paloalto TECHDOCS

PA-3200 Series Next-Gen Firewall Hardware Reference

EoS

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About the Documentation

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Before You Begin

Read the following topics before you install or service a Palo Alto Networks® next-generation firewall or appliance.**The following topics apply to all Palo Alto Networks firewalls and appliances except where noted.**

- Upgrade/Downgrade Considerations for Firewalls and Appliances
- Tamper Proof Statement
- Third-Party Component Support
- Product Safety Warnings

Upgrade/Downgrade Considerations for Firewalls and Appliances

The following table lists all hardware features that have upgrade or downgrade impact. Make sure you understand all upgrade/downgrade considerations before you upgrade or downgrade from the specified version of PAN-OS.

Feature	Release	Upgrade Considerations	Downgrade Considerations
PA-7000 Log Forwarding Card (LFC)	10.0	If you are using an LFC with a PA-7000 Series Firewall, when you upgrade to PAN-OS 10.0, you must configure the management plane or dataplane interface for the service route because the LFC ports do not support the requirements for the service route. We recommend using the dataplane interface for the Data Services service route.	n/a
Upgrading a PA-7000 Series Firewall with a first generation switch management card (PA-7050-SMC or PA-7080-SMC)	PAN-OS 8.0 and later	Before upgrading the firewall, run the following CLI command to check the flash drive's status: **debug system disk-smart-info disk-1**. If the value for attribute ID #232, **Available_Reservd_Space 0x0000**, is greater than 20, then proceed with the upgrade. If the value is less than 20, then contact support for assistance.	Before downgrading the firewall, run the following CLI command to check the flash drive's status: **debug system disk-smart-info disk-1**. If the value for attribute ID #232, **Available_Reservd_Space 0x0000**, is greater than 20, then proceed with the downgrade. If the value is less than 20, then contact support for assistance.

Tamper Proof Statement

To ensure that products purchased from Palo Alto Networks were not tampered with during shipping, verify the following upon receipt of each product:

- The tracking number provided to you electronically when ordering the product matches the tracking number that is physically labeled on the box or crate.
- The integrity of the tamper-proof tape used to seal the box or crate is not compromised.
- The integrity of the warranty label on the firewall or appliance is not compromised.

(PA-7000 Series firewalls only) PA-7000 Series firewalls are modular systems and therefore do not include a warranty label on the firewall.

Third-Party Component Support

Before you consider installing third-party hardware, read the Palo Alto Networks Third-Party Component Support statement.

Product Safety Warnings

To avoid personal injury or death for yourself and others and to avoid damage to your Palo Alto Networks hardware, be sure you understand and prepare for the following warnings before you install or service the hardware. You will also see warning messages throughout the hardware reference where potential hazards exist.

> 📋 *All Palo Alto Networks products with laser-based optical interfaces comply with 21 CFR 1040.10 and 1040.11.*

The following safety warnings apply to all Palo Alto Networks firewalls and appliances, unless a specific hardware model is specified.

- When installing or servicing a Palo Alto Networks firewall or appliance hardware component that has exposed circuits, ensure that you wear an electrostatic discharge (ESD) strap. Before handling the component, make sure the metal contact on the wrist strap is touching your skin and that the other end of the strap is connected to earth ground.

  French Translation: Lorsque vous installez ou que vous intervenez sur un composant matériel de pare-feu ou de dispositif Palo Alto Networks qui présente des circuits exposés, veillez à porter un bracelet antistatique. Avant de manipuler le composant, vérifiez que le contact métallique du bracelet antistatique est en contact avec votre peau et que l'autre extrémité du bracelet est raccordée à la terre.

- Use grounded and shielded Ethernet cables (when applicable) to ensure agency compliance with electromagnetic compliance (EMC) regulations.

  French Translation: Des câbles Ethernet blindés reliés à la terre doivent être utilisés pour garantir la conformité de l'organisme aux émissions électromagnétiques (CEM).

- (PA-3200, PA-5200, PA-5400, PA-7050, and PA-7080 firewalls only) At least two people are recommended for unpacking, handling, and relocating the heavier firewalls.

- Do not connect a supply voltage that exceeds the input range of the firewall or appliance. For details on the electrical range, refer to electrical specifications in the hardware reference for your firewall or appliance.

  French Translation: Veillez à ce que la tension d'alimentation ne dépasse pas la plage d'entrée du pare-feu ou du dispositif. Pour plus d'informations sur la mesure électrique, consulter la rubrique des caractéristiques électriques dans la documentation de votre matériel de pare-feu ou votre dispositif.

- (Devices with serviceable batteries only) Do not replace a battery with an incorrect battery type; doing so can cause the replacement battery to explode. Dispose of used batteries according to local regulations.

  French Translation: Ne remplacez pas la batterie par une batterie de type non adapté, cette dernière risquerait d'exploser. Mettez au rebut les batteries usagées conformément aux instructions.

- I/O ports are intended for intra-building connections only and not intended for OSP (Outside Plant) connections or any network connections subject to external voltage surge events.

