



FortiSwitch-500

Version 4.0 MR1

Install Guide

FortiSwitch-500 Install Guide

Version 4.0 MR1

Revision 2

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Regulatory compliance

FCC Class A Part 15 CSA/CUS

CAUTION: Risk of explosion if battery is replaced by incorrect type. Dispose of used batteries according to Instructions.

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1 Introduction

1.1 Scope

This document describes the process of installing the FortiSwitch-500 Ethernet Fabric Switch, up to and including the configuration of the management IP address and default gateway. Additional information regarding FortiSwitch-500 is found in the following documents:

- **FortiSwitch-500 Configuration Guide** Configuration procedures for the FortiSwitch-500 unit
- **FortiSwitch-500 CLI Reference** Full description of the FortiSwitch-500 CLI commands

1.2 Audience

This guide is intended for use by “service personnel” as defined in section 1.1 of IEC 60950: trained and experienced technicians aware of the hazards involved in Ethernet switch installation and maintenance and capable of minimizing the related dangers to themselves and others. Only such service personnel should undertake the installation or servicing of the FortiSwitch-500.

1.3 Registering your Fortinet product

Before you begin, take a moment to register your Fortinet product at the Fortinet Technical Support web site, <https://support.fortinet.com>.

Many Fortinet customer services, such as firmware updates, technical support, and FortiGuard Antivirus and other FortiGuard services, require product registration.

For more information, see the Fortinet Knowledge Center article [Registration Frequently Asked Questions](#).

1.4 Customer Service and Technical Support

Fortinet Technical Support provides services designed to make sure that your Fortinet products install quickly, configure easily, and operate reliably in your network.

To learn about the technical support services that Fortinet provides, visit the Fortinet Technical Support web site at <https://support.fortinet.com>.

You can dramatically improve the time that it takes to resolve your technical support ticket by providing your configuration file, a network diagram, and other specific information. For a list of required information, see the Fortinet Knowledge Center article [What does Fortinet Technical Support require in order to best assist the customer?](#)

1.5 Training

Fortinet Training Services provides classes that orient you quickly to your new equipment, and certifications to verify your knowledge level. Fortinet provides a variety of training programs to serve the needs of our customers and partners world-wide.

To learn about the training services that Fortinet provides, visit the Fortinet Training Services web site at <http://campus.training.fortinet.com>, or email them at training@fortinet.com.

1.6 Fortinet Documentation

The Fortinet Technical Documentation web site, <http://docs.fortinet.com>, provides the most up-to-date versions of Fortinet publications, as well as additional technical documentation such as technical notes.

In addition to the Fortinet Technical Documentation web site, you can find Fortinet technical documentation on the Fortinet Tools and Documentation CD, and on the Fortinet Knowledge Center.

1.6.1.1 Fortinet Tools & Documentation CD

Many Fortinet publications are available on the Fortinet Tools and Documentation CD shipped with your Fortinet product. The documents on this CD are current at shipping time. For current versions of Fortinet documentation, visit the Fortinet Technical Documentation web site, <http://docs.fortinet.com>.

1.6.1.2 Fortinet Knowledge Base

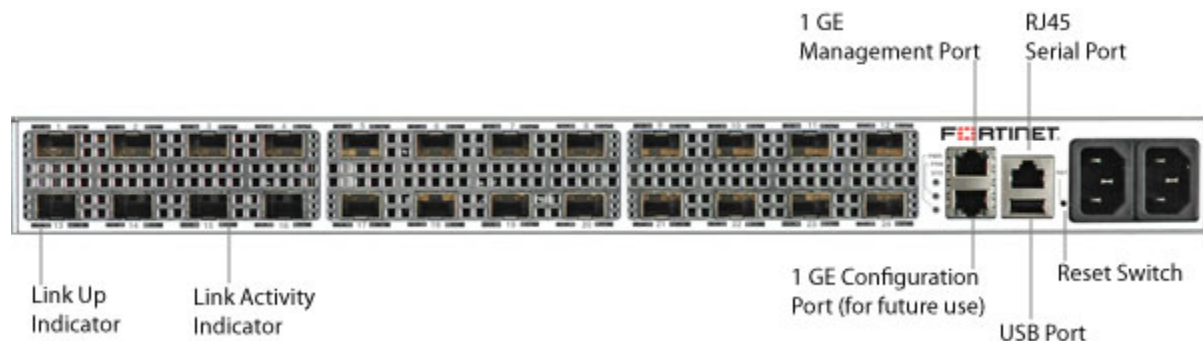
The Fortinet Knowledge Base provides additional Fortinet technical documentation, such as troubleshooting and how-to-articles, examples, FAQs, technical notes, a glossary, and more. Visit the Fortinet Knowledge Base at <http://kb.fortinet.com>.

