled operating systems and applications in the future, without having to upgrade your network equipment.
- **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

- **Expansion ports:** The Cisco 250 Series provides more ports per switch than traditional switch models, giving you more flexibility to connect and empower your business. Gigabit Ethernet models feature 26- and 50-port switches, versus traditional devices that offer 20 or 44 ports with 4 shared ports. Fast Ethernet models are now available with 4 Gigabit ports for even more flexibility in deployment. The Cisco 250 Series also offers small form-factor pluggable (SFP) expansion slots that give you the option to add fiber optic or Gigabit Ethernet uplink connectivity to the switch. With the ability to increase the connectivity range of the switches, you have more flexibility to design your network around your unique business environment and to easily connect switches on different floors or across the business.
- **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 <http://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 <http://www.cisco.com/go/smbservices>.  
To find out where Cisco Small Business Support Service is available by country, go to <https://supportforums.cisco.com/community/netpro/small-business/sbcountrysupport>.
- **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		
<b>Performance</b>			
<b>Switching capacity and forwarding rate</b> <b>All switches are wire-speed and nonblocking</b>	<b>Model</b>	<b>Capacity in Millions of Packets per Second (mpps) (64-byte packets)</b>	<b>Switching Capacity in Gigabits per Second (Gbps)</b>
	SF250-48	13.10	17.6
	SF250-48HP	13.10	17.6
	SG250-10P	14.88	20.0
	SG250-26	38.69	52.0
	SG250-26HP	38.69	52.0
	SG250-26P	38.69	52.0

Feature	Description
<b>Layer 2 Switching</b>	
<b>Spanning Tree Protocol (STP)</b>	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
<b>Port grouping/link aggregation</b>	Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP) <ul style="list-style-type: none"> <li>Up to 4 groups</li> <li>Up to 8 ports per group with 16 candidate ports for each (dynamic) 802.3ad LAG</li> </ul>
<b>VLAN</b>	Support for up to 256 active VLANs simultaneously Port-based and 802.1Q tag-based VLANs Management VLAN
<b>Voice VLAN</b>	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.
<b>IGMP (versions 1, 2, and 3) snooping</b>	Internet Group Management Protocol (IGMP) limits bandwidth-intensive multicast traffic to only the requesters; supports 4K multicast groups (source-specific multicasting is also supported).
<b>HOL blocking</b>	Head-of-line (HOL) blocking.
<b>Security</b>	
<b>SSL</b>	Secure Sockets Layer (SSL) encrypts all HTTPS traffic, allowing secure access to the browser-based management GUI in the switch.
<b>IEEE 802.1X (authenticator role)</b>	RADIUS authentication, MD5 hash, single/multiple host mode, and single/multiple sessions.
<b>Secure Sensitive Data (SSD)</b>	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.
<b>Port security</b>	Ability to lock source MAC addresses to ports and limit the number of learned MAC addresses.
<b>RADIUS</b>	Supports RADIUS authentication for management access. Switch functions as a client.
<b>Storm control</b>	Broadcast, multicast, and unknown unicast.
<b>DoS prevention</b>	Denial-of-service (DoS) attack prevention.
<b>Quality of Service</b>	
<b>Priority levels</b>	4 hardware queues
<b>Scheduling</b>	Strict priority and weighted round-robin (WRR)
<b>Class of service</b>	Port based; 802.1p VLAN priority based; IPv4/v6 IP precedence/ToS/DSCP based; DiffServ; trusted QoS Queue assignment based on differentiated services code point (DSCP) and class of service (802.1p/CoS)
<b>Rate limiting</b>	Ingress policer, per VLAN, per port
<b>Standards</b>	
<b>Standards</b>	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
<b>IPv6</b>	
<b>IPv6</b>	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

