

Dell Networking S3100 Series Installation Guide

March 2022

Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your computer.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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About this Guide

This guide provides site preparation recommendations, step-by-step procedures for rack mounting and desk mounting, inserting optional modules, and connecting to a power source.

CAUTION: To avoid electrostatic discharge (ESD) damage, wear grounding wrist straps when handling this equipment.

WARNING: Only trained and qualified personnel can install this equipment. Read this guide before you install and power up this equipment. Disconnect power cords before servicing.

WARNING: This equipment contains optical transceivers, which comply with the limits of Class 1 laser radiation.



Figure 1. Class 1, Laser Product Label

WARNING: When no cable is connected, visible and invisible laser radiation may be emitted from the aperture of the optical transceiver ports. Avoid exposure to laser radiation and do not stare into open apertures.

Topics:

- [Related Publications](#)

Related Publications

For more details about S3100 series software configuration, see the following publications:

- The *Dell Configuration Guide for the S3100 Series* describes software configuration.
- The *Dell Command Line Reference Guide for the S3100 Series* provides command line interface (CLI) information.
- The *Dell Networking S3100 Series Release Notes* provide information about upgrading the S3100 series.

NOTE: Information is available on the Dell Networking Support website (<http://www.dell.com/support>).

S3100 Series Systems

The following information describes the features, capabilities, and physical configurations that the S3100 series supports.

Topics:

- [Introduction](#)
- [Features](#)
- [Power Over Ethernet Plus \(PoE+\)](#)
- [S3124 Platform I/O Side](#)
- [S3124 Platform PSU Side](#)
- [S3124F Platform I/O Side](#)
- [S3124F Platform PSU Side](#)
- [S3148 Platform I/O Side](#)
- [S3148 Platform PSU Side](#)
- [S3124P Platform I/O Side](#)
- [S3124P Platform PSU Side](#)
- [S3148P Platform I/O Side](#)
- [S3148P Platform PSU Side](#)
- [Reset Button](#)
- [Power Supplies](#)
- [Fans](#)
- [Plug-in Modules](#)
- [LED Status Information](#)
- [Orderable S3100 Series Components](#)

Introduction

The S3100 series is a low-cost wireless closet switch/router product for copper connections to 1G endpoints with Power over Ethernet plus (PoE+) capability on 1G access ports. The series includes capabilities for 1/10GE switching with 1G copper links for campus network endpoints and 10G ports for uplinks to core/aggregation switches. The series has five platforms.

The S3124 platform includes the following:

- Twenty-four Gigabit Ethernet 10/100/1000BASE-T RJ-45 ports for copper that support auto-negotiation for speed, flow control, and duplex.
- Two 1G combo SFP ports.
- Two SFP+ 10G ports.

The S3124F platform includes the following:

- Twenty-four Gigabit Ethernet 100BASEFX/1000BASE-X SFP ports.
- Two 1G copper combo ports.
- Two SFP+ 10G ports.

The S3148 platform includes the following:

- Forty-eight Gigabit Ethernet 10/100/1000BASE-T RJ-45 ports for copper that support auto-negotiation for speed, flow control, and duplex.
- Two 1G combo SFP ports.
- Two SFP+ 10G ports.

The S3124P platform includes the following:

- Twenty-four Gigabit Ethernet 10/100/1000BASE-T RJ-45 ports for copper that support auto-negotiation for speed, flow control, and duplex.
- Two 1G combo SFP ports.
- Two SFP+ 10G ports.

- Supports PoE+.

The S3148P platform includes the following:

- Forty-eight Gigabit Ethernet 10BASE-T, 100BASE-TX, 1000BASE-T RJ-45 ports that support auto-negotiation for speed, flow control, and duplex.
- Two 1G combo SFP ports.
- Two SFP+ 10G ports.
- Supports PoE+.

NOTE: Dell-qualified SFP+ transceivers are sold separately.

Features

All S3100 series platforms have the following features.

- Two fixed mini-SAS stacking ports HG[21] to connect up to 12 switches. You can combine different platforms within the S3100 series into one stack.
- One 20G expansion slot for modules (SFP+ [fiber] or 10GBase-T [copper RJ-45]).
- Front panel out-of-band (OOB) management port.
- External serial RS232 port (RJ-45 type).
- One universal serial bus (USB-A) port.
- Hot-swappable redundant power supply unit (PSU).
- Hot-swappable fan tray.
- Standard 1U chassis high.

Power Over Ethernet Plus (PoE+)

The S3124P and S3148P platforms support PoE+ configuration for power threshold, power priority, SNMP traps, and PoE legacy device support.

The PoE+ features do not apply to the other platforms in the S3100 series.

For details about PoE power consumption and budget, see [S3100 Series Technical Specifications](#).

For more information about all supported features and their implementation options, see the *Dell Command Line Reference Guide for the S3100 Series* and the *Dell Configuration Guide for the S3100 Series*.

S3124 Platform I/O Side

The S3124 platform input/output (I/O) side (shown in the following illustration) contains twenty-four 1G copper switch ports. The I/O side also contains a console port, management port, serial bus port, reset button, two 10G SFP+ ports, and two 1G SFP combo ports.

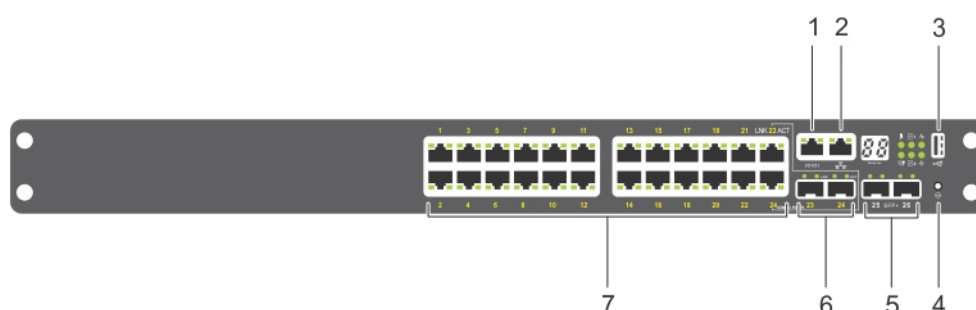


Figure 2. S3124 I/O Side View

1. Console port.

2. Management port (RJ-45 type).
3. One universal serial bus port (USB Type-A) for storage.
4. Reset button.
5. Two 10G SFP+ ports.
6. Two 1G SFP combo ports.
7. Twenty-four 1G copper switch ports.

S3124 Platform PSU Side

The S3124 PSU side (shown in the following illustration) includes the power supplies, fan tray, and stacking ports.

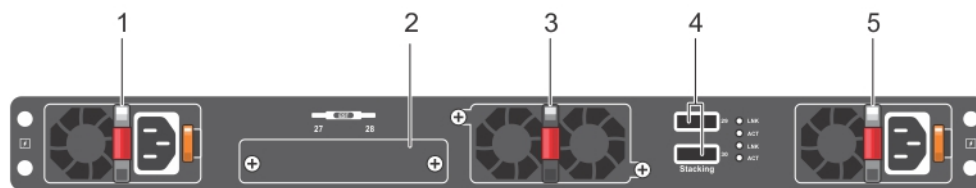


Figure 3. S3124 PSU Side View

1. PSU 1.
2. Module slot.
3. Fan tray.
4. Mini-SAS stacking ports.
5. PSU 2.

NOTE: The S3124 platform does not support stacking with Dell Networking OS 9.8(2.0).

S3124F Platform I/O Side

The S3124F platform I/O side (shown in the following illustration) contains twenty-four 1G fiber switch ports. The I/O side also contains a console port, management port, serial bus port, reset button, two 10G SFP+ ports, and two 1G copper combo ports.

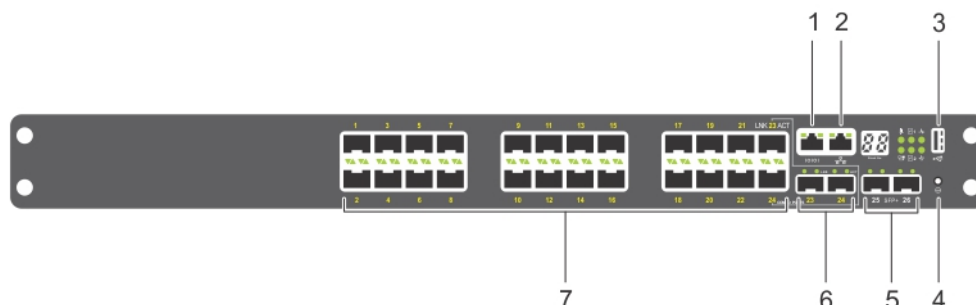


Figure 4. S3124F I/O Side View

1. Console port.
2. Management port (RJ-45 type).

3. One universal serial bus port (USB Type-A) for storage.
4. Reset button.
5. Two 10G SFP+ ports.
6. Two 1G copper combo ports.
7. Twenty-four 1G fiber switch ports.

S3124F Platform PSU Side

The S3124F PSU side (shown in the following illustration) includes the power supplies, fan tray, and stacking ports.

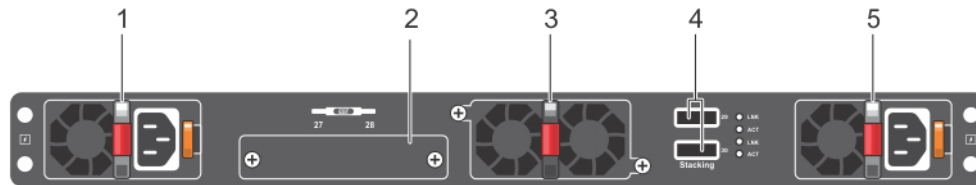


Figure 5. S3124F PSU Side View

1. PSU 1.
2. Module slot.
3. Fan tray.
4. Mini-SAS stacking ports.
5. PSU 2.

NOTE: The S3124 platform does not support stacking with Dell Networking OS 9.8(2.0).

S3148 Platform I/O Side

The S3148 platform I/O side (shown in the following illustration) contains forty-eight 1G copper switch ports. The I/O side also contains a console port, management port, serial bus port, reset button, two 10G SFP+ ports, and two 1G SFP combo ports.

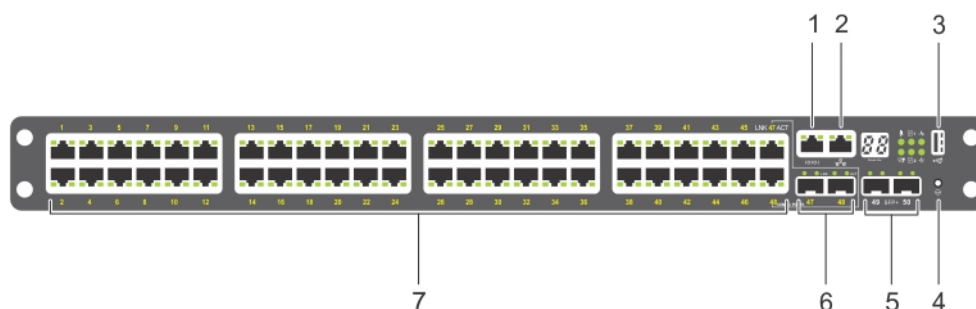


Figure 6. S3148 I/O Side View

1. Console port.
2. Management port (RJ-45 type).
3. One universal serial bus port (USB Type-A) for storage.

4. Reset button.
5. Two 10G SFP+ ports.
6. Two 1G SFP combo ports.
7. Forty-eight 1G copper switch ports.

S3148 Platform PSU Side

The S3148 PSU side (shown in the following illustration) includes the power supplies, fan tray, and stacking ports.