1.6.1.3 Comments on FortiMail technical documentation

Please send information about any errors or omissions in this document to techdoc@fortinet.com.

2 Switch Overview

2.1 Front of Chassis



FS-500-SFP-24

Front of the FortiSwitch-500 chassis showing 24 SFP optical transceivers. The FortiSwitch-500 is also available with 24 CX4 ports (FS-500-CX4-24), half SFP and half CX4 (FS-500-CX4-12-SFP-12), or 16 CX4 and 8 SFP (FS-500-CX4-16-SFP-8). All FortiSwitch-500s have the same motherboard, but different configurations of daughter cards, each with four ports of the same type (all CX4 or all SFP). **Note:** the daughter cards are not designed to be swapped out, and should be left in their factory configuration.

All connections to the FortiSwitch-500 are on the front of the chassis for ease of access, and the chassis itself can be mounted in either direction in the rack to allow it to convenient connected to devices of various configurations.

1 GE Management Port: Ethernet port for out-of-band management of the switch. To configure the switch via the management network port, an IP address must be configured on the port by accessing the switch through the serial port or connecting the switch to a network with a DHCP server.

1 GE Configuration Port: This port is reserved for future functionality.

Reset Switch: Recessed switch used to force a reset of the FortiSwitch-500.

USB 2.0 Port: Connection port for an external USB drive.

IEC 320 C14 AC Plugs: Separate AC plugs for each power supply. Must be attached to a grounded power source; they also supply the grounding for the chassis.

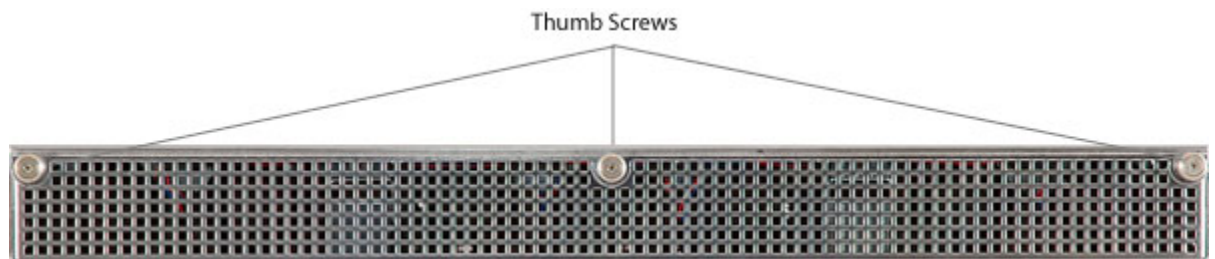
LEDs: For full description of LED states, see Appendix 1: LED States on page 20.

RJ45 Console (Serial) Port: RJ-45 serial port used for direct configuration of the switch by connection to a laptop or other external control device. The settings for the serial connection are an initialized baud-rate of 115200, 8 bit, no parity, and no flow control. The table below shows the pinout of the serial console port connector:

Pin	Signal	Direction
1	NC	Not Connected
2	DTR	Output from card

3	TXD	Output from card
4	GND	
5	GND	
6	RXD	Input to card
7	DSR	Input to card
8	NC	Not Connected

2.2 Back of Chassis



FS-500-SFP-24

The back of the FortiSwitch-500. There are three thumb screws on the chassis back which allow the user to open the access panel to reverse the fan direction.

Note: All connection points are on the front of the chassis.

2.3 Fan Assembly Unit

FS-500-FAN-ASSEMBLY

The fan assembly unit in the FortiSwitch-500 contains paired, counter-rotating fans for stability and redundancy. If one fan in the unit dies, the other can continue to provide air flow for that channel. If any fan is out, however, the FAN status light on the front panel will turn amber to indicate a failure state.