Feature	Description																																																												
	IPv6 over IPv4 network with Intrasite Automatic Tunnel Addressing Protocol (ISATAP) support USGv6 and IPv6 Gold Logo certified																																																												
<b>IPv6 QoS</b>	Prioritize IPv6 packets in hardware																																																												
<b>Multicast Listener Discovery (MLD v1/2) snooping</b>	Deliver IPv6 multicast packets only to the required receivers																																																												
<b>IPv6 applications</b>	Web/SSL, 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																																																												
<b>IPv6 RFC supported</b>	RFC 4443 (which obsoletes RFC 2463): ICMPv6 RFC 4291 (which obsoletes RFC 3513): IPv6 address architecture RFC 4291: IP Version 6 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																																																												
<b>Management</b>																																																													
<b>Web user interface</b>	Built-in switch configuration utility for easy browser-based device configuration (HTTP/HTTPS). Supports configuration, system dashboard, system maintenance, and monitoring.																																																												
<b>SNMP</b>	SNMP versions 1, 2c, and 3 with support for traps, and SNMP v3 User-based Security Model (USM)																																																												
<b>Standard MIBs</b>	<table border="0"> <tr> <td>lldp-MIB</td> <td>rfc2665-MIB</td> </tr> <tr> <td>lldpextdot1-MIB</td> <td>rfc2668-MIB</td> </tr> <tr> <td>lldpextdot3-MIB</td> <td>rfc2737-MIB</td> </tr> <tr> <td>lldpextmed-MIB</td> <td>rfc2925-MIB</td> </tr> <tr> <td>rfc2674-MIB</td> <td>rfc3621-MIB</td> </tr> <tr> <td>rfc2575-MIB</td> <td>rfc4668-MIB</td> </tr> <tr> <td>rfc2573-MIB</td> <td>rfc4670-MIB</td> </tr> <tr> <td>rfc2233-MIB</td> <td>trunk-MIB</td> </tr> <tr> <td>rfc2013-MIB</td> <td>tunnel-MIB</td> </tr> <tr> <td>rfc2012-MIB</td> <td>udp-MIB</td> </tr> <tr> <td>rfc2011-MIB</td> <td>draft-ietf-bridge-8021x-MIB</td> </tr> <tr> <td>RFC-1212</td> <td>draft-ietf-bridge-rstp-mib-04-MIB</td> </tr> <tr> <td>RFC-1215</td> <td>draft-ietf-hubmib-etherif-mib-v3-00-MIB</td> </tr> <tr> <td>SNMPv2-CONF</td> <td>draft-ietf-syslog-device-MIB</td> </tr> <tr> <td>SNMPv2-TC</td> <td>ianaaddrfamnumbers-MIB</td> </tr> <tr> <td>p-bridge-MIB</td> <td>ianaifty-MIB</td> </tr> <tr> <td>q-bridge-MIB</td> <td>ianaprot-MIB</td> </tr> <tr> <td>rfc1389-MIB</td> <td>inet-address-MIB</td> </tr> <tr> <td>rfc1493-MIB</td> <td>ip-forward-MIB</td> </tr> <tr> <td>rfc1611-MIB</td> <td>ip-MIB</td> </tr> <tr> <td>rfc1612-MIB</td> <td>RFC1155-SMI</td> </tr> <tr> <td>rfc1850-MIB</td> <td>RFC1213-MIB</td> </tr> <tr> <td>rfc1907-MIB</td> <td>SNMPv2-MIB</td> </tr> <tr> <td>rfc2571-MIB</td> <td>SNMPv2-SMI</td> </tr> <tr> <td>rfc2572-MIB</td> <td>SNMPv2-TM</td> </tr> <tr> <td>rfc2574-MIB</td> <td>RMON-MIB</td> </tr> <tr> <td>rfc2576-MIB</td> <td>rfc1724-MIB</td> </tr> <tr> <td>rfc2613-MIB</td> <td>dcb-raj-DCBX-MIB-1108-MIB</td> </tr> <tr> <td></td> <td>rfc1213-MIB</td> </tr> <tr> <td></td> <td>rfc1757-MIB</td> </tr> </table>	lldp-MIB	rfc2665-MIB	lldpextdot1-MIB	rfc2668-MIB	lldpextdot3-MIB	rfc2737-MIB	lldpextmed-MIB	rfc2925-MIB	rfc2674-MIB	rfc3621-MIB	rfc2575-MIB	rfc4668-MIB	rfc2573-MIB	rfc4670-MIB	rfc2233-MIB	trunk-MIB	rfc2013-MIB	tunnel-MIB	rfc2012-MIB	udp-MIB	rfc2011-MIB	draft-ietf-bridge-8021x-MIB	RFC-1212	draft-ietf-bridge-rstp-mib-04-MIB	RFC-1215	draft-ietf-hubmib-etherif-mib-v3-00-MIB	SNMPv2-CONF	draft-ietf-syslog-device-MIB	SNMPv2-TC	ianaaddrfamnumbers-MIB	p-bridge-MIB	ianaifty-MIB	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
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Feature	Description
<b>Private MIBs</b>	<p>CISCOB-ldp-MIB</p> <p>CISCOB-brgmulticast-MIB</p> <p>CISCOB-bridgemibobjects-MIB</p> <p>CISCOB-bonjour-MIB</p> <p>CISCOB-dhcpcl-MIB</p> <p>CISCOB-MIB</p> <p>CISCOB-wrandomtaildrop-MIB</p> <p>CISCOB-traceroute-MIB</p> <p>CISCOB-telnet-MIB</p> <p>CISCOB-stormctrl-MIB</p> <p>CISCOBssh-MIB</p> <p>CISCOB-socket-MIB</p> <p>CISCOB-sntp-MIB</p> <p>CISCOB-smon-MIB</p> <p>CISCOB-phy-MIB</p> <p>CISCOB-multisessionterminal-MIB</p> <p>CISCOB-mri-MIB</p> <p>CISCOB-jumboframes-MIB</p> <p>CISCOB-gvrp-MIB</p> <p>CISCOB-endofmib-MIB</p> <p>CISCOB-dot1x-MIB</p> <p>CISCOB-deviceparams-MIB</p> <p>CISCOB-cli-MIB</p> <p>CISCOB-cdb-MIB</p> <p>CISCOB-brgmacswitch-MIB</p> <p>CISCOB-3sw2swtables-MIB</p> <p>CISCOB-smartPorts-MIB</p> <p>CISCOB-tbi-MIB</p> <p>CISCOB-macbaseprio-MIB</p> <p>CISCOB-env_mib-MIB</p> <p>CISCOB-policy-MIB</p> <p>CISCOB-sensor-MIB</p> <p>CISCOB-aaa-MIB</p> <p>CISCOB-application-MIB</p> <p>CISCOB-bridgesecurity-MIB</p> <p>CISCOB-copy-MIB</p> <p>CISCOB-CpuCounters-MIB</p> <p>CISCOB-Custom1BonjourService-MIB</p> <p>CISCOB-dhcp-MIB</p> <p>CISCOB-dlf-MIB</p> <p>CISCOB-dnscl-MIB</p> <p>CISCOB-embweb-MIB</p> <p>CISCOB-fft-MIB</p> <p>CISCOB-file-MIB</p> <p>CISCOB-greeneth-MIB</p> <p>CISCOB-greeneth-MIB</p> <p>CISCOB-interfaces-MIB</p> <p>CISCOB-interfaces_recovery-MIB</p> <p>CISCOB-ip-MIB</p> <p>CISCOB-iprouter-MIB</p> <p>CISCOB-ipv6-MIB</p> <p>CISCOB-mnginf-MIB</p> <p>CISCOB-licl-MIB</p> <p>CISCOB-localization-MIB</p> <p>CISCOB-mcmngr-MIB</p> <p>CISCOB-mng-MIB</p> <p>CISCOB-physdescription-MIB</p> <p>CISCOB-PoE-MIB</p> <p>CISCOB-protectedport-MIB</p> <p>CISCOB-rmon-MIB</p> <p>CISCOB-rs232-MIB</p> <p>CISCOB-SecuritySuite-MIB</p> <p>CISCOB-snm-MIB</p> <p>CISCOB-specialbpdu-MIB</p> <p>CISCOB-banner-MIB</p> <p>CISCOB-syslog-MIB</p> <p>CISCOB-TcpSession-MIB</p> <p>CISCOB-traps-MIB</p> <p>CISCOB-trunk-MIB</p> <p>CISCOB-tuning-MIB</p> <p>CISCOB-tunnel-MIB</p> <p>CISCOB-udp-MIB</p> <p>CISCOB-vlan-MIB</p> <p>CISCOB-ipstdacl-MIB</p> <p>CISCOB-eee-MIB</p> <p>CISCOB-ssl-MIB</p> <p>CISCOB-digitalkeymanage-MIB</p> <p>CISCOB-qosclimb-MIB</p> <p>CISCOB-digitalkeymanage-MIB</p> <p>CISCOB-tbp-MIB</p> <p>CISCOB-MIB</p> <p>CISCOB-secsd-MIB</p> <p>CISCOB-draft-ietf-entmib-sensor-MIB</p> <p>CISCOB-draft-ietf-syslog-device-MIB</p> <p>CISCOB-rfc2925-MIB</p> <p>CISCO-SMI-MIB</p> <p>CISCOB-DebugCapabilities-MIB</p> <p>CISCOB-CDP-MIB</p> <p>CISCOB-vlanVoice-MIB</p> <p>CISCOB-EVENTS-MIB</p> <p>CISCOB-sysmng-MIB</p> <p>CISCOB-sct-MIB</p> <p>CISCO-TC-MIB</p> <p>CISCO-VTP-MIB</p> <p>CISCO-CDP-MIB</p>
<b>Remote monitoring (RMON)</b>	Embedded RMON software agent supports 4 RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis
<b>IPv4 and IPv6 dual stack</b>	Coexistence of both protocol stacks to ease migration
<b>Firmware upgrade</b>	Web browser upgrade (HTTP/HTTPS) and TFTP and SCP

