



Manuals

[Back to Contents Page](#)

Introduction

Dell™ PowerConnect™ 5224 Systems User's Guide

- [Features](#)
- [Front-Panel Components](#)
- [Back-Panel Descriptions](#)
- [Management](#)

Features

The Dell™ PowerConnect™ 5224 Gigabit Ethernet Managed Switch offers the following features:

- 24 10/100/1000BASE-T auto-sensing Gigabit Ethernet switching ports
- Four 10/100/1000BASE-T ports operate in combination with four Small Form Factor Pluggable (SFP) transceiver slots
- IEEE 802.3u, IEEE 802.3z, and IEEE 802.3ab compliant
- Up to 32 kilobyte (KB)-entry, media access control (MAC) address cache
- IEEE 802.3x flow control for full duplex operation
- IEEE 802.1Q based tagged virtual local area network (VLAN)
- IEEE 802.1p Class of Service (CoS) through four priority queues for each port
- IEEE 802.3ad link aggregation: up to six aggregated trunks per switch
- Support for jumbo frames up to 9 KB
- Spanning tree protocol
- Broadcast storm control
- Internet group management protocol (IGMP) snooping support
- Back pressure flow control for half-duplex operation
- Port mirroring
- Auto MDI/MDIX support for the 10/100/1000BASE-T ports
- MAC addresses lookup based on port, VLAN ID, and MAC addresses
- Redundant power supply (RPS) support for uninterrupted operation
- System light-emitting diode (LED) and per port LEDs
- Standard 1U chassis
- 19-inch rack-mountable

Management Features

- Web-based management with embedded HTTP server
- Text-based management through four in-band Telnet sessions, and an out-of-band RS-232 console port (VT100)
- Simple network management protocol (SNMP)-based network management through an SNMP management console program
- RADIUS access control
- Software upload through Trivial File Transfer Protocol (TFTP)

- Dual firmware image support
 - Supports Boot Protocol (BOOTP) and Dynamic Host Configuration Protocol (DHCP) for IP address assignment
 - Hardware-assisted remote monitoring (RMON) statistic collection
 - Management information base (MIB) II (RFC 1213)
 - Interfaces Evolution MIB (RFC 2863)
 - Ethernet-like MIB (RFC 2665)
 - Bridge MIB (RFC 1493)
 - Extended Bridge MIB (RFC 2674)
 - RMON MIB (RFC 2819)
 - Entity MIB (RFC 2737)
 - RADIUS authentication client MIB (RFC 2618)
 - Dell PowerConnect 5224 Private MIB
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Front-Panel Components

The front panel of the switch contains the console port, all of the Ethernet ports, and LEDs. As shown in the following figure, the switch has three system LEDs and one LED for each port. The following sections describe the front panel in more detail.



PWR LED

The PWR (power) LED shows the general operating status of the system. Indicator states include:

- Off — The unit is off with no power connections.
- Green — The unit's internal power supply is operating normally.
- Red — The unit's internal power supply has failed.

RPS LED

The RPS LED shows the operating status of a connected redundant power unit. Indicator states include:

- Off — The RPS is not connected.
- Green — The RPS is operating normally.
- Red — The RPS has failed.

DIAG LED

The diagnostic (DIAG) LED shows the status of the system diagnostics during initialization. Indicator states include:

- Blinking green — The system diagnostic test is in progress.
- Green — The system diagnostic test has completed successfully.
- Red — The system diagnostic test has detected a fault.

Console Port

You can access the console interface from the RS-232 serial port or a Telnet connection. The console port uses a standard null-modem cable. For instructions on configuring your switch using the console, see "[Management Interface](#)."

Port LEDs

Two of the LEDs show the operating status of each Gigabit Ethernet port, and the other LED shows the operating status of each SFP transceiver slot. Details of the LED indications are provided in each of the following sections.

Gigabit Ethernet Ports

Link Status and Activity (LINK/ACT)

- Green — A 1000-megabits per second (Mbps) link is up and there is no activity.
- Blinking green — A 1000-Mbps link is up and there is activity.
- Orange — A 10/100-Mbps link is up and there is no activity.
- Blinking orange — A 10/100-Mbps link is up and there is activity.
- Flashing orange — The link is in the admin down state.
- Off — The link is down.

Duplex Mode (FDX)

- Green — A full-duplex link is up.
- Off — A half-duplex link is up.

SFP Transceiver Ports

SFP Transceiver Status

- Green — An SFP transceiver is correctly installed in the slot.
- Off — An SFP transceiver is not installed in the slot.

Back-Panel Descriptions

The back panel of the system contains the AC power receptacle and the RPS connector.




AC Power Receptacle

The switch automatically adjusts its power setting to any supply voltage in the range of 90 to 240 V alternating current (VAC).

RPS Connector

Connect the optional RPS to the RPS connector. If the switch's internal power unit fails, the redundant power system automatically supplies power to the switch for uninterrupted operation.

The switch supports the Dell PowerConnect RPS-600 external redundant power system.


 **NOTE:** See the RPS-600 documentation for more information.

 **CAUTION:** Do not use this switch with any redundant power system other than the Dell PowerConnect RPS-600.

Management

The following sections describe options for managing the switch.

Web-Based Interface

 **NOTE:** To access the switch through a web browser, the computer running the web browser must have IP-based network access to the switch.

After you have successfully installed the switch, you can configure the switch, monitor the LED panel, and display statistics graphically using a web browser, such as Netscape Navigator (version 6.2 and higher) or Microsoft® Internet Explorer (version 5.0).

Command-Line-Driven Console Interface Through a Serial Port or Telnet

You can also connect a computer or terminal to the serial console port or use Telnet to access the switch. The command-line-driven interface provides complete access to all switch management features. Most of the common commands are described in "Management Interface." For a full list of commands, see the *Command Line Reference*, which is included on the documentation CD.

SNMP-Based Management

You can manage the switch with an SNMP-compatible console program. The switch is compatible with SNMP version 1.0.

The SNMP agent decodes the incoming SNMP messages and responds to requests with MIB objects stored in the database. The SNMP agent updates the MIB objects every 5 seconds to generate statistics and counters.

The switch supports a comprehensive set of MIB extensions:

- RFC 1213 MIB II
- RFC 2863 Interfaces Evolution MIB
- RFC 2665 Ethernet-Like MIB
- RFC 1493 Bridge MIB
- RFC 2674 Extended Bridge MIB
- RFC 2819 RMON MIB
- RFC 2737 Entity MIB
- RFC 2618 RADIUS authentication client MIB
- Dell PowerConnect 5224 Private MIB

[Back to Contents Page](#)

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