The fans are the only customer-serviceable part of the system, and can be either removed for replacement or service or reversed to change the airflow direction of the system as described below.

2.3.1 Reversing Airflow Direction

The fan tray can be installed in either direction, and should always be oriented to direct airflow toward the hot aisle in the data center. The default direction of airflow is from the front of the chassis (the side with the I/O ports) toward the rear vents. If it is necessary to reverse the airflow direction, proceed as follows:

1. **Power down the chassis.** The fan tray is not designed to be hot-swappable, and the system must be powered down before attempting this adjustment.
2. Remove chassis from rack if necessary for access to the top panel.
3. Remove the three thumb screws on the back and open the access panel on the top of the chassis.
4. Lift out the fans and orient them as needed. The arrows on the fan tray indicate the direction of airflow.

2.4 Power Supply

The FortiSwitch-500 contains two *non-user-serviceable* 500 W power supplies with separate AC plugs, either of which is capable of powering the switch alone. When both are operational, the power needs of the switch are shared between both supplies.

3 Site Preparation

3.1 Safety Considerations

Please see “Appendix 3: Regulatory Compliance and Safety Considerations” on page 22 for regulatory and safety information.

3.2 Environmental Considerations

The maximum recommended ambient temperature for the FortiSwitch-500 during operation is 40 degrees C. Please note, though, that in a multi-unit rack assembly, temperatures in the rack environment can be greater than room ambient: room temperatures below 40 degrees C are often required.

Rack assembly must be configured to avoid blockage of intake and exhaust registers; a minimum of 6 inches of clearance is required from the front and rear of the FortiSwitch-500 to ensure adequate air flow through the system.

The FortiSwitch-500 can be mounted facing in either direction; be sure that the fan tray is correctly oriented to directed air flow toward the hot aisle of the data center (see “Reversing Airflow Direction” on page 10 for details).

3.3 Rack Requirements

The FortiSwitch-500 chassis is 63.57 cm 25" deep and occupies 1RU (rack unit) of rack space. It is shipped with two fixed brackets and two adjustable brackets to accommodate rack depths from 24 to 30 inches.

Ensure that adequate racking is available to safely support the chassis with 6" clearance in front and in back for airflow and cabling. Install chassis supports or shelving in rack before preparing to mount switch.

3.3.1 Switch Dimensions

Height: 1 RU; 4.45 cm (1.75 inches)

Depth: 71.12 cm (28 inches)

Width: 43.82 cm (17.25 inches)

3.4 Power Requirements and Redundancy

3.4.1 Power Overview

Please consult section 8.3.9 on Power (page 25) before connecting the switch to an AC power source.

Each power supply shipped with the FortiSwitch-500 provides a maximum of 500 W DC power; each is rated to 7.1 A maximum, requiring a circuit breaker rated to at least 10 A in Northern American and European Union installations.

3.4.1.1 Peak Input AC Current per Power Supply

7.1 A at 100 V-240 V AC

3.4.2 Feed-Level Redundancy

For the highest level of power redundancy, the switch must be connected to two independent sources of AC power. In addition to the primary AC power source, this requires a second feed from a different power substation or an in-house generator or other grid-independent source of dependable AC power. Connecting one 500W power supply to each of the two independent AC feeds (attached to separate circuit breakers) provides feed-level redundancy.

3.4.3 Circuit Breaker-Level Redundancy

If feed-level redundancy is impossible or unnecessary for your installation, Fortinet recommends establishing circuit breaker-level redundancy by putting each power supply on a separate circuit-breaker.

4 Mounting the Switch

The FortiSwitch-500 can be mounted facing either direction, and the direction of airflow can be reversed to keep air moving toward the hot aisle of the data center. The switch must be supported at all four corners, and a variety of mounting options allow it to fit rack depths from 24 to 30 inches.