Feature	Description		
<b>Port mirroring</b>	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.		
<b>VLAN mirroring</b>	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.		
<b>Dynamic Host Configuration Protocol (DHCP) (options 12, 66, 67, 129, and 150)</b>	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.		
<b>Autoconfiguration</b>	Enables mass deployment with protection of sensitive data.		
<b>Text-editable configs</b>	Config files can be edited with a text editor and downloaded to another switch, facilitating easier mass deployment.		
<b>Smartports</b>	Simplified configuration of QoS and security capabilities.		
<b>Auto Smartports</b>	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.		
<b>Cloud services</b>	Support for Cisco Active Advisor		
<b>Localization</b>	Localization of GUI and documentation into multiple languages		
<b>Login banner</b>	Configurable multiple banners for web as well as CLI		
<b>Other management</b>	Traceroute; single IP management; HTTP/HTTPS; RADIUS; port mirroring; TFTP upgrade; DHCP client; Simple Network Time Protocol (SNTP); cable diagnostics; Ping; syslog; automatic time settings from Management Station.		
<b>Green (Power Efficiency)</b>			
<b>Energy detect</b>	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.		
<b>Cable length detection</b>	Adjusts the signal strength based on the cable length. Reduces the power consumption for shorter cables.		
<b>EEE compliant (802.3az)</b>	Supports IEEE 802.3az on all copper Gigabit Ethernet ports.		
<b>Disable port LEDs</b>	LEDs can be manually turned off to save on energy.		
<b>General</b>			
<b>Jumbo frames</b>	Frame sizes up to 9K bytes. The default MTU is 2K bytes.		
<b>MAC table</b>	8K addresses.		
<b>Discovery</b>			
<b>Bonjour</b>	The switch advertises itself using the Bonjour protocol.		
<b>Link Layer Discovery Protocol (LLDP) (802.1ab) with LLDP-MED extensions</b>	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.		
<b>Cisco Discovery Protocol</b>	The switch advertises itself using the Cisco Discovery Protocol. It also learns the connected device and its characteristics using Cisco Discovery Protocol.		
<b>Auto Smartports</b>	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 capability facilitates zero-touch deployments.		
<b>Product Specifications</b>			
<b>802.3at PoE+ and 802.3af PoE delivered over any of the RJ-45 ports within the listed power budgets</b>	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:		
	<b>Model</b>	<b>Power Dedicated to PoE</b>	<b>Number of Ports That Support PoE</b>
	SF250-48HP	195W	48
	SG250-10P	62W	8
	SG250-26HP	100W	24
	SG250-26P	195W	24
<b>PoE powered device (PD) and PoE pass-through</b>	Besides AC power, 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.		