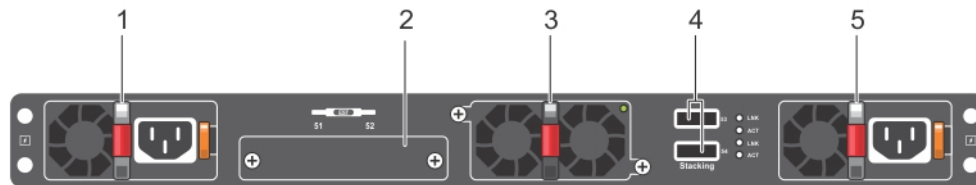


Figure 7. S3148 PSU Side View

1. PSU 1.
2. Module slot.
3. Fan tray.
4. Mini-SAS stacking ports.
5. PSU 2.

S3124P Platform I/O Side

The S3124P platform I/O side (shown in the following illustration) contains twenty-four 1G copper switch ports that include PoE+ function. The I/O side also contains a console port, management port, serial bus port, reset button, two 10G SFP+ ports, and two 1G SFP combo ports.

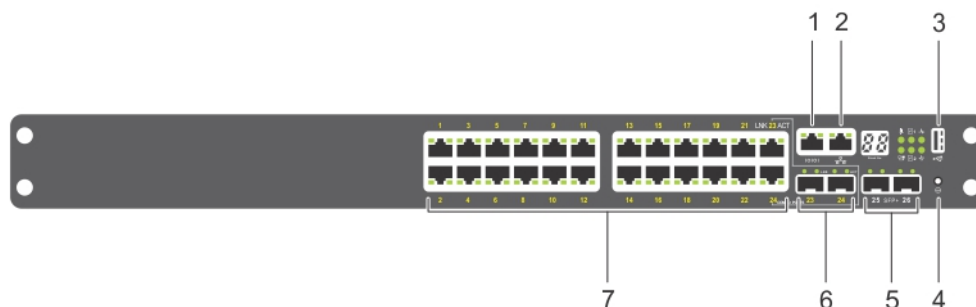


Figure 8. S3124P I/O Side View

1. Console port.
2. Management port (RJ-45 type).
3. One universal serial bus port (USB Type-A) for storage.
4. Reset button.
5. Two 10G SFP+ ports.

6. Two 1G SFP combo ports.
7. Twenty-four 1G copper switch ports including UPoE/PoE+ function.

S3124P Platform PSU Side

The S3124P PSU side (shown in the following illustration) includes the power supplies, fan tray, and stacking ports.

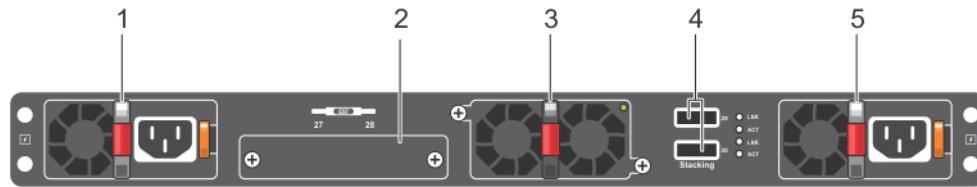


Figure 9. S3124P PSU Side View

1. PSU 1.
2. Module slot.
3. Fan tray.
4. Mini-SAS stacking ports.
5. PSU 2.

S3148P Platform I/O Side

The S3124P platform I/O side (shown in the following illustration) contains forty-eight 1G copper switch ports that include PoE+ function. The I/O side also contains a console port, management port, serial bus port, reset button, two 10G SFP+ ports, and two 1G SFP combo ports.

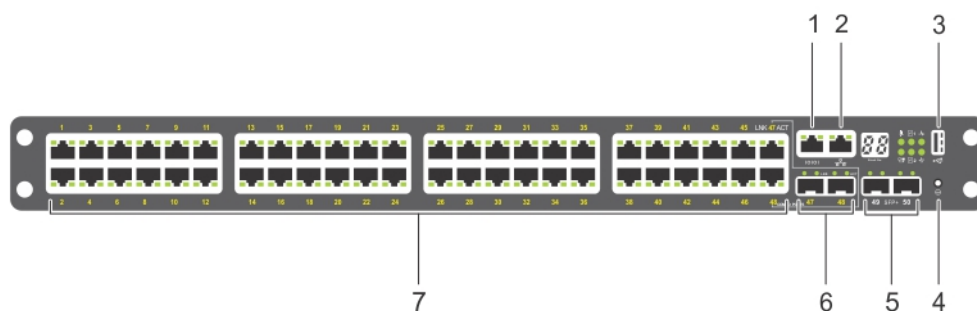


Figure 10. S3148P I/O Side View

1. Console port.
2. Management port (RJ-45 type).
3. One universal serial bus port (USB Type-A) for storage.
4. Reset button.
5. Two 10G SFP+ ports.
6. Two 1G SFP combo ports.
7. Forty-eight 1G copper switch ports including UPoE/PoE+ function.

S3148P Platform PSU Side

The S3148P PSU side (shown in the following illustration) includes the power supplies, fan tray, and stacking ports.

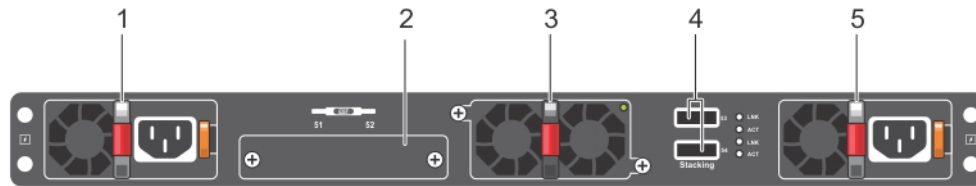


Figure 11. S3148P PSU Side View

1. PSU 1.
2. Module slot.
3. Fan tray.
4. Mini-SAS stacking ports.
5. PSU 2.

Reset Button

The reset button allows you to perform a hard reset on the switch. The reset button is accessed through the pinhole on the I/O side of the chassis.

To perform a hard reset of the switch, insert the tip of a paper clip or similar tool into the pinhole. When the switch completes the boot process after the reset, it resumes operation with the most recently saved configuration. Any changes made to the running configuration that were not saved to the startup configuration prior to the reset are lost.

Power Supplies

S3100 systems support two hot-swappable power supply units (PSUs) with integrated fans that provide cooling for the system. The type of PSU differs by platform.

NOTE: Two PSUs are required for full redundancy, but the systems can operate with a single PSU. The S3100 systems ship with one PSU. You can purchase a second PSU as a separate purchased part.

CAUTION: To prevent electrical shock, ensure that the system is grounded properly. If you do not ground your equipment correctly, excessive emissions may result. To ensure that the power cables meet your local electrical requirements, use a qualified electrician.

The S3124, S3124F, and S3148 platforms include the following PSU options:

- One PSU — 200 Watt.
- Two PSUs — total of 400 Watt.
- V-lock receptacle for a power cord with the V-lock feature.

The S3124P platform includes the following PSU options:

- One PSU — 715 Watt (default configuration) or 1100 Watt.
- Two PSUs — total of 1430 Watt or 2200 Watt.

The S3148P platform includes the following PSU options:

- One PSU — 1100 Watt.
- Two PSUs — total of 2200 Watt.

Fans

The S3100 systems come from the factory with a two-fan unit tray that is field replaceable. Additionally, each PSU has an internal fan.

Plug-in Modules

One expansion slot is on the PSU side of the S3100 series chassis and can support either an SFP+ or 10GBase-T module. Each plug-in module has two ports. The modules are sold separately.

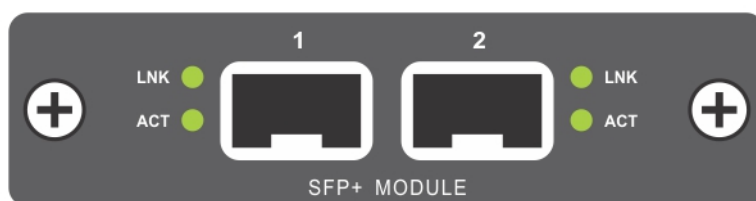


Figure 12. SFP+ Module



Figure 13. 10GBase-T Module

LED Status Information

The S3100 systems include LED displays on both the I/O and PSU side of the chassis.

You can also view status information through the command line interface (CLI) `show` commands and with the simple network management protocol (SNMP). For more information about these options, see the *Dell Command Line Reference Guide for the S3100 Series* and the *Dell Configuration Guide for the S3100 Series*.

The S3124 I/O side (shown in the following illustration) includes LED displays for port, system, and stack status.

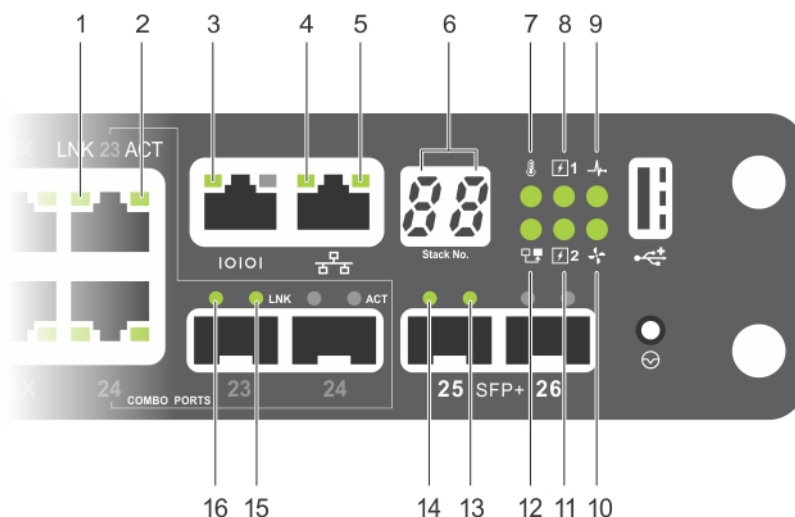


Figure 14. S3124 I/O Side LEDs

- | | |
|---|---|
| 1. Gigabit Ethernet (10/100/1000BASE-T) RJ-45 port LNK. | 2. Gigabit Ethernet (10/100/1000BASE-T) RJ-45 port ACT. |
| 3. Console port LNK. | 4. Management port LNK. |
| 5. Management port ACT. | 6. Stack number. |
| 7. Temperature. | 8. PSU 1. |
| 9. System Status. | 10. Fan. |
| 11. PSU 2. | 12. M (Master). |
| 13. SFP+ (10G) port ACT. | 14. SFP+ (10G) port LNK. |
| 15. Combo SFP (1G) port ACT. | 16. Combo SFP (1G) port LNK. |

Table 1. S3124 I/O Side LED Descriptions

Feature	Detailed Description
Gigabit Ethernet (10/100/1000BASE-T) RJ-45 port	LNK (Link speed): - Green — link up at 1000 Mbps speed. - Yellow — link up at 10/100 Mbps speed. - Off — no link. ACT (Data transmission): - Blinking green — activity. - Off — no activity.
Console port	LNK (Link speed): - Off — no link. - Solid green — link.
Management port	LNK (Link speed): - Off — no link. - Solid green — link on 1 G speed. - Solid amber — link on 100 M or 10 M speeds. ACT (Data transmission): - Blinking green — activity. - Off — no activity.
Stack number	Displays the stack unit number of the switch.