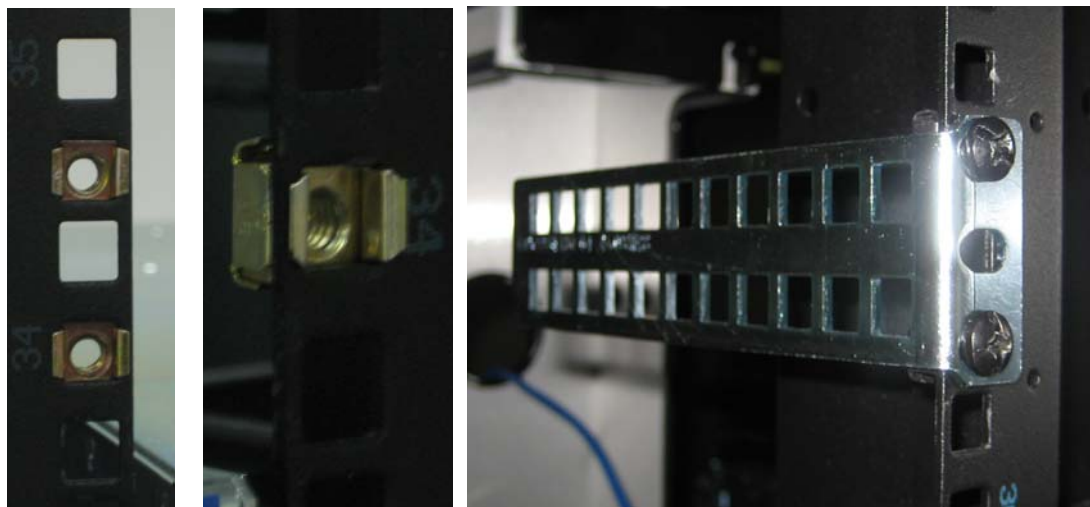
4.1 Preparing the Rack

The following procedures assume that the operator has completed adequate site preparation as described in the preceding chapter.

NOTE: Prior to touching or handling the switch or any of its components, ensure that the equipment is protected against all forms of electrostatic discharge (ESD). Personnel must ground themselves before handling the switch or its components.

4.1.1 Attach Support Arms to Rack

The FortiSwitch-500 ships with two fixed brackets and two adjustable brackets. The adjustable brackets consist of a support arm attached to the rack and a sleeve attached to the switch. Before mounting the switch, position the included cage nuts and attach the support arms to the rack as shown below. **Note:** The fixed bracket is usually attached at the front of the switch for ease of access.



4.2 Mounting the Switch

4.2.1 Attach Support Brackets to Switch

Using the supplied screws, attach the two fixed brackets and the sleeves for the adjustable brackets to the switch itself. By reversing the direction in which the brackets are attached to the switch, the switch can be made to fit rack depths from 24 to 30 inches.

To minimize the depth of the switch, orient the brackets toward the center of the switch as shown below:



To maximize the depth of the switch, orient the brackets toward the edges of the switch as shown below:



4.2.2 Position and Attach the Switch

Fortinet recommends a minimum of two people to position and install the FortiSwitch-500. Guide the attached sleeves of the adjustable brackets onto the support arms already attached to the rack (see below), then screw the fixed brackets to the rack on the opposite side.



4.2.3 Connect to Grounded AC Power Source

The grounding for the FortiSwitch-500 is supplied by connection to a grounded AC power source. Before connecting the power supplies to AC power, ensure that the AC power supply is fully grounded.

Use only copper conductors for supply and ground wiring.

5 Configuring the IP Address and Default Gateway

In order to configure or otherwise manage the FortiSwitch-500 without the use of a console directly attached to the serial console port, an IP address must first be configured on the switch to allow access via telnet or SSH session.

5.1 Initial Switch Configuration

5.1.1 Connecting to the Serial Port

Until inband or out-of-band management has been established, initial configuration of the switch must be performed via the RJ45 console (serial) port (see the “front of chassis” illustration on page 8). The serial cable provided with the switch can connect to a standard DB9 serial port on an older PC; newer computers may require a USB-serial converter (not included).

The settings for the serial connection are an initialized baud-rate of 115200, 8 bit, no parity, and no flow control. The table below shows the pinout of the serial console port connector:

Pin	Signal	Direction
1	NC	Not Connected
2	DTR	Output from card
3	TXD	Output from card
4	GND	
5	GND	
6	RXD	Input to card
7	DSR	Input to card
8	NC	Not Connected

5.2 Management and IP Addressing Options

5.2.1 Inband vs. Out-of-Band Management

The FortiSwitch-500 may be managed inband or out-of-band, with out-of-band management typically being performed via the 1 GE management port on the front of the switch (see page 8 for details). Fortinet recommends use of out-of-band management to allow uninterrupted access to the switch in the event of a broadcast storm.