Feature	Description				
	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.				
	<b>Model</b>	<b>Power Option</b>	<b>Available PoE Power (W)</b>	<b>Can Switch Be Powered with Uplinks?</b>	
	SG250-10P	1 PoE uplink 2 PoE uplink 1 PoE+ uplink 2 PoE+ uplink 1 60W PoE uplink 2 60W PoE uplink AC Power	0W 0W 0W 22W 22W 50W 62W	Yes Yes Yes Yes Yes Yes Yes	
<b>Power consumption (worst case)</b>	<b>Model</b>	<b>Green Power (mode)</b>	<b>System Power Consumption</b>	<b>Power Consumption (with PoE)</b>	<b>Heat Dissipation (BTU/hr)</b>
	SF250-48	EEE, Energy Detect	110V=23.4W 220V=24.2W	N/A	82.57
	SF250-48HP	EEE, Energy Detect	110V=43.1W 220V=44.3W	110V=265.2W 220V=255.8W	904.90
	SG250-10P	EEE, Energy Detect, Short Reach	110V=13.25W 220V=13.42W	110V=85.19W 220V=84.17W	290.68
	SG250-26	EEE, Energy Detect, Short Reach	110V=18.1W 220V=18.9W	N/A	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
<b>Ports</b>	<b>Model Name</b>	<b>Total System Ports</b>	<b>RJ-45 Ports</b>	<b>Combo Ports (RJ-45 + SFP)</b>	
	SF250-48	48 Fast Ethernet + 2 Gigabit Ethernet	48 Fast Ethernet	2 Gigabit Ethernet combo + 2 SFP	
	SF250-48HP	48 Fast Ethernet + 2 Gigabit Ethernet	48 Fast Ethernet	2 Gigabit Ethernet combo + 2 SFP	
	SG250-10P	10 Gigabit Ethernet	8 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	
<b>USB slot</b>	USB Type-A slot on the front panel of the switch for easy file and image management				
<b>Buttons</b>	Reset button				
<b>Cabling type</b>	Unshielded twisted pair (UTP) Category 5 or better for 10BASE-T/100BASE-TX; UTP Category 5e or better for 1000BASE-T				
<b>LEDs</b>	System, Link/Act, PoE, Speed				
<b>Flash</b>	256 MB				
<b>CPU</b>	800 MHz ARM				
<b>CPU memory</b>	512 MB				
<b>Packet buffer</b>	All numbers are aggregate across all ports because the buffers are dynamically shared:				
	<b>Model Name</b>				<b>Packet Buffer</b>
	SF250-48				24 Mb
	SF250-48HP				24 Mb
	SG250-10P				12 Mb
	SG250-26				12 Mb

