Cisco SG250-18

Cisco SG250-18 Smart Switch User Manual

Model: SG250-18-K9-NA

1. INTRODUCTION

This manual provides comprehensive instructions for the installation, configuration, operation, and maintenance of the Cisco SG250-18 Smart Switch. This device is designed to provide robust and efficient networking solutions for small and midsize businesses.

The Cisco SG250-18 features 16 Gigabit Ethernet RJ45 ports and 2 SFP Gigabit Ethernet combo ports, offering flexible connectivity options. It incorporates energy-efficient capabilities, including energy detect and Energy Efficient Ethernet (EEE), to optimize power consumption without compromising performance.

2. PRODUCT OVERVIEW

The Cisco SG250-18 is a smart switch that combines the power of a managed switch with the ease of use of an unmanaged switch. It offers a rich set of Layer 2 and basic Layer 3 features, security, and quality of service (QoS) to deliver a solid foundation for your business network.
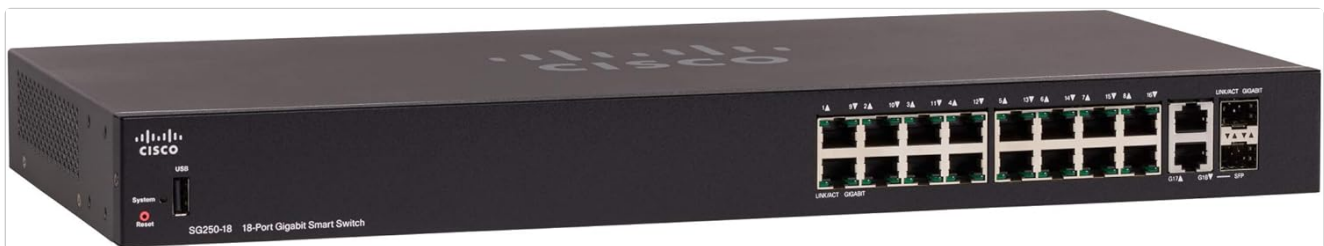

Figure 1: Front view of the Cisco SG250-18 Smart Switch.
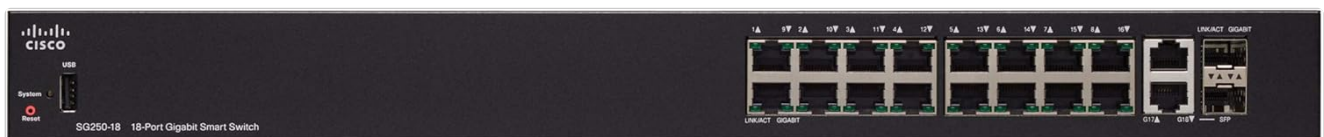

Figure 2: Front panel of the Cisco SG250-18 Smart Switch, showing 16 Gigabit Ethernet RJ45 ports and 2 SFP Gigabit Ethernet combo ports, along with status indicators and a USB port.

Cisco SG250-18 Smart Switch

· 16 x 10/100/1000 ports, 2 x 1G combo SFP

· Energy Efficient Ethernet

· Layer 3 Static Routing

· Configuration via Web UI

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Figure 3: Key features of the Cisco SG250-18 Smart Switch, including 16 10/100/1000 ports, 2 1G combo SFP ports, Energy Efficient Ethernet, Layer 3 Static Routing, and configuration via Web UI.

3. SETUP AND INSTALLATION

3.1 Package Contents

Verify that your package contains the following items:

- Cisco SG250-18 Smart Switch
- Power cord
- Documentation (Quick Start Guide, etc.)

3.2 Physical Installation

1. **Placement:** Position the switch on a stable, flat surface or mount it in a standard 19-inch equipment rack. Ensure adequate ventilation around the device.
2. **Power Connection:** Connect the provided power cord to the switch's power input and then to a grounded electrical outlet.
3. **Network Connections:**

   - Connect your network devices (computers, servers, access points) to the 16 Gigabit Ethernet RJ45 ports using standard Ethernet cables.
   - For fiber optic connections, insert compatible SFP transceivers into the 2 SFP combo ports and connect fiber optic cables.