Table 1. S3124 I/O Side LED Descriptions (continued)

Feature	Detailed Description
	• Displays 1 if switch is not part of a stack.
Temperature	• Solid green — system temperature is below threshold limit. • Solid red — system temperature has exceeded the threshold limit of 75°C.
PSU 1 and 2	• Off — power failure or no power. • Solid green — normal operation. • Blinking green — locator function is enabled.
System status	• Solid green — normal operation. The CLI prompt is available. • Blinking green — boot-up in progress. • Solid red — critical system error. • Blinking red — noncritical system error (fan fail, power supply fail).
Fan	• Solid green — fan is powered and running at the expected rpm. • Solid red — fan failed.
M (Master)	• Solid green — system is in Stacking Master mode. • Off — switch is in Slave mode.
SFP+ (10G) port	LNK (Link speed): • Off — no link. • Solid green — link on 10 G speed. • Solid amber — link on 1 G speed. ACT (Data transmission): • Off — no link. • Blinking green — activity.
Combo SFP (1G) port	LNK (Link speed): • Off — no link. • Solid green — link on 1000 Mbps speed. • Solid amber — link on 100 Mbps speed. ACT (Data transmission): • Off — no link. • Blinking green — activity.

The S3124F I/O side (shown in the following illustration) includes LED displays for port, system, and stack status.

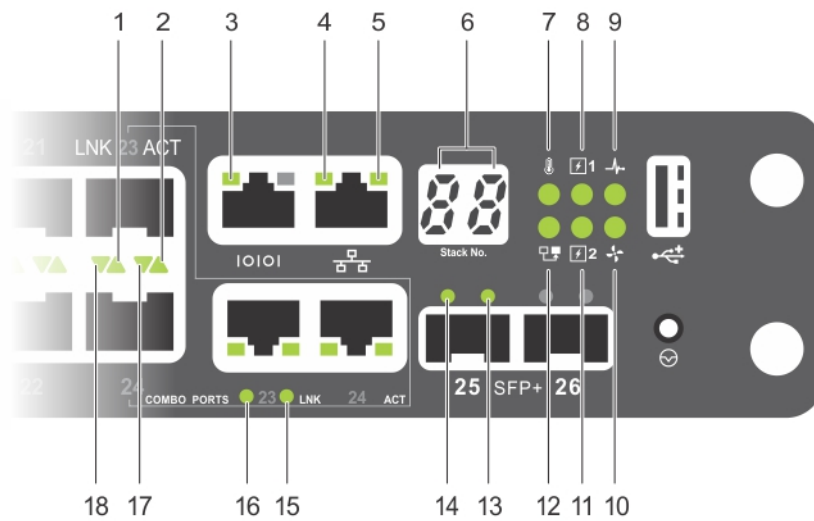


Figure 15. S3124F I/O Side LEDs

- | | |
|--|--|
| 1. Gigabit Ethernet (100BASEFX/1000BASE-X) SFP port 23 LNK. | 2. Gigabit Ethernet (100BASEFX/1000BASE-X) SFP port 23 ACT. |
| 3. Console port LNK. | 4. Management port LNK. |
| 5. Management port ACT. | 6. Stack number. |
| 7. Temperature. | 8. PSU 1. |
| 9. System Status. | 10. Fan. |
| 11. PSU 2. | 12. M (Master). |
| 13. SFP+ (10G) port ACT. | 14. SFP+ (10G) port LNK. |
| 15. Combo SFP (1G) port ACT. | 16. Combo SFP (1G) port LNK. |
| 17. Gigabit Ethernet (100BASEFX/1000BASE-X) SFP port 24 ACT. | 18. Gigabit Ethernet (100BASEFX/1000BASE-X) SFP port 24 LNK. |

Table 2. S3124F I/O Side LED Descriptions

Feature	Detailed Description
Gigabit Ethernet (100BASEFX/1000BASE-X) SFP port	LNK (Link speed): - Off — no link. - Solid green — link on 1 Gbps speed. - Solid yellow — link on 100 Mbps speed. ACT (Data transmission): - Blinking green — activity. - Off — no activity.
Console port	LNK (Link speed): - Off — no link. - Solid green — link.
Management port	LNK (Link speed): - Off — no link. - Solid green — link on 1 G speed. - Solid amber — link on 100 M or 10 M speeds. ACT (Data transmission): - Blinking green — activity.

Table 2. S3124F I/O Side LED Descriptions (continued)

Feature	Detailed Description
	Off — no activity.
Stack number	- Displays the stack unit number of the switch. - Displays 1 if switch is not part of a stack.
Temperature	- Solid green — system temperature is below threshold limit. - Solid red — system temperature has exceeded the threshold limit of 75°C.
PSU 1 and 2	- Off — power failure or no power. - Solid green — normal operation. - Blinking green — locator function is enabled.
System status	- Solid green — normal operation. The CLI prompt is available. - Blinking green — boot-up in progress. - Solid red — critical system error. - Blinking red — noncritical system error (fan fail, power supply fail).
Fan	- Solid green — fan is powered and running at the expected rpm. - Solid red — fan failed.
M (Master)	- Solid green — system is in Stacking Master mode. - Off — switch is in Slave mode.
SFP+ (10G) port	LNK (Link speed): - Off — no link. - Solid green — link on 10 G speed. - Solid amber — link on 1 G speed. ACT (Data transmission): - Off — no link. - Blinking green — activity.
Combo SFP (1G) port	LNK (Link speed): - Off — no link. - Solid green — link on 1000 Mbps speed. - Solid amber — link on 100 Mbps speed. ACT (Data transmission): - Off — no link. - Blinking green — activity.

The S3148 I/O side (shown in the following illustration) includes LED displays for port, system, and stack status.

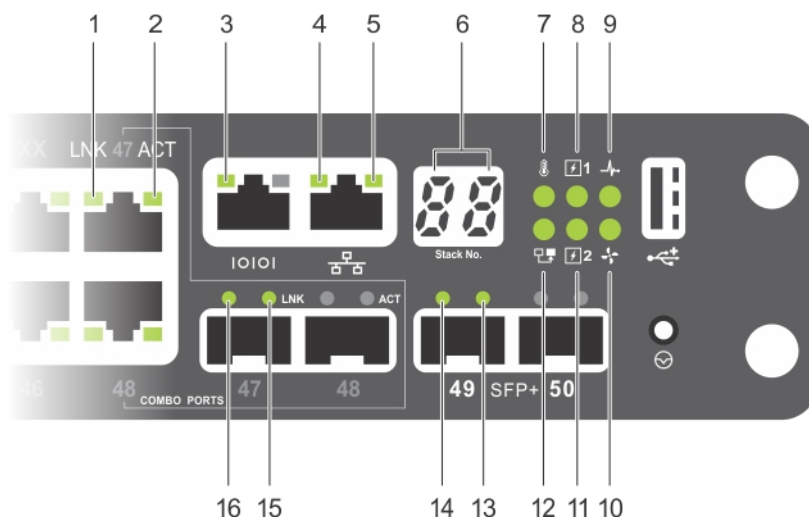


Figure 16. S3148 I/O Side LEDs

1. Gigabit Ethernet (10/100/1000BASE-T) RJ-45 port LNK.
2. Gigabit Ethernet (10/100/1000BASE-T) RJ-45 port ACT.
3. Console port LNK.
4. Management port LNK.
5. Management port ACT.
6. Stack number.
7. Temperature.
8. PSU 1.
9. System Status.
10. Fan.
11. PSU 2.
12. M (Master).
13. SFP+ (10G) port ACT.
14. SFP+ (10G) port LNK.
15. Combo SFP (1G) port ACT.
16. Combo SFP (1G) port LNK.

Table 3. S3148 I/O Side LED Descriptions

Feature	Detailed Description
Gigabit Ethernet (10/100/1000BASE-T) RJ-45 port	LNK (Link speed): - Green — link up at 1000 Mbps speed. - Yellow — link up at 10/100 Mbps speed. - Off — no link. ACT (Data transmission): - Blinking green — activity. - Off — no activity.
Console port	LNK (Link speed): - Off — no link. - Solid green — link.
Management port	LNK (Link speed): - Off — no link. - Solid green — link on 1 G speed. - Solid amber — link on 100 M or 10 M speeds. ACT (Data transmission): - Blinking green — activity. - Off — no activity.
Stack number	- Displays the stack unit number of the switch. - Displays 1 if switch is not part of a stack.

Table 3. S3148 I/O Side LED Descriptions (continued)

Feature	Detailed Description
Temperature	• Solid green — system temperature is below threshold limit. • Solid red — system temperature has exceeded the threshold limit of 75°C.
PSU 1 and 2	• Off — power failure or no power. • Solid green — normal operation. • Blinking green — locator function is enabled.
System status	• Solid green — normal operation. The CLI prompt is available. • Blinking green — boot-up in progress. • Solid red — critical system error. • Blinking red — noncritical system error (fan fail, power supply fail).
Fan	• Solid green — fan is powered and running at the expected rpm. • Solid red — fan failed.
M (Master)	• Solid green — system is in Stacking Master mode. • Off — switch is in Slave mode.
SFP+ (10G) port	LNK (Link speed): • Off — no link. • Solid green — link on 10 G speed. • Solid amber — link on 1 G speed. ACT (Data transmission): • Off — no link. • Blinking green — activity.
Combo SFP (1G) port	LNK (Link speed): • Off — no link. • Solid green — link on 1000 Mbps speed. • Solid amber — link on 100 Mbps speed. ACT (Data transmission): • Off — no link. • Blinking green — activity.

The S3124P I/O side (shown in the following illustration) includes LED displays for port, system, and stack status.

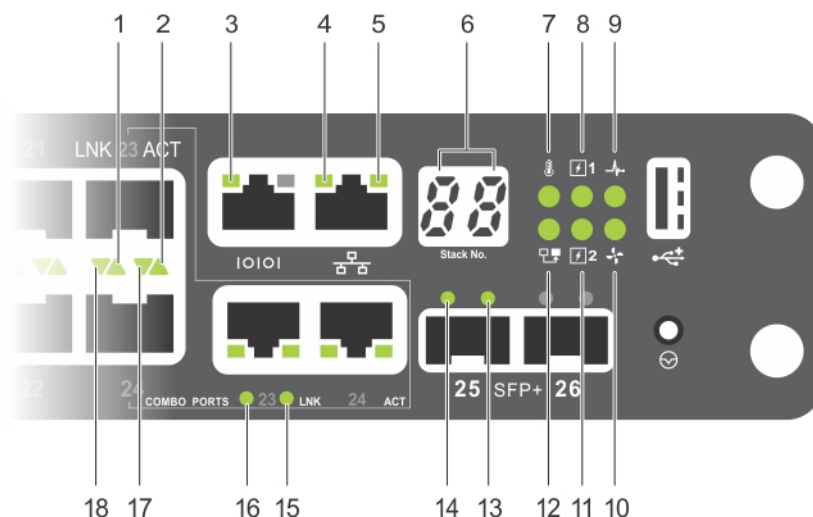


Figure 17. S3124P I/O Side LEDs

1. Gigabit Ethernet (10/100/1000BASE-T) RJ-45 port LNK.
2. Gigabit Ethernet (10/100/1000BASE-T) RJ-45 port ACT.
3. Console port LNK.
4. Management port LNK.
5. Management port ACT.
6. Stack number.
7. Temperature.
8. PSU 1.
9. System Status.
10. Fan.
11. PSU 2.
12. M (Master).
13. SFP+ (10G) port ACT.
14. SFP+ (10G) port LNK.
15. Combo SFP (1G) port ACT.
16. Combo SFP (1G) port LNK.