Feature	Description			
Supported SFP/SFP+ modules	SG250-26HP		12 Mb	
	SG250-26P		12 Mb	
	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
<b>Environmental</b>				
Unit dimensions (W x H x D)	Model Name		Unit Dimensions	
	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)	
	SG250-10P		280 x 44 x 170 mm (11.0 x 1.45 x 6.69 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)	
Unit weight	Model Name		Unit Weight	
	SF250-48		3.57 kg (7.87 lb)	
	SF250-48HP		4.93 kg (10.87 lb)	
	SG250-10P		1.2 kg (2.65 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)	
Power	100–240V 50–60 Hz, internal, universal – SF250-48, SF250-48HP, SG250-26, SG250-26HP, SG250-26P 100–240V 50–60 Hz, external – SG250-10P			
Certification	UL (UL 60950), CSA (CSA 22.2), CE mark, FCC Part 15 (CFR 47) Class A			
Operating temperature	SF250-48, SF250-48HP, SG250-10P, SG250-26, SG250-26HP, SG250-26P 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)
	SF250-48	No fan	N/A	256,281.25
	SF250-48HP	2	0°C to 30°C: 38.0dB 50°C: 52.7dB	286,555.77
	SG250-10P	No fan	N/A	205,647.00
	SG250-26	No fan	N/A	343,592.66
	SG250-26HP	1	0°C to 30°C: 37.5dB 50°C: 49.7dB	333,792.21
	SG250-26P	2	0°C to 30°C: 36.0dB 50°C: 53.7dB	430,341.06
Warranty	Limited lifetime			

Feature	Description
<b>Package Contents</b>	
<ul style="list-style-type: none"> <li>• Cisco 250 Series Smart Switch</li> <li>• Power cord (power adapter for 10-port SKUs)</li> <li>• Mounting kit</li> <li>• Quick Start Guide</li> </ul>	
<b>Minimum Requirements</b>	
<ul style="list-style-type: none"> <li>• 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</li> <li>• Category 5 Ethernet network cable</li> <li>• TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed</li> </ul>	

## Ordering Information

Table 2 provides ordering information.

**Table 2.** Ordering Information

Model Name	Product Order ID Number	Description
<b>Fast Ethernet</b>		
<b>SF250-48</b>	SF250-48-K9	<ul style="list-style-type: none"> <li>• 48 10/100 ports</li> <li>• 2 Gigabit copper/SFP combo + 2 SFP ports</li> </ul>
<b>SF250-48HP</b>	SF250-48HP-K9	<ul style="list-style-type: none"> <li>• 48 10/100 PoE+ ports with 195W power budget</li> <li>• 2 Gigabit copper/SFP combo + 2 SFP ports</li> </ul>
<b>Gigabit Ethernet</b>		
<b>SG250-10P</b>	SG250-10P-K9	<ul style="list-style-type: none"> <li>• 8 10/100/1000 PoE+ ports with 62W power budget</li> <li>• 2 Gigabit copper/SFP combo ports with 60W PoE powered device support</li> </ul>
<b>SG250-26</b>	SG250-26-K9	<ul style="list-style-type: none"> <li>• 24 10/100/1000 ports</li> <li>• 2 Gigabit copper/SFP combo ports</li> </ul>
<b>SG250-26HP</b>	SG250-26HP-K9	<ul style="list-style-type: none"> <li>• 24 10/100/1000 PoE+ ports with 100W power budget</li> <li>• 2 Gigabit copper/SFP combo ports</li> </ul>
<b>SG250-26P</b>	SG250-26P-K9	<ul style="list-style-type: none"> <li>• 24 10/100/1000 PoE+ ports with 195W power budget</li> <li>• 2 Gigabit copper/SFP combo ports</li> </ul>

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

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### For More Information

To find out more about the Cisco 250 Series switches, visit <http://www.cisco.com/go/250switches>.



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