5.2.2 DHCP vs. Static IP Addressing

The FortiSwitch-500 is configured to seek an IP address via DHCP by default, but a static IP address can also easily be manually configured on the switch. If the network administrator wishes to always access the switch by a consistent IP address, Fortinet recommends manually configuring a static management IP address.

5.3 IP Address Configuration

5.3.1 Configuring an IP Address via DHCP

5.3.1.1 Setting the IP Address

By default, the FortiSwitch-500 will attempt to acquire an IP address automatically via DHCP once the switch is running and a network cable is plugged into the management network port. If the management network port is connected to a network which includes a functioning DHCP server, an IP address for the management network port should be automatically configured on the switch.

5.3.1.2 Finding the Assigned IP Address

If the DHCP-assigned management IP address for the switch cannot be easily deduced from the network, it can be found through the CLI:

1. Log into the switch (see 5.3.2.1 below).
2. Type **show mgmt-ip service-port** to display configuration information for the management service port, including the management IP address.

5.3.2 Manually Configuring a Static IP Address

The process below assumes that the operator is configuring the switch for out-of-band management. In-band management is disabled on the switch by default; information on configuring in-band management can be found in the *CLI Reference Guide* in the section describing the **mgmt-ip inband** command.

5.3.2.1 Logging in to the Switch

The switch is factory configured with a single administrator-level login account. To log in to the switch for the first time with administrative privileges:

1. Ensure that the switch has been turned on and allowed to boot up.
2. Connect a console to the serial console port (see page 8). The settings for the serial connection are an initialized baud-rate of 115200, 8 bit, no parity, and no flow control.
3. Type **admin** for the user name, and hit enter for the password (the default account has no associated password).

5.3.2.2 Setting the IP Address, Netmask and Gateway

Once logged in to the CLI, use the following steps to enter static IP address details for the management network port:

1. Type **enable** to enter Enable Mode.
2. Type **config** to enter Config Mode.

-
3. Type **mgmt-ip service-port ip** *<ip_address><netmask><gateway>* where *<ip_address>* is the static IP address you wish to configure on the management network port for out-of-band management of the switch.

6 Appendix 1: LED States

LED	State	Meaning	State	Meaning	Notes
LNK	green	Connection is made, synched and ready.	off	The link is not up.	
ACT	blinking green	This link is currently passing traffic.	off	No traffic on the link.	Green ACT light may be constantly on at high data rates.
PWR	green	Both power supplies are functioning normally.	amber	One or both power supplies are not functioning normally.	Power supplies on the FortiSwitch-500 are <i>not</i> field replaceable. Return switch to Fortinet for service.
FAN	green	All fans are running normally.	amber	One or more fans are not running normally.	Fans are installed in counter-rotating pairs, so airflow is maintained after failure of any single fan, but prompt replacement of the entire fan unit is recommended when any anomaly is detected.
SYS	green	System as a whole is running normally.	amber	One or more system components are not running normally.	Consult other LEDs to help identify the source of the problem.

7 Appendix 2: Updating the System Image

The software image of the most recent approved GA software at ship time is provided on a USB flash drive already installed in the switch, so installation of an updated system image is only necessary if you need features which are not available in the shipped version of the software.

7.1 Image Update Procedure

7.1.1 Download Image

Contact Fortinet Technical Support to download the appropriate system images to a local FTP or TFTP server on your network. Fortinet recommends installing the image onto the switch from a local server on your network to reduce the number of hops in the final installation process and ensure higher data integrity in the image.

7.1.2 Load Image onto Switch

If using FTP, type the **ftp** command in File Mode to open a connection to the local FTP server onto which you've downloaded the image and copy the image to the switch using standard FTP commands.