Table 4. S3124P I/O Side LED Descriptions

Feature	Detailed Description
Gigabit Ethernet (10/100/1000BASE-T) RJ-45 port	LNK (Link speed): - Green — link up at 1000 Mbps speed. - Yellow — link up at 10/100 Mbps speed. - Off — no link. ACT (Data transmission): - Blinking green — activity. - Off — no activity.
Console port	LNK (Link speed): - Off — no link. - Solid green — link.
Management port	LNK (Link speed): - Off — no link. - Solid green — link on 1 G speed. - Solid amber — link on 100 M or 10 M speeds. ACT (Data transmission): - Blinking green — activity. - Off — no activity.
Stack number	Displays the stack unit number of the switch.

Table 4. S3124P I/O Side LED Descriptions (continued)

Feature	Detailed Description
	• Displays 1 if switch is not part of a stack.
Temperature	• Solid green — system temperature is below threshold limit. • Solid red — system temperature has exceeded the threshold limit of 75°C.
PSU 1 and 2	• Off — power failure or no power. • Solid green — normal operation. • Blinking green — locator function is enabled.
System status	• Solid green — normal operation. The CLI prompt is available. • Blinking green — boot-up in progress. • Solid red — critical system error. • Blinking red — noncritical system error (fan fail, power supply fail).
Fan	• Solid green — fan is powered and running at the expected rpm. • Solid red — fan failed.
M (Master)	• Solid green — system is in Stacking Master mode. • Off — switch is in Slave mode.
SFP+ (10G) port	LNK (Link speed): • Off — no link. • Solid green — link on 10 G speed. • Solid amber — link on 1 G speed. ACT (Data transmission): • Off — no link. • Blinking green — activity.
Combo SFP (1G) port	LNK (Link speed): • Off — no link. • Solid green — link on 1000 Mbps speed. • Solid amber — link on 100 Mbps speed. ACT (Data transmission): • Off — no link. • Blinking green — activity.

The S3148P I/O side (shown in the following illustration) includes LED displays for port, system, and stack status.

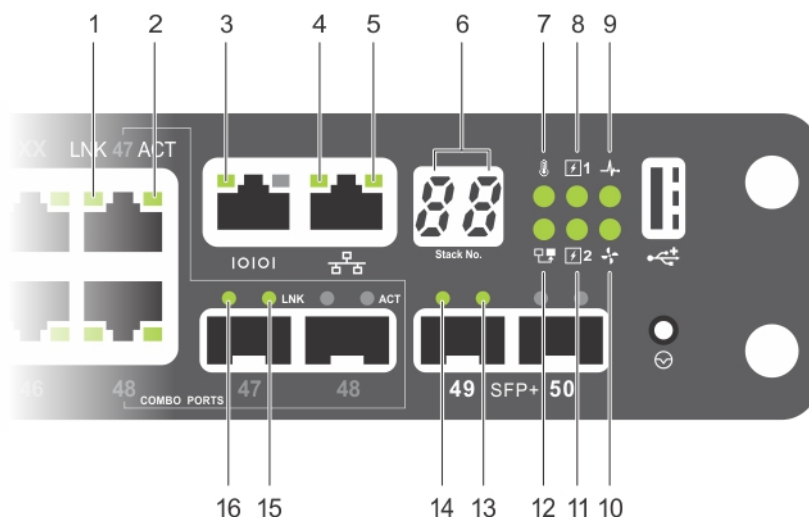


Figure 18. S3148P I/O Side LEDs

- | | |
|---|---|
| 1. Gigabit Ethernet (10/100/1000BASE-T) RJ-45 port LNK. | 2. Gigabit Ethernet (10/100/1000BASE-T) RJ-45 port ACT. |
| 3. Console port LNK. | 4. Management port LNK. |
| 5. Management port ACT. | 6. Stack number. |
| | 7. Temperature. |
| | 8. PSU 1. |
| | 9. System Status. |
| 10. Fan. | 11. PSU 2. |
| 12. M (Master). | 13. SFP+ (10G) port ACT. |
| 14. SFP+ (10G) port LNK. | 15. Combo SFP (1G) port ACT. |
| 16. Combo SFP (1G) port LNK. | |

Table 5. S3124P I/O Side LED Descriptions

Feature	Detailed Description
Gigabit Ethernet (10/100/1000BASE-T) RJ-45 port	LNK (Link speed): - Green — link up at 1000 Mbps speed. - Yellow — link up at 10/100 Mbps speed. - Off — no link. ACT (Data transmission): - Blinking green — activity. - Off — no activity.
Console port	LNK (Link speed): - Off — no link. - Solid green — link.
Management port	LNK (Link speed): - Off — no link. - Solid green — link on 1 G speed. - Solid amber — link on 100 M or 10 M speeds. ACT (Data transmission): - Blinking green — activity. - Off — no activity.
Stack number	Displays the stack unit number of the switch.

Table 5. S3124P I/O Side LED Descriptions (continued)

Feature	Detailed Description
	Displays 1 if switch is not part of a stack.
Temperature	- Solid green — system temperature is below threshold limit. - Solid red — system temperature has exceeded the threshold limit of 75°C.
PSU 1 and 2	- Off — power failure or no power. - Solid green — normal operation. - Blinking green — locator function is enabled.
System status	- Solid green — normal operation. The CLI prompt is available. - Blinking green — boot-up in progress. - Solid red — critical system error. - Blinking red — noncritical system error (fan fail, power supply fail).
Fan	- Solid green — fan is powered and running at the expected rpm. - Solid red — fan failed.
M (Master)	- Solid green — system is in Stacking Master mode. - Off — switch is in Slave mode.
SFP+ (10G) port	LNK (Link speed): - Off — no link. - Solid green — link on 10 G speed. - Solid amber — link on 1 G speed. ACT (Data transmission): - Off — no link. - Blinking green — activity.
Combo SFP (1G) port	LNK (Link speed): - Off — no link. - Solid green — link on 1000 Mbps speed. - Solid amber — link on 100 Mbps speed. ACT (Data transmission): - Off — no link. - Blinking green — activity.

The SFP+ module (shown in the following illustration) includes LED displays for port status.

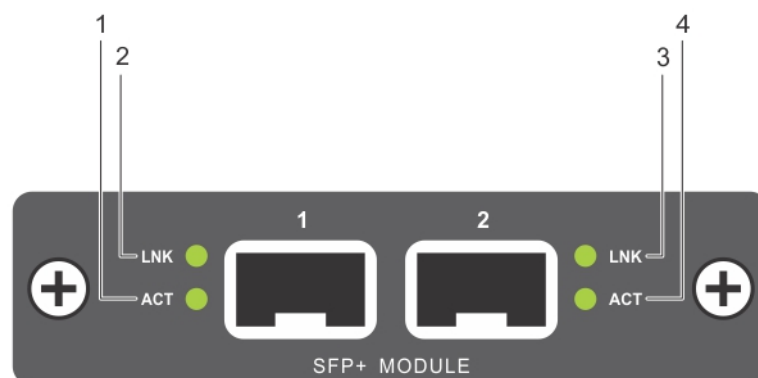


Figure 19. SFP+ Module — PSU Side

1. SFP+ module port 1: LNK.

2. SFP+ module port 1: ACT.
3. SFP+ module port 2: LNK.
4. SFP+ module port 2: ACT.

Table 6. SFP+ Module LEDs — PSU Side

Feature	Detailed Description
SFP+ (module) port 1	LNK (Link speed): • Off — no link. • Solid green — link on 10 G speed. • Solid amber — link on 1 G speed. ACT (Data transmission): • Off — no link. • Blinking green — activity.
SFP+ (module) port 2	LNK (Link speed): • Off — no link. • Solid green — link on 10 G speed. • Solid amber — link on 1 G speed. ACT (Data transmission): • Off — no link. • Blinking green — activity.

The 10GBase-T module (shown in the following illustration) includes LED displays for port status.

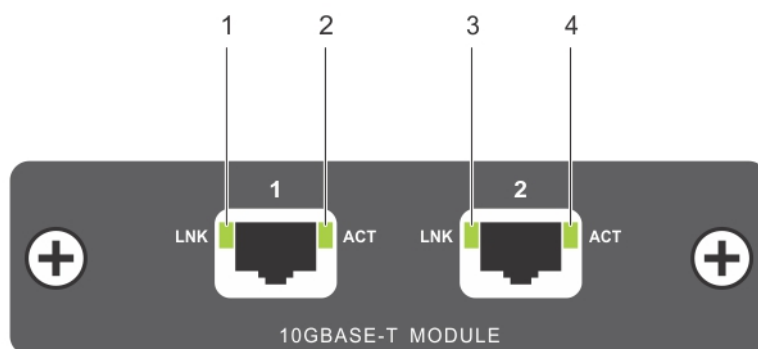


Figure 20. 10GBase-T Module

1. 10GBase-T module port 1: LNK.
2. 10GBase-T module port 1: ACT.
3. 10GBase-T module port 2: LNK.
4. 10GBase-T module port 2: ACT.

Table 7. 10GBase-T Module LEDs

Feature	Detailed Description
Link/SPD LED (left bi-color LED)	• Off — no link. • Solid green — link on 10 G speed. • Solid amber — link on 100 M or 1 G speeds.
Activity LED (right single color LED)	• Off — no link. • Blinking green — activity.

The stacking ports (shown in the following illustration) include LED displays for port status.

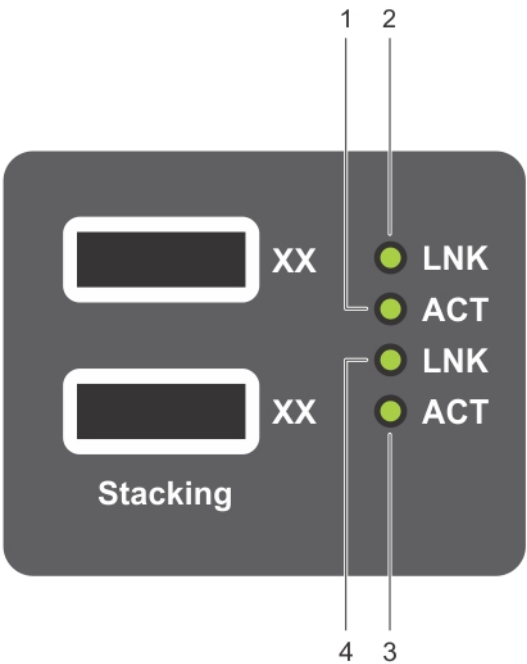


Figure 21. Stacking Port LEDs

- 1. Stack port 1: ACT.
- 2. Stack port 1: LNK.
- 3. Stack port 2: ACT.
- 4. Stack port 2: LNK.

Table 8. Stacking Port LEDs

Feature	Detailed Description
Link LED (single color LED)	- Off — no link. - Solid green — link.
Activity LED (single color LED)	- Off — no link. - Blinking green — activity.

