**Cisco WS-C3850-24P-E**

# Cisco Catalyst 3850 24 Port PoE Networking Device User Manual

Model: WS-C3850-24P-E

## 1. Introduction

This manual provides essential information for the safe and efficient use of your Cisco Catalyst 3850 24 Port PoE Networking Device. The Cisco Catalyst 3850 Series is a next-generation enterprise-class stackable access layer switch that provides full convergence between wired and wireless on a single platform. It offers 24 Gigabit Ethernet ports with Power over Ethernet (PoE) capabilities, enabling power and data transmission over a single cable to connected devices.
Please read this manual thoroughly before installation and operation, and retain it for future reference.

## 2. Safety Information

Observe the following safety precautions to prevent injury and damage to the device:

- **Electrical Safety:** Ensure the power source matches the device's voltage requirements (240 Volts). Use only the provided power cord or an approved replacement. Do not operate the device with a damaged power cord or plug.
- **Grounding:** Always ensure the device is properly grounded to prevent electrical shock.
- **Ventilation:** Maintain adequate airflow around the device. Do not block ventilation openings. Operate in a well-ventilated area to prevent overheating.
- **Environment:** Avoid exposing the device to moisture, extreme temperatures, or direct sunlight. Operate within specified environmental ranges.
- **Handling:** The device weighs approximately 23.7 pounds. Use proper lifting techniques or assistance when moving to prevent injury.
- **Servicing:** Refer all servicing to qualified service personnel. Do not attempt to open or repair the device yourself.

## 3. Package Contents

Verify that your package contains the following items:

- Cisco Catalyst 3850 24 Port PoE Networking Device (Model WS-C3850-24P-E)
- Power Cord
- Rack-mount Kit (typically included for enterprise switches)
- Console Cable (RJ-45 to DB-9)
- Documentation (Quick Start Guide, Safety Information)

If any items are missing or damaged, contact your vendor or Cisco support immediately.

## 4. Physical Description

The Cisco Catalyst 3850 24 Port PoE Networking Device features a robust design for enterprise environments. Below is a general overview of its components.

*Figure 4.1: Front view of the Cisco Catalyst 3850 24 Port PoE Networking Device. This image displays the array of 24 Ethernet ports, typically located on the left side, along with various status indicator LEDs and a console port for management access.*

### 4.1 Front Panel

- **24 x Gigabit Ethernet Ports:** These ports support 10/100/1000BASE-T connectivity and Power over Ethernet (PoE+), providing up to 30W per port for compatible devices.
- **Status LEDs:** Indicators for System Status, RPS (Redundant Power System) Status, Port Status, PoE Status, and Stack Status. Refer to the LED indicator section for detailed explanations.
- **Console Port:** An RJ-45 console port for out-of-band management and initial configuration.
- **USB Ports:** Includes one USB 2.0 port and one USB 3.0 port for file management and software upgrades.

### 4.2 Rear Panel

- **Power Connector:** AC power input for the device.
- **Fan Modules:** Removable fan modules for cooling.
- **StackWise-480 Ports:** Dedicated ports for stacking multiple Catalyst 3850 switches.
- **RPS Connector:** Connector for an optional Redundant Power System.

## 5. Setup

Follow these steps to properly set up your Cisco Catalyst 3850 switch.

### 5.1 Unpacking and Inspection

1. Carefully remove the switch from its packaging.
2. Inspect the device for any signs of physical damage. Report any damage to your vendor immediately.
3. Verify all package contents as listed in Section 3.

### 5.2 Mounting the Switch

The Catalyst 3850 is designed for rack-mounting. Use the provided rack-mount kit.

1. Attach the rack-mount brackets to the sides of the switch using the screws provided.
2. Secure the switch into a standard 19-inch equipment rack using appropriate rack screws. Ensure the switch is level and securely fastened.
3. Allow adequate space (at least 3 inches) at the front and rear for cable management and ventilation.

### 5.3 Connecting Power

1. Connect the power cord to the AC power connector on the rear panel of the switch.
2. Plug the other end of the power cord into a grounded AC power outlet.
3. The system status LED on the front panel should illuminate, indicating power is supplied.

### 5.4 Initial Configuration (Console Access)

For initial setup and advanced configuration, use the console port.

1. Connect the RJ-45 end of the console cable to the console port on the switch.
2. Connect the DB-9 end (or USB adapter) to your computer's serial port.
3. Open a terminal emulation program (e.g., PuTTY, Tera Term) on your computer with the following settings:
    - Baud Rate: 9600
    - Data Bits: 8
    - Parity: None
    - Stop Bits: 1
    - Flow Control: None
4. Power on the switch. The boot sequence will display in the terminal window.
5. Follow the on-screen prompts to perform initial setup, including setting the hostname, IP address, and administrative passwords.