If using TFTP, use the **tftp get** command to copy the image from the local TFTP server onto which you've downloaded the image as follows:

1. Access the CLI with admin privileges, and type **enable** to access Enable Mode.
2. Type **file** to access File Mode.
3. To load the image from your TFTP server, type **tftp get <ip_address>:<file_path>/<file_name> [target_file]** where **<ip_address>:<file_path>** is the IP address and file path of the local FTP server location of the new image file, **<file_name>** is the name of the new image and **<target_file>** is the file name on the FortiSwitch-500.

7.1.3 Set System Images

Set the newly downloaded image as the system image by using the **system image** command. From File Mode, type **system image <file_name>** (where **<file_name>** is the name of the new system image) to set the system image for the switch.

7.1.4 Reload System

Finish the process by resetting the switch.

1. From File Mode, type **exit** to access Enable Mode.
2. Type **reload** to reset the switch without power cycling. This command terminates all network connections and loads the settings from the startup-config file.

8 Appendix 3: Regulatory Compliance and Safety Considerations

8.1 Agency Approvals

8.1.1 Safety

- UL 60950-1 / CSA 22.2 No. 60950-1; Safety of Information Technology Equipment
- EN / IEC 60950-1; Safety of Information Technology Equipment
- 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 Fiber Communication Systems

8.1.2 EMI

- FCC Part 15 Class A
- ICES-003 Class A
- EN 300 386 Class A
- EN 55022 Class A
- EN 61000-3-2
- EN 61000-3-3

8.1.3 Immunity

- EN 300 386
- EN 55024
- EN 61000-4-2; Electrostatic Discharge (ESD) Immunity
- EN 61000-4-3; Radiated RF Immunity
- EN 61000-4-4; Electrical fast Transients (EFT) Immunity
- EN 61000-4-5; Electrical Surge Immunity
- EN 61000-4-6; Conducted Immunity
- EN 61000-4-8; Magnetic Field Immunity
- EN 61000-4-11; Power Voltage Dips Immunity

8.2 EMC Compliance Statements

8.2.1 United States

This equipment has been tested and found to comply with the limits for Class A digital devices, pursuant to part 15 of the FCC Rules. These limits are designed 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 and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense. Changes or modifications to this equipment not expressly approved by the party responsible for compliance to FCC part 15 could void the user's authority to operate the equipment.

8.2.2 European Union

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

8.2.3 Canada

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

8.3 General Safety Guidelines

8.3.1 Installation Environment

The maximum recommended ambient temperature for the FortiSwitch-500 during operation is 40 degrees C.

Since a chassis can be installed into a multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum recommended ambient temperature of 40 deg C.

Installation of the chassis in a rack assembly should be such that the amount of air flow required for safe operation of the equipment is not compromised (that is, no blockage of intake or exhaust registers). A minimum of 6 inches of clearance is required from the front and rear of the FortiSwitch-500 to ensure adequate air flow through system.

8.3.2 Mechanical

Mounting of the FortiSwitch-500 in the rack assembly should be such that a hazardous condition is not achieved due to uneven mechanical loading.

8.3.3 Electrical Rating

The FortiSwitch-500's electrical ratings should be considered when connecting to the power supply circuits. Consideration must be given to the effect that overloading of circuits may have on overcurrent protection and supply wiring.

8.3.4 Grounding

Reliable earthing (grounding) of the FortiSwitch-500 chassis through the AC power cord(s) should be maintained.

8.3.5 Metallic Interfaces

FortiSwitch-500 metallic interfaces are suitable for connection to intrabuilding or non-exposed wiring or cabling only.

8.3.6 Fuse Replacement

FortiSwitch-500 circuit boards are provided with fuses and holders. Fortinet does not recommend replacement of damaged or blown fuses, as none of the circuit boards are meant to be field replaceable units. It is recommended that the circuit board be returned to Fortinet for repair/replacement if found to be non-functional.

8.3.7 LASER Safety

CLASS 1 LASER PRODUCT: FortiSwitch-500 circuit boards may be equipped with optical communication transmitters which have been evaluated and found to be in compliance with requirements found within 21 CFR (FDA-CDRH) and EN 60825-1 for Class 1 laser devices.