The power supply LED handle (item 1 in the following illustration) displays power supply status.

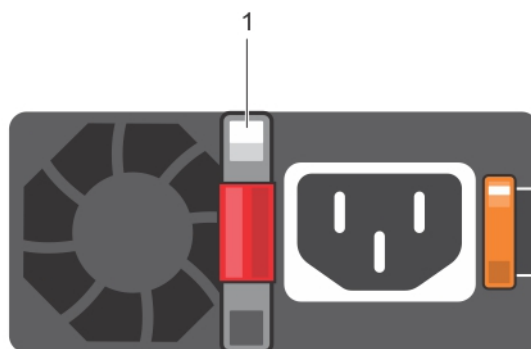


Figure 22. Power Supply LED

Table 9. Power Supply LED

Feature	Detailed Description
Handle LED	• Off — no power. • Solid green — normal operation. • Solid red — power failure.

Orderable S3100 Series Components

The S3100 series has the following orderable components:

- Second power supply (two is the maximum per switch).
 - S3124, , S3124F, and S3148 platforms support a 200W PSU.
 - S3124P and S3148P platforms support a 715W PSU or 1100W PSU.
- Power cord.
- 10GBase-T module.
- SFP+ module.
- Various optics and cables.

Site Location and Preparation

You can mount S3100 series switches in a standard 48.26 cm (19-inch) rack or placed on a flat surface.

You can install the system in:

- Network telecommunication facilities
- Data centers
- Other locations where the national electric code (NEC) applies

 **NOTE:** Install the system into a rack or cabinet before installing any optional components.

Topics:

- [Site Selection](#)
- [Cabinet Placement](#)
- [Rack Mount](#)

Site Selection

Dell Network's equipment is intended for installation in restricted access areas.

A restricted access area is one in which access can only be gained by service personnel by using a special tool, lock, key, or other means of security and access is controlled by the authority responsible for the location.

Ensure that the area where you install the system meets the following safety requirements:

- Near an adequate power source. Connect the system to the appropriate branch circuit protection as defined by your local electrical codes.
- Environmental temperature between 32° to 113°F (0° to 45°C).
- Relative humidity that does not exceed 85% noncondensing.
- In a dry, clean, well-ventilated and temperature-controlled room, away from heat sources or direct sunlight.
- Away from sources of severe electromagnetic noise.
- Positioned in a rack or cabinet, or on a desktop with adequate space around and behind the system for proper ventilation and access.

Cabinet Placement

Install the system only in indoor cabinets designed for use in a controlled environment. Do not install the switch in outside plant cabinets.

The cabinet must meet the minimum cabinet size and airflow are according to the Electronic Industries Alliance (EIA) standard.

Rack Mount

When you prepare your equipment rack, ensure that the rack is earth ground. Ground the equipment rack to the same ground point used by the power service in your area. The ground path must be permanent.

Install a S3100 Series System

To install a S3100 series system, Dell Networking recommends completing the installation procedures in the order presented. Always handle the system and its components with care. Avoid dropping the system or its field replaceable units (FRUs).

 **WARNING:** ESD damage can occur if components are mishandled. Always wear an ESD-preventive wrist or heel ground strap when handling the system and its components. As with all electrical devices of this type, take all the necessary safety precautions to prevent injury when installing this system.

Topics:

- [Unpacking a S3100 Series Switch](#)
- [Storing Components](#)
- [Installing a Power Supply](#)
- [Replacing a Power Supply](#)
- [Installing a Fan Tray](#)
- [Replacing a Fan Tray](#)
- [Installing a Plug-In Module \(Optional\)](#)
- [Install Rack or Cabinet Hardware](#)
- [Installing the Dell ReadyRails System](#)
- [Configuring a Two-Post Flush-Mount](#)
- [Configuring a Two-Post Center-Mount](#)
- [Configuring a Four-Post Thread](#)
- [Installing a 1U Two-Post](#)
- [Installing a 1U Front-Rack](#)
- [Connecting the Stacking Ports \(Optional\)](#)
- [Powering Up](#)
- [Accessing the Console](#)

Unpacking a S3100 Series Switch

To unpack your switch, follow these steps.

 **NOTE:** Before unpacking the switch, inspect the container and immediately report any evidence of damage.

When unpacking each S3100 series switch, make sure that the following items are included:

- One S3100 series switch.
 - One RJ-45 to DB-9 female cable.
 - One Dell ReadyRails™ kit for rack installation, two mounting brackets, bolts, and cage nuts.
 - One set of self-adhesive rubber pads for free-standing installation (four pads are included).
 - One PSU.
 - *Getting Started Guide*.
 - *Safety and Regulatory Information*.
 - *Warranty and Support Information*.
 - *Software License Agreement*.
1. Place the container on a clean, flat surface and cut all straps securing the container.
 2. Open the container or remove the container top.
 3. Carefully remove the switch from the container and place it on a secure and clean surface.
 4. Remove all packing material.
 5. Inspect the product and accessories for damage.

Storing Components

If you do not install your system and components immediately, Dell Networking recommends properly storing the system and all optional components until you are ready to install them.

Follow these storage guidelines:

- Storage temperature must remain constant ranging from –40° to 158°F (–40° to 70°C).
- Store on a dry surface or floor, away from direct sunlight, heat, and air conditioning ducts.
- Store in a dust-free environment.

 **WARNING:** ESD damage can occur when components are mishandled. Always wear an ESD-preventive wrist or heel ground strap when handling the system and its accessories. After you remove the original packaging, place the system and its components on an antistatic surface.

 **NOTE:** If you do not install all components, verify that protective covers on the chassis are in place.

Installing a Power Supply

To install a power supply, follow these steps.

 **CAUTION:** Remove the power cable from the power supplies prior to removing the power supply module itself. Power must not be connected prior to insertion in the chassis.

 **CAUTION:** To prevent electrical shock, ensure that the system is grounded properly. If you do not ground your equipment correctly, excessive emissions may result. To ensure that the power cables meet your local electrical requirements, use a qualified electrician.

 **WARNING:** ESD damage can occur if components are mishandled. Always wear an ESD-preventive wrist or heel ground strap when handling the system and its components.

 **NOTE:** The PSU slides into the slot smoothly. Do not force the PSU into a slot as this may damage the PSU or the chassis. Ensure that you install the PSU correctly. When you install the PSU correctly, the power connector is on the right side of the PSU.

 **NOTE:** The PSUs are field replaceable. When running with full redundancy (two power supplies installed and running), you can remove and replace one PSU while the other PSU is running, without disrupting traffic.

1. Remove the PSU slot cover from the PSU side of switch. You can select either of the two PSU slots, however, if you are using a single PSU, Dell Networking recommends using power supply 1 (PSU1) as the blank plate slot.
2. Remove the PSU from the electrostatic bag.
3. Insert the PSU into the switch PSU slot (insert the PSU-exposed PCB edge connector first). The PSU slot is keyed such that the PSU can only be fully inserted in one orientation.
4. Plug in the AC cord from the switch PSU to the external power source, such as an AC wall outlet.

 **NOTE:** The system powers up as soon as the cables are connected between the power supply and the power source. If you have not yet installed the switch in a rack, defer this step until you are ready to power up the system.

5. If you have a redundant PSU (a second PSU), repeat steps 1 through 4 using the second PSU slot on the S3100 series system.
6. If you use a single PSU, install a blank plate in the other PSU slot.

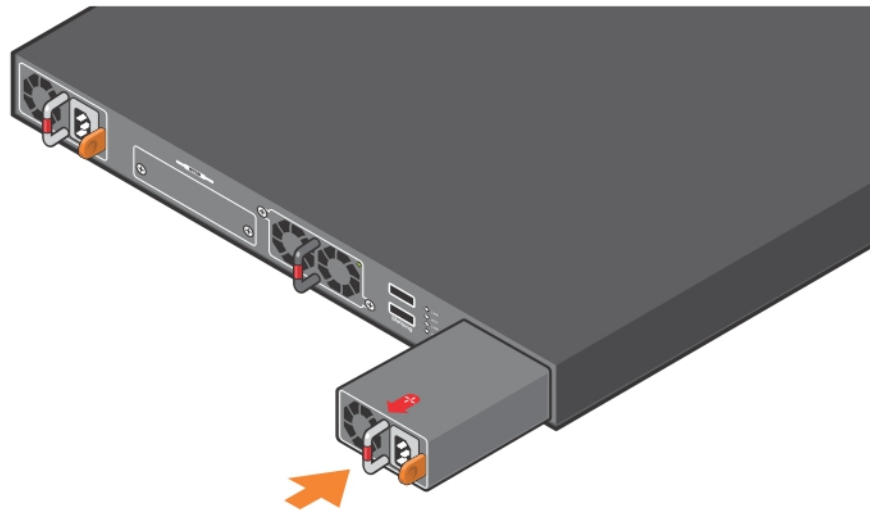


Figure 23. Installing a Power Supply

Replacing a Power Supply

To replace a power supply, follow these steps:

- NOTE:** If a PSU fails, you must completely replace it. There are no field serviceable components in the PSU. To request a replacement, see [Dell Networking Support](#).
 - NOTE:** If you use a single PSU, install a blank plate in the other PSU slot. Dell Networking recommends using power supply 1 (PSU1) as the blank plate slot.
 - NOTE:** The PSU slides into the slot smoothly. Do not force the PSU into a slot as this may damage the PSU or the chassis. Ensure that you install the PSU correctly. When you install the PSU correctly, the power connector is on the right side of the PSU.
 - NOTE:** The PSUs are field replaceable. When running with full redundancy (two power supplies installed and running), you can remove and replace one PSU while the other PSU is running, without disrupting traffic.
1. Disconnect the power cable from the failed PSU.
 2. Push the orange lever to unlock the failed PSU and then use the grab handle to slide it out of the power supply bay.
 3. Remove the replacement PSU from the electrostatic bag.
 4. Insert the replacement PSU into the switch PSU slot (insert the PSU-exposed PCB edge connector first). The PSU slot is keyed such that the PSU can only be fully inserted in one orientation.
 5. Plug in the AC cord from the switch PSU to the external power source, such as an AC wall outlet.
- NOTE:** The system powers up as soon as the cables are connected between the power supply and the power source. If you have not yet installed the switch in a rack, you can defer this step until after the switch is installed in a rack and you are ready to power up the system.

Installing a Fan Tray

To install a fan tray, follow these steps:

- NOTE:** The fan tray is hot-swappable.
1. Take the fan tray out of the shipping box.
 2. Use the grab handle on the fan tray to slide it into the bay.
 3. Tighten the captive screws on the fan tray with a screwdriver. Ensure that the fan tray is secure.