•	(All Palo Alto Networks appliances with two or more power supplies)
	Caution: Shock hazard
	Disconnect all power cords (AC or DC) from the power inputs to fully de-energize the hardware.
	French Translation: (Tous les appareils Palo Alto Networks avec au moins deux sources d'alimentation) Débranchez tous les cordons d'alimentation (c.a. ou c.c.) des entrées d'alimentation et mettez le matériel hors tension.
•	(PA-7000 Series firewalls only)
	Caution: High touch current
	Connect to earth before connecting to the power supply.
	Ensure that the protective earthing conductor is connected to the provided ground lug on the rear side of the firewall.
•	(PA-7000 Series firewalls only) When removing a fan tray from a PA-7000 Series firewall, first pull the fan tray out about 1 inch (2.5cm) and then wait a minimum of 10 seconds before extracting the entire fan tray. This allows the fans to stop spinning and helps you avoid serious injury when removing the fan tray. You can replace a fan tray while the firewall is powered on but you must replace it within 45 seconds and you can only replace one fan tray at a time to prevent the thermal protection circuit from shutting down the firewall.
	French Translation: (Pare-feu PA-7000 uniquement) Lors du retrait d'un tiroir de ventilation d'un pare-feu PA-7000, retirez tout d'abord le tiroir sur 2,5 cm, puis patientez au moins 10 secondes avant de retirer complètement le tiroir de ventilation. Cela permet aux ventilateurs d'arrêter de tourner et permet d'éviter des blessures graves lors du retrait du tiroir. Vous pouvez remplacer un tiroir de ventilation lors de la mise sous tension du pare-feu. Toutefois, vous devez le faire dans les 45 secondes et vous ne pouvez remplacer qu'un tiroir à la fois, sinon le circuit de protection thermique arrêtera le pare-feu.

The following applies only to Palo Alto Networks firewalls that support a direct current (DC) power source:

French Translation: Les instructions suivantes s'appliquent uniquement aux pare-feux de Palo Alto Networks prenant en charge une source d'alimentation en courant continu (c.c.):

- Do not connect or disconnect energized DC wires to the power supply.

    French Translation: Ne raccordez ni débranchez de câbles c.c. sous tension à la source d'alimentation.

- The DC system must be earthed at a single (central) location.

    French Translation: Le système c.c. doit être mis à la terre à un seul emplacement (central).

- The DC supply source must be located within the same premises as the firewall.

    French Translation: La source d'alimentation c.c. doit se trouver dans les mêmes locaux que ce pare-feu.

- The DC battery return wiring on the firewall must be connected as an isolated DC (DC-I) return.

    French Translation: Le câblage de retour de batterie c.c. sur le pare-feu doit être raccordé en tant que retour c.c. isolé (CC-I).

- The firewall must be connected either directly to the DC supply system earthing electrode conductor or to a bonding jumper from an earthing terminal bar or bus to which the DC supply system earthing electrode conductor is connected.

    French Translation: Ce pare-feu doit être branché directement sur le conducteur à électrode de mise à la terre du système d'alimentation c.c. ou sur le connecteur d'une barrette/d'un bus à bornes de mise à la terre auquel le conducteur à électrode de mise à la terre du système d'alimentation c.c. est raccordé.

- The firewall must be in the same immediate area (such as adjacent cabinets) as any other equipment that has a connection between the earthing conductor of the DC supply circuit and the earthing of the DC system.

    French Translation: Le pare-feu doit se trouver dans la même zone immédiate (des armoires adjacentes par exemple) que tout autre équipement doté d'un raccordement entre le conducteur de mise à la terre du même circuit d'alimentation c.c. et la mise à la terre du système c.c.

- Do not disconnect the firewall in the earthed circuit conductor between the DC source and the point of connection of the earthing electrode conductor.

    French Translation: Ne débranchez pas le pare-feu du conducteur du circuit de mise à la terre entre la source d'alimentation c.c. et le point de raccordement du conducteur à électrode de mise à la terre.

- Install all firewalls that use DC power in restricted access areas only. A restricted access area is where access is granted only to craft (service) personnel using a special tool, lock and key, or other means of security, and that is controlled by the authority responsible for the location.

    French Translation: Tous les pare-feux utilisant une alimentation c.c. sont conçus pour être installés dans des zones à accès limité uniquement. Une zone à accès limité correspond à une zone dans laquelle l'accès n'est autorisé au personnel (de service) qu'à l'aide d'un outil spécial,

cadenas ou clé, ou autre dispositif de sécurité, et qui est contrôlée par l'autorité responsable du site.

- Install the firewall DC ground cable only as described in the power connection procedure for the firewall that you are installing. You must use the American wire gauge (AWG) cable specified and torque all nuts to the torque value specified in the installation procedure for your firewall.

  French Translation: Installez le câble de mise à la terre c.c. du pare-feu comme indiqué dans la procédure de raccordement à l'alimentation pour le pare-feu que vous installez. Utilisez le câble American wire gauge (AWG) indiqué et serrez les écrous au couple indiqué dans la procédure d'installation de votre pare-feu pare-feu.