3.3 Initial Configuration

The Cisco SG250-18 Smart Switch supports multiple methods for initial configuration:

- **Web User Interface (WebUI):** Access the switch's management interface via a web browser. The default IP address can typically be found using the Cisco FindIT Network Manager or by checking your network's DHCP server.
- **Cisco FindIT Network Manager:** This tool provides auto-discovery and zero-touch deployment capabilities, simplifying the setup process for multiple Cisco devices.
- **Network Plug and Play (PnP):** For automated deployment in larger networks.

Figure 4: Example dashboard of the Cisco FindIT Network Manager, illustrating network management, discovery, reporting, and provisioning capabilities.

4. OPERATING THE SWITCH

The SG250-18 offers advanced features for network management and optimization.

4.1 Basic Network Functions

- **VLANs (Virtual Local Area Networks):** Segment your network for improved security and performance. The switch supports VLAN configuration for isolating traffic.
- **QoS (Quality of Service):** Prioritize network traffic for critical applications like voice and video to ensure consistent performance.
- **Static Routing:** Configure static routes to direct traffic between different IP subnets.
- **IGMP Snooping:** Optimize multicast traffic delivery to only the necessary recipients.

4.2 Security Features

- **Access Control List (ACL):** Define rules to filter network traffic based on various criteria, enhancing network security.
- **802.1X** / **RADIUS:** Implement port-based authentication to control network access for connected devices.
- **DoS Prevention:** Protect your network from Denial of Service attacks.
- **SSH/SSL:** Securely manage the switch using encrypted communication protocols.

4.3 Management Interfaces

- **WebUI:** The primary graphical interface for configuring and monitoring the switch.
- **CLI (Command Line Interface):** Provides advanced configuration options for users familiar with command-line operations.
- **SNMP (Simple Network Management Protocol):** Allows integration with network management systems for centralized monitoring.

5. MAINTENANCE

5.1 Firmware Updates

Regularly check the Cisco support website for firmware updates. Updating the firmware ensures optimal performance, security, and access to new features. Follow the instructions provided with the firmware package for a safe update process.

5.2 Environmental Considerations

- The switch is passively cooled, meaning it does not have internal fans. Ensure it is placed in an environment with adequate airflow to prevent overheating.
- Operate the switch within the specified temperature range (refer to specifications section).
- Keep the device free from dust and moisture.

6. TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

6.1 Power and Connectivity Issues

- **No Power:**

  - Verify the power cord is securely connected to both the switch and the electrical outlet.
  - Ensure the electrical outlet is functional.

- **No Link Light:**

  - Check the Ethernet cable connection between the switch port and the connected device.
  - Ensure the connected device is powered on and functioning correctly.
  - Try a different port or cable.

6.2 Network Access Problems

- **Cannot Access WebUI:**

  - Verify your computer's IP address is in the same subnet as the switch's management IP.

- Ensure there are no firewall rules blocking access.
- If the IP address is unknown, use Cisco FindIT Network Manager to discover the device.
- Consider resetting the switch to factory defaults if all else fails (refer to the device's reset button instructions).

- **Intermittent Connectivity:**

  - Check for loose cable connections.
  - Examine network logs for errors or port flapping.
  - Ensure no IP address conflicts exist on the network.