WARNING: While Class 1 laser products are considered to be "eye safe" without the need for additional protection, when working around the circuit boards, the following general safety guidelines should be observed to reduce the risk of eye injury:

- Do not look or stare into unterminated optical fiber ports or at fibers that are connected to a source.
- Do not examine unterminated optical fiber ports or optical fibers that are connected to a source with optical instruments. The use of optical instruments (e.g. magnifying glass) with this product may increase eye hazard.
- Adjustments/settings, maintenance, operational parameters and procedures other than those specified and allowed herein and on the rating plate of the FortiSwitch-500 may result in increased eye hazard.
- Do not attempt to perform any repair or maintenance on optical communications components. Repairs and maintenance outside that which is allowed herein must be performed only by an authorized repair facility.

8.3.8 Restricted Access Location

The FortiSwitch-500 is intended to be installed only in a RESTRICTED ACCESS LOCATION.

A RESTRICTED ACCESS LOCATION is defined as an area where access can be gained only by SERVICE PERSONNEL who have been instructed about the reasons for the restrictions applied to the location and about any precautions that must be taken.

RESTRICTED ACCESS LOCATIONS can be accessed only through the use of a tool or lock and key or other means of security, and are controlled by the authority responsible for the location.

SERVICE PERSONNEL are defined as persons having appropriate technical training and experience necessary to be aware of hazards to which they are exposed in performing a task and of measures to minimize the danger to themselves or other persons.

8.3.9 Power

Each chassis has two AC power supply connections. A minimum of one branch circuit is required when the input voltage range is 100-180 Vac or 200-240 Vac. Each branch circuit overcurrent protection must be Listed to at least 10A for North America and European Union (EU) installation. A readily accessible disconnect device that is suitably approved and rated should be incorporated in the facility wiring. All power connections must be removed to completely de-energize the unit.

Before conducting non-operational work or maintenance on the FortiSwitch-500, completely remove all power from the unit. The circuit breakers feeding the chassis when opened, will de-energize circuitry beyond the breakers.

When performing work/maintenance on the FortiSwitch-500 during operation, SERVICE PERSONNEL should use caution as there are Hazardous Energy levels present within the chassis.

8.3.10 Supply and Chassis Ground Wiring

Use only copper conductors for supply and ground wiring.

The power supplies are designed to accept UL/CSA rated power cords with IEC 60320 C13 plugs. Specific conductor size and type should be in accordance with NEC/CEC requirements.

8.4 General Operational and Maintenance Guidelines

The following guidelines are designed to help ensure the safety of the people working on or around the FortiSwitch-500 (such as technicians or installers) and are also designed to protect the routing equipment.

Installation of the FortiSwitch-500 should be performed only by a qualified technician.

- Do not wear conductive items such as watches, bracelets, rings, or other jewelry when working with the FortiSwitch-500.
- The installation area should be kept dust-free at all times.
- Never attempt to lift an object that may be too heavy.
- Keep tools and other equipment out of walkways where people could trip on them.

8.4.1 Electrical Safety

WARNING: Disconnect all power supplies before performing non-operational servicing.

The FortiSwitch-500 is **NOT** designed to be upgraded while the system is operational. The only aspect of the unit that is designed to be modified in the field is the orientation of the fan tray assembly to accommodate airflow direction. This field reconfiguration must take place when the unit is powered down. The following guidelines are designed to help ensure the safety of

technicians working with the equipment, prevent occurrences of electric shock, and to mitigate the risk of damaging the equipment:

- Never assume a circuit is disconnected from the power source. Always verify that all circuits have been disconnected before work begins.
- Know the location of the emergency power-off switch at the facility before work on the FortiSwitch-500 begins. The readily accessible disconnect device shall be incorporated in the building installation wiring.
- Never work alone when connecting power cables to the FortiSwitch-500.
- Examine all equipment and components for possible hazards, such as moistness, loose cabling, or improper grounding.
- Never install damaged equipment.

8.4.2 ESD

The FortiSwitch-500 is sensitive to electrostatic discharge (ESD). It is important to take the necessary precautions before working on a system. The following guidelines will help reduce the risk of an ESD event damaging the electronics of a system:

- Make sure the chassis is properly grounded before handling any electronic components (the FortiSwitch-500 is provided with attachment points on the rear of the chassis for the connection of a grounding cable).
- Always wear an ESD-preventative wrist strap.
- Make sure the wrist strap makes adequate contact with your skin. An ESD wrist strap tester is recommended.