



## Cisco SGE2010 48-Port Gigabit Switch Cisco Small Business Managed Switches

Performance and Reliability to Support Small Business Networks

### Highlights

- 48 high-speed ports optimized for the network core or to support bandwidth-intensive applications
- Resilient clustering provides the ability to manage several switches as a single switch to support growing businesses
- Advanced security protects network traffic to keep unauthorized users off the network
- Simplified, web-based management for easy installation and configuration

**Figure 1.** Cisco SGE2010 48-Port Gigabit Switch



### Product Overview

The Cisco® SGE2010 48-Port Gigabit Switch (Figure 1) allows you to expand your network securely. Web-based configuration of the switch is secured using SSL.

The Cisco SGE2010 is optimized for maximum system availability, with fully redundant stacking, redundant power options, and dual images for resilient firmware upgrades. The switch helps secure the network through IEEE 802.1Q VLANs, IEEE 802.1X port authentication, access control lists (ACLs), denial-of-service DoS prevention, and MAC-based filtering. The enhanced quality of service (QoS) and traffic-management features help ensure clear and reliable voice and video communications.

The Cisco SGE2010 provides resilient stacking for up to four units, or 192 ports. A stack of units is managed as a single switch with one web management interface. The Cisco SGE2010 can coexist in a stack with the Cisco SGE2000 and SGE2000P 24-Port Gigabit Switches and the Cisco SGE2010P 48-Port Gigabit Switch, for a maximum of 192 ports in a stack. The stacking capability includes master/backup unit behavior, ring and chain architecture, and hot insertion and removal of units.

An intuitive, highly secure management interface provides access to the comprehensive feature set of the Cisco SGE2010, for a better-optimized, more secure network.

### Features

- Forty-eight 10/100/1000 Ethernet ports
- Four mini Gigabit Interface Converter (mini-GBIC) slots (shared with four Ethernet ports) for fiber Gigabit Ethernet expansion

- Dual images for resilient firmware upgrades
- 96-Gbps nonblocking, store-and-forward switching capacity
- Simplified QoS management using 802.1p, differentiated services (DiffServ), or type of service (ToS) traffic prioritization
- Power redundancy when used with the Cisco RPS1000 380W Redundant Power Supply Unit
- Fully resilient stacking provides optimized growth with simplified management
- ACLs for granular security and QoS implementation
- Configuration and monitoring from a standard web browser
- Secure remote management of the switch via Secure Shell (SSH) and SSL encryption
- 802.1Q-based VLANs enable segmentation of networks for improved performance and security
- Private VLAN Edge (PVE) simplifies network isolation of guest connections or autonomous networks
- Automatic configuration of VLANs across multiple switches through Generic VLAN Registration Protocol (GVRP) and Generic Attribute Registration Protocol (GARP)
- User/network port-level security via 802.1X authentication and MAC-based filtering
- Increased bandwidth and added link redundancy with Link Aggregation Control Protocol (LACP)
- Enhanced rate-limiting capabilities, including back pressure and multicast, broadcast, and flood control
- Port mirroring for noninvasive monitoring of switch traffic
- Jumbo frame support up to 10 KB
- Simple Network Management Protocol (SNMP) versions 1, 2c, and 3 and Remote Monitoring (RMON) support
- Fully rack mountable using included rack-mounting hardware

## Specifications

Table 1 contains the specifications, package contents, and minimum requirements for the Cisco SGE2010 48-Port Gigabit Switch

**Table 1.** Specifications for the Cisco SGE2010 48-Port Gigabit Switch

Specifications	
<b>Ports</b>	48 RJ-45 connectors for 10BASE-T/100BASE-TX/1000BASE-T with 4 Gigabit combo ports shared between mini-GBIC ports; console port; auto MDI/ MDI-X; auto negotiate/manual setting; RPS port for connecting to redundant power supply unit
<b>Buttons</b>	Reset button
<b>Cabling type</b>	Unshielded twisted pair (UTP) Category 5 or better for 10BASE-T/100BASE-TX; UTP Category 5 Ethernet or better for 1000BASE-T
<b>LEDs</b>	PWR, Fan, Link/Act, PoE, Speed, RPS, Master, Stack ID 1 through 8
Performance	
<b>Switching capacity</b>	96 Gbps nonblocking
<b>Forwarding capacity</b>	71.4 mpps (64-byte packets)
Stacking	