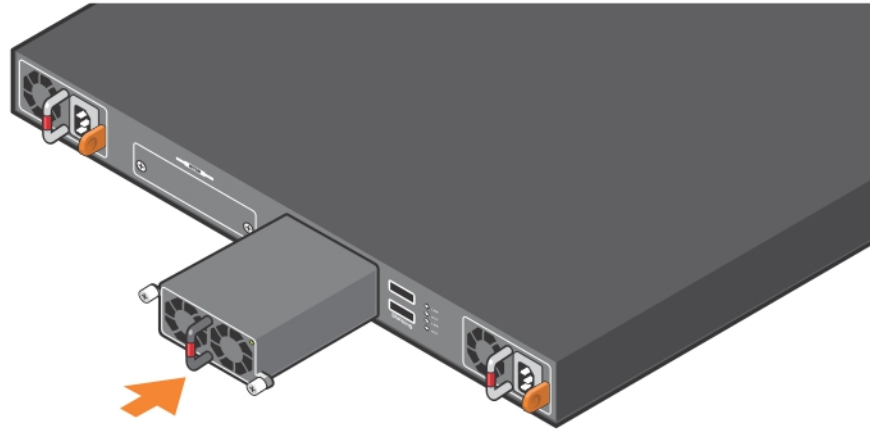


Figure 24. Installing a Fan Tray

Replacing a Fan Tray

To replace a fan tray, follow these steps:

- NOTE:** Environmental factors can decrease the amount of time required between fan replacements. Check the environmental factors regularly. An increase in temperature and/or particulate matter in the air might affect performance (for example, new equipment installation).
 - CAUTION:** Check the fans at six-month intervals and replace them as necessary. To accurately determine replacement intervals, monitor the speeds of the cooling fans regularly.
 - NOTE:** If a fan tray fails, you must completely replace it. There are no field serviceable components in the fan tray unit. To request a replacement, see [Dell Networking Support](#).
1. Loosen the securing screws on the sides of the failed fan tray.
 2. Use the grab handle to slide the fan tray out of the bay.
 3. Use the grab handle on the replacement fan tray to slide it into the bay.
 4. Tighten the captive screws on the replacement fan tray with a screwdriver. Ensure that the fan tray is secure.

Installing a Plug-In Module (Optional)

The S3100 series switches support SFP+ and 10GBase-T plug-in modules in the expansion slots on the PSU side of the switch.

- CAUTION:** The plug-in modules are not hot-swappable.

To install a plug-in module, follow these steps:

1. Insert the module into an expansion slot.
2. Reboot the switch.
The switch recognizes the new module.

After a module is recognized, its configuration is stored locally on the switch as the switch default. The module configuration appears in the running configuration for informational purposes. For more information, see the *Dell Configuration Guide for the S3100 Series*.

Install Rack or Cabinet Hardware

You may either place the switch on the rack shelf or mount the switch directly into a 19" wide, EIA-310-E-compliant rack (four-post, two-post, or threaded methods).

The ReadyRails system is provided for one 1U front-rack and two-post installations. The ReadyRails system includes two separately packaged rail assemblies.

 **WARNING:** This is a condensed reference. Read the safety instructions in your **Safety, Environmental, and Regulatory information booklet before you begin.**

 **NOTE:** The illustrations in this document are not intended to represent a specific switch.

 **NOTE:** Do not use the mounted ReadyRails as a shelf or a workplace.

Rack Mount Safety Considerations

- Rack loading — Overloading or uneven loading of racks may result in shelf or rack failure, this can cause damage to the equipment and possible personal injury. Stabilize racks in a permanent location before loading begins. Mount the components starting at the bottom of the rack, then work to the top. Do not exceed your rack load rating.
- Power considerations — Connect only to the power source specified on the unit. When you install multiple electrical components in a rack, ensure that the total component power ratings do not exceed the circuit capabilities. Overloaded power sources and extension cords present fire and shock hazards.
- Elevated ambient temperature — If you install the system in a closed rack assembly, the operating temperature of the rack environment may be greater than the room ambient temperature. Use care not to exceed the 40°C maximum ambient temperature of the switch.
- Reduced air flow — Install the equipment in the rack so that the amount of airflow required for safe operation of the equipment is not compromised.
- Reliable earthing — Maintain reliable earthing of rack-mounted equipment. Pay particular attention to the supply connections other than the direct connections to the branch circuit; for example, use of power strips.
- Do not mount the equipment with the PSU side facing in the downward position.

Installing the Dell ReadyRails System

The ReadyRails rack mounting system is provided to easily configure your rack for system installation.

You can install the ReadyRails system using the 1U tool-less method or one of three possible 1U tooled methods (two-post flush mount, two-post center mount, or four-post threaded).

1. With the ReadyRails flange ears facing outward, place one rail between the left and right vertical posts. Align and seat the rear flange rail pegs in the rear vertical post flange. Item 1 of the following illustration and its extractions show how the pegs appear in both the square and non-threaded round holes.
2. Align and seat the front flange pegs in the holes on the front side of the vertical post. See item 2 in the following illustration.
3. Repeat this procedure for the second rail.
4. To remove each rail, pull on the latch release button on each flange ear and unseat each rail. See item 3 in the following illustration.

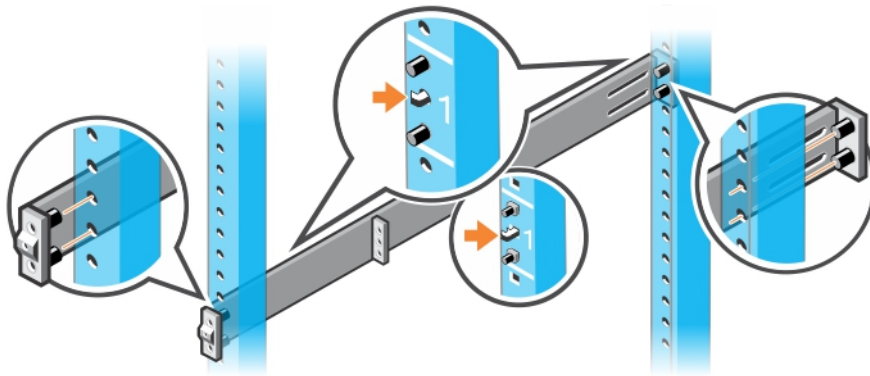


Figure 25. 1U Tool-Less Configuration

Configuring a Two-Post Flush-Mount

To install your switch using a two-post flush-mount configuration, follow these steps.

1. For this configuration, remove the castings from the front side of each ReadyRails assembly. See item 1 in the following illustration. To remove the two screws from each front flange ear (on the switch side of the rail) and remove each casting, use a Torx driver. Retain the castings for future rack requirements. It is not necessary to remove the rear flange castings.
2. Attach one rail to the front post flange with two user-supplied screws. See item 2 in the following illustration.
3. Slide the plunger bracket forward against the vertical post and secure the plunger bracket to the post flange with two user-supplied screws. See item 3 in the following illustration.
4. Repeat this procedure for the second rail.

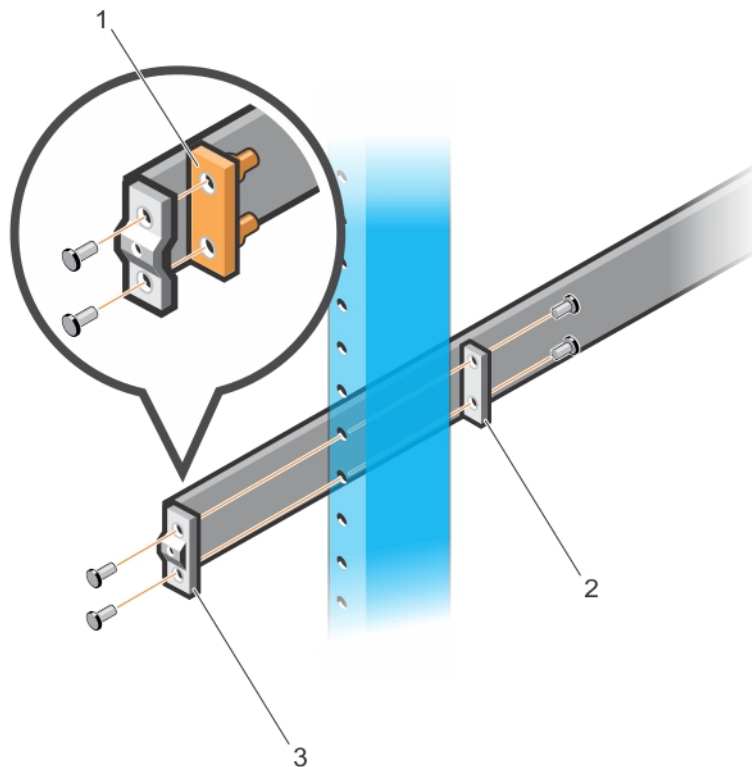


Figure 26. Installing the Switch using a Two-Post Flush-Mount Configuration

Configuring a Two-Post Center-Mount

To install your switch in a two-post center-mount configuration, follow these steps.

1. Slide the plunger bracket rearward until it clicks into place and secure the bracket to the front post flange with two user-supplied screws. See item 1 in the following illustration.
2. Slide the back bracket towards the post and secure it to the post flange with two user-supplied screws. See item 2 in the following illustration.
3. Repeat this procedure for the second rail.

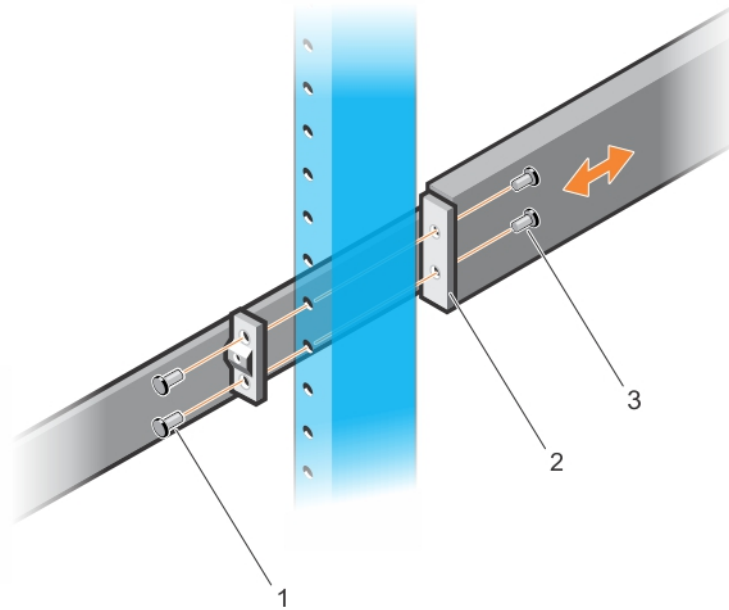


Figure 27. Installing the Switch in a Two-Post Center-Mount Configuration

Configuring a Four-Post Thread

To install your switch in a four-post thread configuration, follow these steps.

1. For this configuration, remove the flange ear castings from each end of the ReadyRails assemblies. To remove the two screws from each flange ear and remove each casting, use a Torx driver. See item 1 in the following illustration. Retain the castings for future rack requirements.
2. For each rail, attach the front and rear flanges to the post flanges with two user-supplied screws at each end. See item 2 in the following illustration.