## 6. Operating the Device

Once the switch is powered on and basic configuration is complete, you can begin connecting network devices.

### 6.1 Connecting Network Devices

1. Connect Ethernet cables from your network devices (computers, servers, access points, IP phones) to the Gigabit Ethernet ports on the switch.
2. For devices requiring Power over Ethernet (PoE), ensure they are PoE-compatible. The switch will automatically detect and provide power to these devices.
3. Observe the port status LEDs. A solid green LED typically indicates a successful link, while a blinking green LED indicates activity.

### 6.2 Management Interfaces

The Catalyst 3850 can be managed via several interfaces:

- **Command Line Interface (CLI):** Accessible via the console port, Telnet, or SSH. This is the primary method for detailed configuration.
- **Web-based Graphical User Interface (GUI):** For simpler management tasks, the switch can be accessed via a web browser by entering its IP address.
- **Network Management Systems (NMS):** Integration with Cisco Prime Infrastructure or other SNMP-based NMS for centralized management.

## 7. Maintenance

Regular maintenance ensures optimal performance and longevity of your networking device.

### 7.1 Firmware Updates

Periodically check the Cisco website for the latest firmware updates. Keeping the firmware up-to-date provides new features, performance improvements, and security patches. Refer to Cisco's official documentation for the specific procedure for your software version.

### 7.2 Cleaning

- Ensure the device is powered off and disconnected from the power source before cleaning.
- Use a soft, dry, lint-free cloth to wipe the exterior surfaces.
- Use compressed air to clear dust from ventilation openings and fan modules. Do not use liquid cleaners or aerosol sprays directly on the device.

### 7.3 Environmental Considerations

Maintain the operating environment within the recommended temperature and humidity ranges to prevent component degradation.

## 8. Troubleshooting

This section provides solutions to common issues you might encounter.

### 8.1 Power Issues

- **No Power:**
  - Verify the power cord is securely connected to both the switch and the power outlet.
  - Check the power outlet with another device to ensure it is functional.
  - Ensure the power supply unit (if modular) is properly seated.
- **System LED is Amber/Red:** This indicates a system fault. Consult the Cisco documentation for specific LED error codes or contact Cisco support.

### 8.2 Network Connectivity Issues

- **No Link on a Port:**
  - Check the Ethernet cable for damage and ensure it is properly seated at both ends.
  - Verify the connected device is powered on and functioning correctly.
  - Try a different port on the switch or a different cable.
  - Check the port configuration on the switch (e.g., shutdown state, VLAN assignment).

- **Intermittent Connectivity:**
  - Inspect cables for damage.
  - Check for electromagnetic interference (EMI) sources.
  - Review switch logs for error messages (e.g., CRC errors, input errors).

### 8.3 PoE Issues

- **PoE Device Not Powering On:**
  - Ensure the connected device is PoE-compatible.
  - Check the PoE status LED for the specific port.
  - Verify the switch's total PoE budget is not exceeded.
  - Check the PoE configuration on the switch for the port.

### 8.4 Factory Reset

A factory reset will erase all configurations and restore the switch to its default settings. This is typically a last resort for severe configuration issues. Refer to Cisco's official documentation for the precise procedure, as it often involves specific boot-up sequences or CLI commands.

## 9. Specifications

Key technical specifications for the Cisco Catalyst 3850 24 Port PoE Networking Device (Model WS-C3850-24P-E):

| Feature | Specification |
|---|---|
| Model Number | WS-C3850-24P-E |
| Ports | 24 x 10/100/1000BASE-T Gigabit Ethernet (PoE+) |
| Interface Type | PoE |
| Data Transfer Rate | 88 Gigabits Per Second (Switching Capacity) |
| RAM | 4096 MB |
| Flash Memory Size | 2048 MB |
| USB Ports | 1 x USB 2.0, 1 x USB 3.0 |
| Voltage | 240 Volts |
| Item Weight | 23.7 Pounds (10.75 kg) |
| Product Dimensions (LxWxH) | 21.9 x 21.2 x 9.2 inches (55.6 x 53.8 x 23.4 cm) |
| Case Material | Plastic |
| Manufacturer | Cisco Systems |

## 10. Warranty and Support

For detailed warranty information, please refer to the warranty statement included with your product or visit the official Cisco website. Cisco provides various support resources, including technical documentation, software downloads, and customer support services.

You can find additional support and resources at theCisco Support Website.