<b>Stack operation</b>	<ul style="list-style-type: none"> <li>Up to 192 ports in a stack</li> <li>Hot insertion and removal</li> <li>Ring and chain stacking options</li> <li>Master and backup master for resilient stack control</li> <li>Auto-numbering or manual configuration of units in stack</li> </ul>
<b>Layer 2</b>	
<b>MAC table size</b>	8000
<b>Number of VLANs</b>	256 active VLANs (4096 range)
<b>VLAN</b>	Port-based and 802.1Q tag-based VLANs, protocol-based VLAN, management VLAN, multicast TV VLAN, PVE, GVRP
<b>Head-of-line (HOL) blocking</b>	HOL blocking prevention
<b>Layer 3</b>	
<b>Layer 3 options</b>	Static routing; classless interdomain routing (CIDR); 60 static routes; IPv4 and IPv6; forwarding in silicon - wire-speed forwarding of Layer 3 traffic
<b>IPv6</b>	
<b>IPv6 options</b>	IPv6 over Ethernet, dual stack, IPv6 over IPv4 network with Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) tunnel, IPv6 neighbor discovery, stateless address configuration, maximum transmission unit (MTU) discovery, WEB, SSL, Telnet, Ping, Traceroute, Simple Network Time Protocol (SNTP), Trivial File Transfer Protocol (TFTP), SNMP, RADIUS, ACLs, QoS, protocol-based VLANs
<b>Management</b>	
<b>Web user interface</b>	Built-in web user interface for easy browser-based configuration (HTTP/HTTPS)
<b>SNMP</b>	SNMP versions 1, 2c, and 3 with support for traps
<b>SNMP MIBs</b>	<ul style="list-style-type: none"> <li>RFC1213 MIB-2,</li> <li>RFC2863 interface MIB</li> <li>RFC2665 Ether-like MIB</li> <li>RFC1493 bridge MIB</li> <li>RFC2674 extended bridge MIB (P-bridge, Q-bridge)</li> <li>RFC2819 RMON MIB (groups 1, 2, 3, and 9 only)</li> <li>RFC2737 entity MIB</li> <li>RFC 2618 RADIUS client MIB,</li> <li>RFC 1215 traps</li> </ul>
<b>RMON</b>	Embedded RMON software agent supports 4 RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis)
<b>Firmware upgrade</b>	<ul style="list-style-type: none"> <li>Web browser upgrade (HTTP/HTTPS) and TFTP</li> <li>Dual images for resilient firmware upgrades</li> </ul>
<b>Port mirroring</b>	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe.
<b>Other management</b>	Traceroute, single IP management, SSL security for web user interface, SSH, RADIUS, port mirroring, TFTP upgrade, Dynamic Host Configuration Protocol (DHCP) client, BOOTP, SNTP, Xmodem upgrade, cable diagnostics, Ping, syslog, Telnet client (SSH secure support)
<b>Security</b>	
<b>IEEE 802.1X</b>	802.1X RADIUS authentication, MD5 hash; guest VLAN; single/multiple host mode
<b>ACLs</b>	<ul style="list-style-type: none"> <li>Drop or rate limit based on source and destination MAC or IP address, protocol, port, VLAN, differentiated services code point (DSCP)/IP precedence, TCP/ User Datagram Protocol (UDP) source and destination ports, 802.1p priority, Ethernet type, Internet Control Message Protocol (ICMP) packets, Internet Group Management Protocol (IGMP) packets, DHCP snooping, Address Resolution Protocol (ARP) inspection, and IP source address guard</li> <li>Up to 1018 rules</li> </ul>
<b>Availability</b>	
<b>Link aggregation</b>	Using IEEE 802.3ad LACP, up to 8 ports in up to 8 groups
<b>Storm control</b>	Broadcast, multicast, and unknown unicast
<b>DoS prevention</b>	DoS attack prevention

<b>Spanning Tree</b>	<ul style="list-style-type: none"> <li>• IEEE 802.1D Spanning Tree</li> <li>• IEEE 802.1w Rapid Spanning Tree</li> <li>• IEEE 802.1s Multiple Spanning Tree and Fast Linkover</li> </ul>
<b>IGMP (version 1 and 2) snooping</b>	Limits bandwidth-intensive multicast traffic to only the requestors; supports 256 multicast groups
<b>Power redundancy</b>	Connection to RPS unit for power redundancy
<b>Quality of Service</b>	
<b>Priority levels</b>	4 hardware queues
<b>Scheduling</b>	Priority queuing 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; classification and re-marking ACLs
<b>Rate limiting</b>	Ingress policer; egress rate control; per VLAN
<b>Statistics</b>	16 meters
<b>Standards</b>	
<ul style="list-style-type: none"> <li>• 802.3 10BASE-T Ethernet</li> <li>• 802.3u 100BASE-TX Fast Ethernet</li> <li>• 802.3ab 1000BASE-T Gigabit Ethernet</li> <li>• 802.3z Gigabit Ethernet</li> <li>• 802.3x flow control</li> <li>• 802.3ad; 802.1D Spanning Tree Protocol (STP)</li> <li>• 802.1Q/p VLAN</li> <li>• 802.1w Rapid STP</li> <li>• 802.1s Multiple STP</li> <li>• 802.1X port access authentication</li> </ul>	
<b>Environmental</b>	
<b>Dimensions W x H x D</b>	17.32 x 14.70 x 1.73 in. (440 x 375 x 44 mm)
<b>Unit weight</b>	10.89 lb (4.94 kg)
<b>Power</b>	100–240V 47–63 Hz, internal, universal; also equipped with external redundant power supply connector for external power supply, -48V DC
<b>Certification</b>	UL (UL 60950), CSA (CSA 22.2), CE mark, FCC Part 15 (CFR 47)
<b>Operating temperature</b>	32° to 104°F (0° to 40°C)
<b>Storage temperature</b>	-4° to 158°F (-20° to 70°C)
<b>Operating humidity</b>	10% to 90%, relative, noncondensing
<b>Storage humidity</b>	10% to 95%, relative, noncondensing
<b>Package Contents</b>	
<ul style="list-style-type: none"> <li>• Cisco SGE2010 48-Port Gigabit Switch</li> <li>• AC power adapter with power cord</li> <li>• Two rack-mounting kits with eight screws</li> <li>• CD-ROM with user documentation (PDF) included</li> <li>• Registration card</li> <li>• Console cable</li> </ul>	
<b>Minimum Requirements</b>	
<ul style="list-style-type: none"> <li>• Web browser: Mozilla Firefox version 1.5 or later, or Microsoft Internet Explorer version 5.5 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 on each computer in the network</li> </ul>	
<b>Product Warranty</b>	
5-year limited hardware warranty with return to factory replacement and 90-day limited software warranty	

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This Cisco Small Business product comes with a 5-year limited hardware warranty with return to factory replacement and a 90-day limited software warranty. In addition, Cisco offers software application updates for bug fixes and telephone technical support at no charge for the first 12 months following the date of purchase. To download software updates, go to:

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