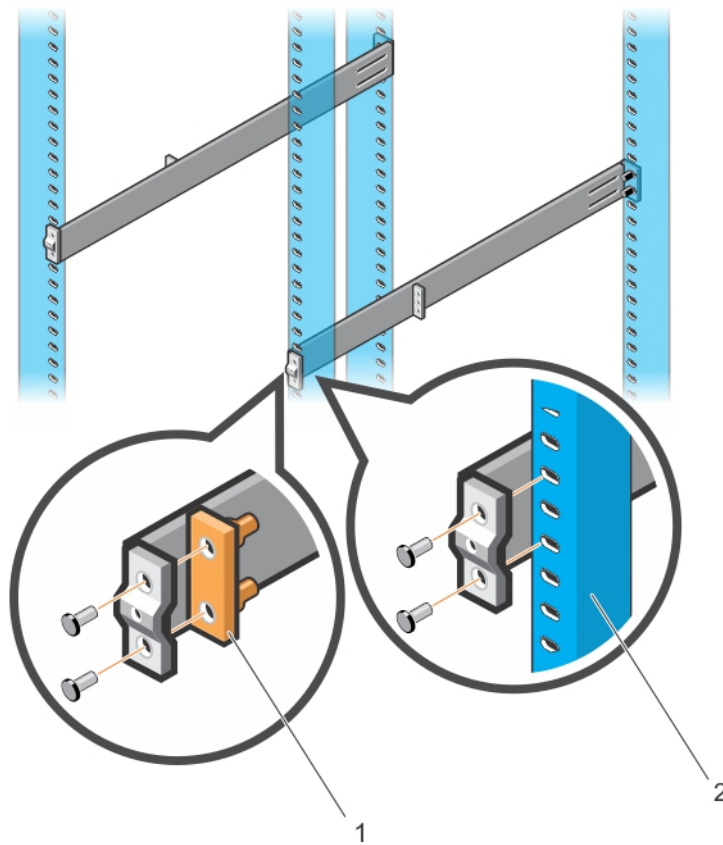


Figure 28. Four-Post Threaded Configuration

Installing a 1U Two-Post

You can install the switch in 1U two-post (flush and center) configurations. Slide the system into the rails in the same manner as the four-post configurations.

Installing a 1U Front-Rack

To install the switch in a 1U front-rack configuration, configure the rails that are attached to the system.

1. Attach the switch rails (inner chassis members) to the switch. Item 3 in the following illustration shows the detail for the front standoff with the locking tab.

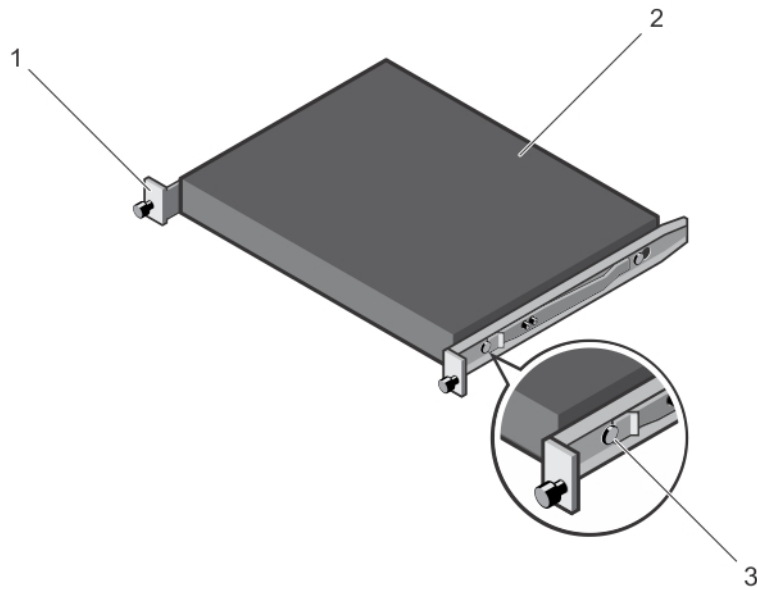


Figure 29. Attaching the Switch Rails

2. After you have installed both switch rails, line them up on the previously mounted ReadyRails and slide the switch in until it is flush with front of rack. About three inches before you fully insert your switch, the rail locking feature engages to keep the switch from inadvertently sliding out of the rack and falling.

NOTE: Do not use the mounted ReadyRails as a shelf or a workplace.

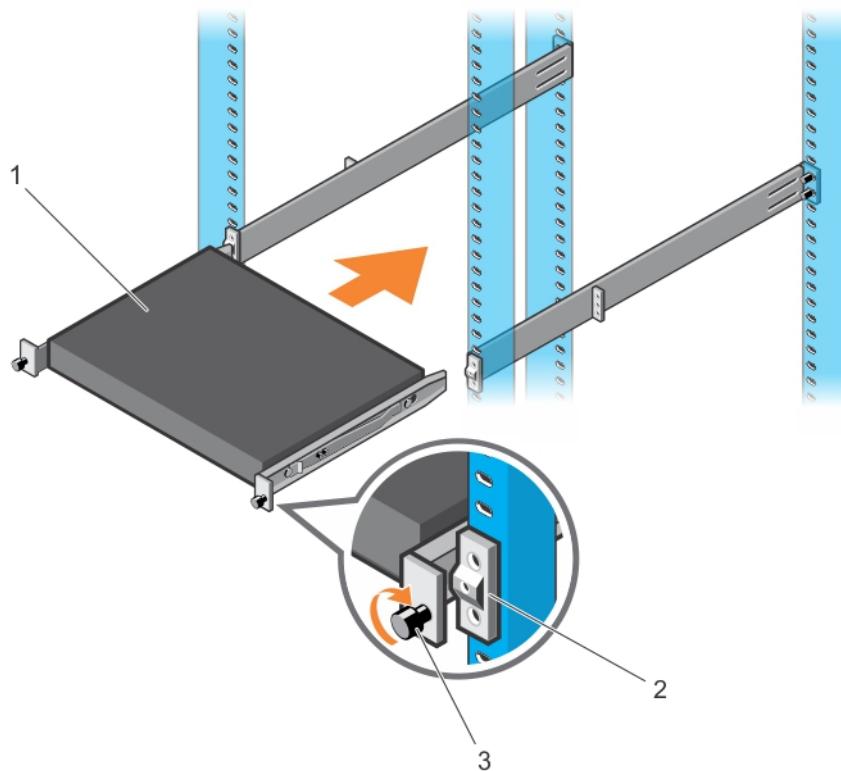


Figure 30. Installing the Switch in a Front-Rack Configuration

Connecting the Stacking Ports (Optional)

You can connect up to 12 switches to operate as a single unit, using two fixed Mini Serial Attached SCSI (miniSAS) stacking connectors on the PSU side. When you connect multiple switches together through the stack ports, the stack operates and is managed as a single entity. You can combine different platforms within the S3100 series into one stack.

Dell recommends installing the switches connected in a ring topology. Assemble and cable the stack of switches before powering up and configuring it.

To install your switches in a ring topology, follow these steps.

1. Connect one of the mini-SAS cables into either of the stacking ports of the top switch and the switch directly below it. As necessary, use a separately purchased, longer (1 meter or 3 meter) mini-SAS cable to connect the switches.
2. Repeat this process until all the devices are connected.
3. Use the remaining stacking cable to connect the two remaining stacking ports together so that a ring topology is assembled.

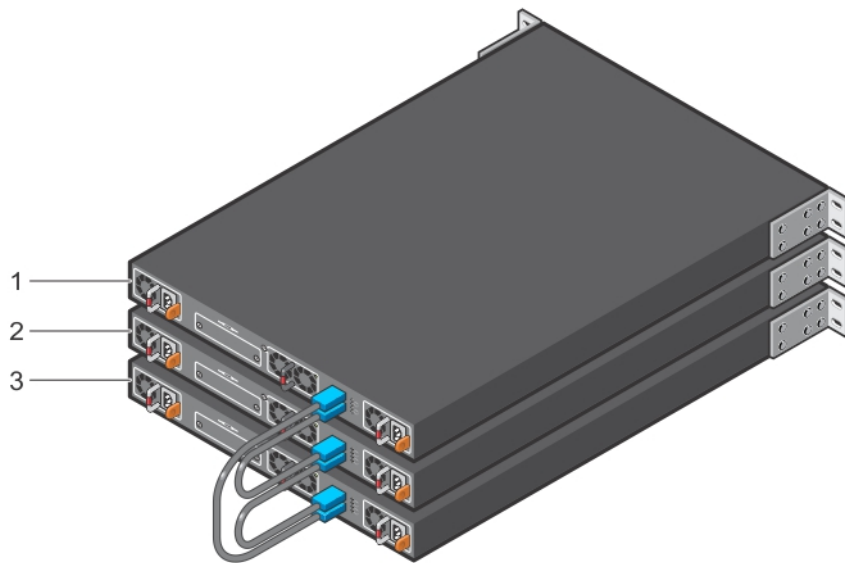


Figure 31. Connecting a Stack of Switches

A stack of three switches connected in a ring topology has these physical connections between the switches:

1. The bottom mini-SAS port on Unit 1 is connected to the top mini-SAS port on Unit 2.
2. The bottom mini-SAS port on Unit 2 is connected to the top mini-SAS port on Unit 3.
3. The bottom mini-SAS port on Unit 3 is connected to the top mini-SAS port on Unit 1.

After you power up a stack for the first time, the switches elect a master switch, which may occupy any location in the stack. The Master LED on the front panel is illuminated on the master unit.

If a master failure is detected in the stack, the stacking feature supports a standby unit that assumes the master unit role. The standby unit is automatically selected in the stack. When a master failure is detected, the standby unit initializes the control plane and enables all other stack units with the current configuration. The standby unit maintains a synchronized copy of the running configuration for the stack.

NOTE: You can (optionally) use the CLI to assign the master unit role, or select a different stack member as the standby unit, based on priority or MAC address. For more information, see the *Dell Configuration Guide for the S3100 Series* or the *Dell Command Line Reference Guide for the S3100 Series*.

Powering Up

To connect the chassis to the applicable power source, use the appropriate power cord. The system is powered up as soon as the power cord is connected between the system and the power source.

 **CAUTION:** Always disconnect the power cable before you service the power supply slots.

Accessing the Console

The console port is on the I/O side of the chassis (item 1 in the following illustration).

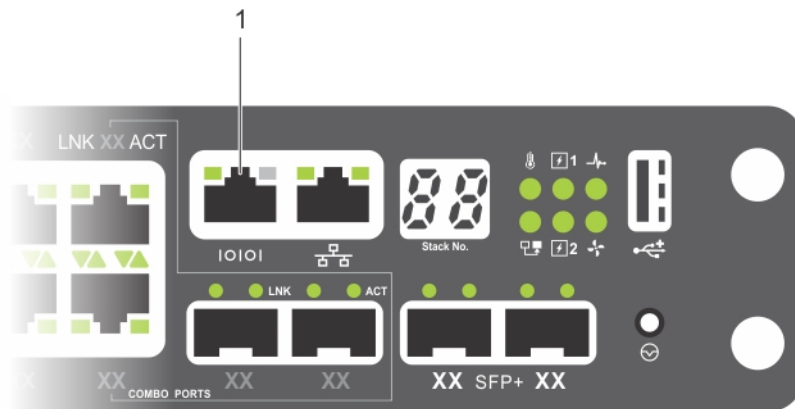


Figure 32. Console Port Location

-  **NOTE:** You must have a password configured on a virtual terminal line before you can Telnet into the system. Therefore, use a console connection when connecting to the system for the first time. Before starting this procedure, be sure that you have a terminal emulation program already installed on your PC.
-  **NOTE:** If you are configuring a stack of switches, serial console access to the stack manager is available from any serial port using the local CLI. Only one serial console session at a time is supported.

To access the console port, follow these steps.

1. Install an RJ-45 copper cable into the console port. To connect the console port to a terminal server, use a rollover cable.
2. Connect the other end of the cable to the DTE terminal server.
3. Set the default terminal settings as follows.
 - 9600 baud rate.
 - No parity.
 - Eight data bits.
 - One stop bit.
 - No flow control.