7. SPECIFICATIONS

Feature	Description
Model	SG250-18-K9-NA
Ethernet Ports	16 x 10/100/1000 Gigabit Ethernet RJ45
SFP Combo Ports	2 x 1G SFP Combo
Data Transfer Rate	10/100/1000 Mbps (Gigabit Ethernet)
Management	WebUI, CLI, SNMP, Cisco FindIT Network Manager, PnP
Layer 2 Features	VLANs, QoS, GVRP, MSTP, IGMP Snooping
Layer 3 Features	Static Routing
Security Features	ACL, 802.1X / RADIUS, DoS Prevention, SSH/SSL
Dimensions (LxWxH)	21.7 x 12 x 3.8 inches
Item Weight	6.75 pounds
Case Material	Copper
Operating Temperature	Refer to product documentation for specific range (General: 1°F to 1°F -*Note: This temperature range from the source data seems incorrect or incomplete. Users should consult official Cisco documentation for precise values.*)

Switches Family	Unmanaged	Smart Managed		Managed	Managed Stackable	
	110 Series	220 Series	250 Series	350 Series	350X Series	550X Series
Business Size	Home and Small Office	Small Business	Small Business	Small Business and Branch Office	Small Business and Branch Office	Small Business and Branch Office
Speed	10/100M, 1G	10/100M, 1G	10/100M, 1G, 10G	10/100M, 1G, Multi-Gig, 10G	10/100M, 1G, Multi-Gig, 10G	10/100M, 1G, 10G
Management Layer	—	L2/L2+	L2/L2+/L3	L2+/L3	L2+/L3+	L2+/L3+
Select Models with PoE	✓	✓	✓	✓	✓	✓
Web GUI Management	—	✓	✓	✓	✓	✓
Network Control (VLAN, QoS, GMS) Network Security (ACL, DoS Prevention)	—	✓	✓	✓	✓	✓
FindIT Management, PnP	—	—	✓	✓	✓	✓
L3 Static Routing, IPv6	—	—	✓	✓	✓	✓
Advanced Security	—	—	—	✓	✓	✓
L3 Dynamic Routing, Power redundancy	—	—	—	—	—	✓
Stacking	—	—	—	—	Up to 4 units	Up to 8 units

Figure 5: Feature comparison across different Cisco Switches Family series, highlighting the capabilities of the 250 Series (SG250-18).

8. WARRANTY AND SUPPORT

The Cisco SG250-18 Smart Switch comes with a limited lifetime protection. This includes:

- Limited lifetime hardware warranty.
- One year of technical support.
- Free software fixes for the term of the warranty.

For detailed warranty information, technical assistance, or to download the latest firmware and documentation, please visit the official Cisco support website or contact Cisco technical support.

Related Documents - SG250-18

Cisco 250 Series Smart Switches	[Cisco 250 Series Smart Switches Quick Start Guide](#) A quick start guide for setting up and configuring Cisco 250 Series Smart Switches, covering installation, network connectivity, and basic troubleshooting.
	[Cisco ASR 9000 Series Ethernet Line Card Installation Guide](#) Comprehensive guide for installing and removing Cisco ASR 9000 Series Ethernet line cards and transceiver modules, covering safety, compatibility, and troubleshooting.
思科 Catalyst 9200 系列交换机	[Catalyst 9200](#) Catalyst 9200　　　　Catalyst 9200
	[Cisco 300 Series Small Business Managed Switches: Features, Specifications, and Benefits](#) This document provides a comprehensive overview of the Cisco 300 Series Small Business managed Ethernet switches, detailing their features, business applications, technical specifications, and ordering information. It highlights ease of use, affordability, performance, and security for small business networks.
	[Cisco Catalyst C1300 Series Switches: Get To Know Your Switch](#) Comprehensive guide to Cisco Catalyst C1300 Series Switches, covering features, specifications, front panel details, LEDs, mounting instructions (rack and wall), stacking, and configuration via web interface and console.
	[Carrier Ethernet Configuration Guide, Cisco IOS XE Fuji 16.7.x](#) A comprehensive guide for configuring Carrier Ethernet services on Cisco IOS XE Fuji 16.7.x, detailing Ethernet Operations, Administration, and Maintenance (OAM), Connectivity Fault Management (CFM), link aggregation, and advanced networking features for service provider environments.