S3100 Series Technical Specifications

CAUTION: Operate the product at an ambient temperature not higher than 40°C.

CAUTION: Lithium Battery Caution: There is a danger of explosion if the battery is incorrectly replaced. Replace only with same or equivalent type. Dispose of the batteries according to the manufacturer's instructions.

Table 10. S3100 Series Chassis Physical Design

Parameter	Specifications
Height	1.71 inches (43.5 mm).
Width	17.09 inches (434 mm).
Depth	16.02 inches (407 mm).
Weight	S3124 — 13.45 lbs (6.1 kg). S3148 — 13.89 lbs (6.3 kg). S3124F — 13.45 lbs (6.1 kg). S3124P — 14.77 lbs (6.7 kg). S3148P — 15.65 lbs (7.1 kg).

Table 11. S3100 Series Environmental Parameters

Parameter	Specifications
Operating temperature	32° to 113°F (0° to 45°C).
Operating humidity	8% to 85% (RH), non-condensing.
Storage temperature	–40° to 158°F (–40° to 70°C).
Storage humidity	5% to 90% (RH), non-condensing.
Maximum thermal output	24 port — 137.88 BTU/hr. 48 port — 213.98 BTU/hr.
Maximum operational altitude	10,000 feet (3,048 meters)
Maximum non-operational altitude	39,370 feet (12,000 meters)

Table 12. S3100 Series Power Requirements

Parameter	Specifications
Power supply	100–240 VAC 50/60 Hz.
Maximum current draw per system (excluding PoE power)	24 port — 0.40 watts @40.41 watts/100vac, 0.20 watts @40.41 watts/200vac. 48 port — 0.63 watts @62.71 watts/100vac, 0.32 watts @62.71 watts/200vac.
Maximum power consumption (excluding PoE power)	63 Watts.

Table 13. PoE Power Consumption (S3124P and S3148P Platforms)

Platform	Input Voltage	Power Supply Configuration	Max Steady Current Consumption (A)	Max Steady Power (W)
S3124P	100V	PSU1+PSU2	13.1	1310.0
	110V	PSU1+PSU2	11.7	1287.0
	120V	PSU1+PSU2	10.6	1272.0
	220V	PSU1+PSU2	5.6	1232.0
	240V	PSU1+PSU2	5.2	1240.8
S3148P	100V	PSU1+PSU2	21.8	2180.0
	110V	PSU1+PSU2	19.5	2145.0
	120V	PSU1+PSU2	17.8	2136.0
	220V	PSU1+PSU2	9.31	2048.2
	240V	PSU1+PSU2	8.6	2064.0

Table 14. PoE Power Budget Limit — One PSU Support (S3124P and S3148P Platforms)

Platform	System Power Max. Dissipation	Max. PSU Output Ability	PoE+ Power Turn-on Limitation
S3124P	110V	715W	Power budget is 550W: The total PoE supplied power must not exceed 550W.
S3148P	140V	1100W	Power budget is 950W: The total PoE supplied power must not exceed 950W.

Table 15. PoE Power Budget Limit — Two PSUs Support (S3124P and S3148P Platforms)

Platform	System Power Max. Dissipation	Max. PSU Output Ability	PoE+ Power Turn-on Limitation
S3124P	110V	715W	Power budget is 1100W: All PoE+ ports can supply maximum power.
S3148P	140V	2200W	Power budget is 1900W: All PoE+ ports can supply maximum power.

NOTE: The switch firmware controls the PoE power budget for each interface. The administrator can limit the power supplied on a port or prioritize power to some ports over others. For more information, see the *Dell Command Line Reference Guide for the S3100 Series* and the *Dell Configuration Guide for the S3100 Series*.

Topics:

- [IEEE Standards](#)
- [Agency Compliance](#)
- [USA Federal Communications Commission \(FCC\) Statement](#)
- [European Union EMC Directive Conformance Statement](#)
- [India](#)
- [Japan: VCCI Compliance for Class A Equipment](#)
- [Korean Certification of Compliance](#)
- [Safety Standards and Compliance Agency Certifications](#)
- [Electromagnetic Compatibility \(EMC\)](#)
- [Product Recycling and Disposal](#)

IEEE Standards

The system complies with the following IEEE standards.

- 802.1AB LLDP
- 802.1ag Connectivity fault Management
- 802.1D Bridging, STP
- 802.1p L2 Prioritization
- 802.1Q VLAN Tagging, Double VLAN Tagging, GVRP
- 802.1s MSTP
- 802.1w RSTP
- 802.3ab Gigabit Ethernet (1000BASE-T)
- 802.3ac Frame Extensions for VLAN Tagging
- 802.3ad Link Aggregation with LACP
- 802.3ae 10 Gigabit Ethernet (10GBASE-X)
- 802.3az Energy Efficient Ethernet
- 802.3ba 40 Gigabit Ethernet (40GBase-SR4, 40GBase-CR4) on optical ports
- 802.3u Fast Ethernet (100BASE-TX)
- 802.3x Flow Control
- 802.3z Gigabit Ethernet (1000BASE-X)
- ANSI/TIA-1057 (LLDP-MED)
- Dell Networking (PVST+)
- MTU (12,000 bytes)

Agency Compliance

 **WARNING:** ESD damage can occur if components are mishandled. Always wear an ESD-preventive wrist or heel ground strap when handling the system and its components.

USA Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designated to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy. If it is not installed and used in accordance to the instructions, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to take whatever measures necessary to correct the interference at their own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Dell Networking is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications in the equipment. Unauthorized changes or modification could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Industry Canada Class A emission compliance statement

This Class A digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Figure 33. Canadian Department of Communication Statement

European Union EMC Directive Conformance Statement

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility. Dell Networking cannot accept responsibility for any failure to satisfy the protection requirements resulting from a nonrecommended modification of this product, including the fitting of non-Dell Networking option cards.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 22/European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

NOTE: This is a Class A product. In a domestic environment, this device may cause radio interference, in which case, you may be required to take adequate measures.

Additional information can be found at http://www.dell.com/regulatory_compliance

India

This product conforms to the relevant Essential Requirements of TEC, Department of Telecommunications, Ministry of Communications, Govt of India, New Delhi-110001.

Japan: VCCI Compliance for Class A Equipment

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Figure 34. Japan: VCCI Compliance for Class A Equipment

This is Class A product based on the standard of the Voluntary Control Council For Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

NOTE: Use the AC power cords with Dell Networking equipment only. Do not use Dell Networking AC power cords with any unauthorized hardware.

本製品に同梱いたしております電源コードセットは、本製品専用です。本電源コードセットは、本製品以外の製品ならびに他の用途でご使用いただくことは出来ません。製品本体には同梱された電源コードセットを使用し、他製品の電源コードセットを使用しないで下さい。

Figure 35. Japan: Warning Label

Korean Certification of Compliance

A급 기기 (업무용 방송통신기자재)	이 기기는 업무용(A급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.
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Figure 36. Korean Certification of Compliance

	 [equipment type]
품명(Product Name)	Ethernet Switch
모델명(Model)	[model number]
신청인(Applicant)	Force10 Networks, Inc.
제조사(Manufacturer)	Delta Networks, (Dongguan) Ltd.
제조년월(Manufacturing Date)	[date]
제조국(Country of Origin)	China

Figure 37. Korean Package Label

Safety Standards and Compliance Agency Certifications

- CUS UL 60950-1, 2nd Edition
- CSA 60950-1-03, 2nd Edition
- EN 60950-1, 2nd Edition
- EN 60825-1, 1st Edition
- EN 60825-1 Safety of Laser Products — Part 1: Equipment Classification Requirements and User's Guide
- EN 60825-2 Safety of Laser Products — Part 2: Safety of Optical Fibre Communication Systems
- FDA Regulation 21CFR 1040.10 and 1040.11
- IEC 60950-1, 2nd Ed, including all National Deviations and Group Differences

Electromagnetic Compatibility (EMC)

Emissions

- International: CISPR 22: 2008, Class A
- Australia/New Zealand: AS/NZS CISPR 22:2009, Class A
- Canada: ICES-003, Issue-4, Class A

- Europe: EN55022: 2010 (CISPR 22: 2008), Class A
- Europe: EN 55032: 2012, Class A
- Japan: VCCI V-3/2011.04 Class A
- USA: FCC CFR47 Part 15, Subpart B, Class A

Immunity

- EN 300 386 v1.6.1(2012–09) EMC for Network Equipment
- EN55022 2006, Class A
- EN 55024: 2010
- EN 61000-3-2 Harmonic Current Emissions
- EN 61000-3-3 Voltage Fluctuations and Flicker
- EN 61000-4-2 ESD
- EN 61000-4-3 Radiated Immunity
- EN 61000-4-4 EFT
- EN 61000-4-5 Surge
- EN 61000-4-6 Low Frequency Conducted Immunity

Product Recycling and Disposal

You must recycle or discard this system according to applicable local and national regulations. Dell Networking encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. Dell Networking offers a variety of product return programs and services in several countries to assist equipment owners in recycling their IT products.

Waste Electrical and Electronic Equipment (WEEE) Directive for Recovery, Recycle and Reuse of IT and Telecommunications Products

Dell Networking switches are labeled in accordance with European Directive 2002/96/EC concerning waste electrical and electronic equipment (WEEE). The Directive determines the framework for the return and recycling of used appliances as applicable throughout the European Union. This label is applied to various products to indicate that the product is not to be thrown away, but rather reclaimed upon end of life per this Directive.



Figure 38. The European WEEE Symbol

In accordance with the European WEEE Directive, electrical and electronic equipment (EEE) is to be collected separately and to be reused, recycled, or recovered at end of life. Users of EEE with the WEEE marking per Annex IV of the WEEE Directive, as shown above, must not dispose of end of life EEE as unsorted municipal waste, but use the collection framework available to customers for the return, recycling and recovery of WEEE. Customer participation is important to minimize any potential effects of EEE on the environment and human health due to the potential presence of hazardous substances in EEE.

Dell Networking products, which fall within the scope of the WEEE, are labeled with the crossed-out wheelie-bin symbol, as shown above, as required by WEEE.

To access information on Dell Networking product recycling offerings, go to <https://www.dell.com/support/>.

Dell Networking Support

The Dell Networking Support site provides a range of documents and tools to assist you with using Dell Networking equipment and mitigating the impact of network outages. Through the support site you can obtain technical information regarding Dell Networking products, access software upgrades and patches, download available management software, and manage your open cases. The Dell Networking support site provides integrated, secure access to these services.

To access the Dell Networking Support site, go to <https://www.dell.com/support/>. To display information in your language, scroll down to the bottom of the web page and select your country from the drop-down menu.

- To obtain product-specific information, enter the 7-character service tag or 11-digit express service code of your S3100 series system and click **Submit**.
- To receive additional kinds of technical support, click **Contact Us**. On the Contact Information web page, click **Technical Support**.

To access S3100 series documentation, go to <https://www.dell.com/manuals/>.

To search for drivers and downloads, go to <https://www.dell.com/drivers/>.

To participate in Dell community blogs and forums, go to <https://www.dell.com/community>.

Topics:

- [Luggage Tag](#)

Luggage Tag

The S3100 series systems have a pull-out tag (known as a luggage tag) on the PSU side of the system.

1. Service Tag
2. PPID
3. Express Service Code
4. MAC Address