- The firewall permits the connection of the earthed conductor of the DC supply circuit to the earthing conductor at the equipment as described in the installation procedure for your firewall.

  French Translation: Ce pare-feu permet de raccorder le conducteur de mise à la terre du circuit d'alimentation c.c. au conducteur de mise à la terre de l'équipement comme indiqué dans la procédure d'installation du pare-feu.

- A suitably-rated DC mains disconnect device must be provided as part of the building installation.

  French Translation: Un interrupteur d'isolement suffisant doit être fourni pendant l'installation du bâtiment.

PA-3200 Series Firewall Overview

The Palo Alto Networks® PA-3200 Series next-generation firewalls are designed for data center and internet gateway deployments. This series is comprised of the PA-3220, PA-3250, and PA-3260 firewalls. These models provide flexibility in performance and redundancy to help you meet your deployment requirements. All models in this series provide next-generation security features to help you secure your organization through advanced visibility and control of applications, users, and content.
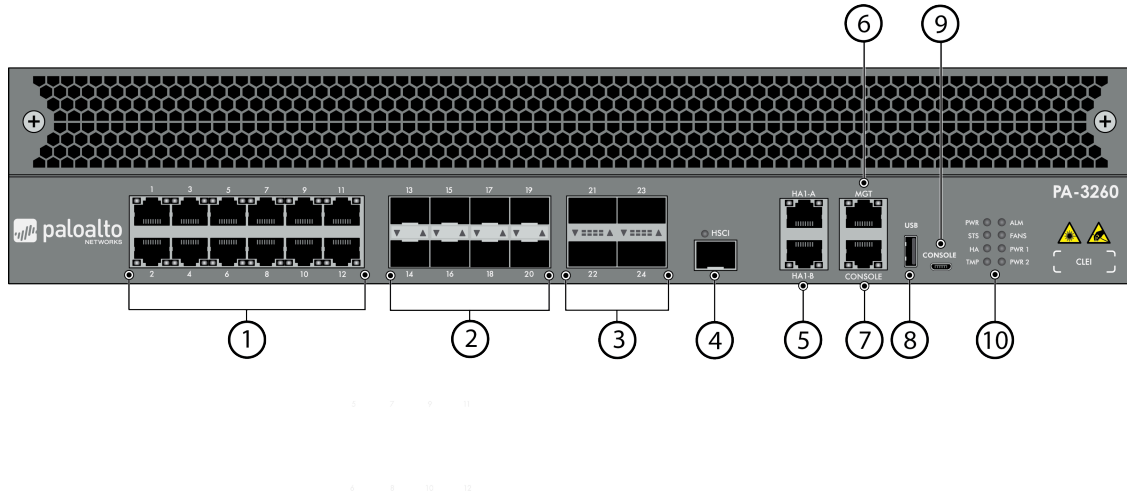
First Supported Software Release: PAN-OS® 8.1

The following topics describe the hardware features of PA-3200 Series firewalls. To view or compare performance and capacity information, refer to the Product Selection tool.

- PA-3200 Series Front Panel
- PA-3200 Series Back Panel

PA-3200 Series Front Panel

The following image shows the front panel of the PA-3200 Series firewall and the table describes each front panel component. The only differences between the PA-3220, PA-3250, and PA-3260 (shown) front panels are the model name and the Ethernet ports, as described in the table.

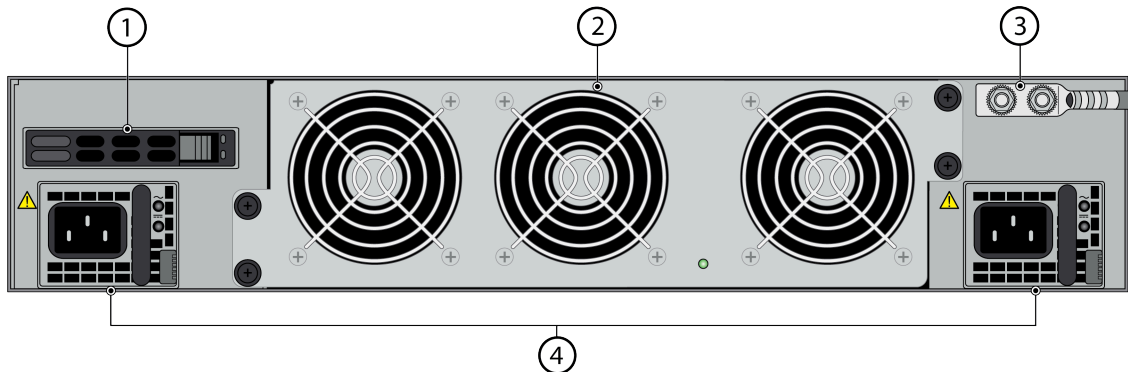| Item	Component	Description
1	Ethernet ports 1 through 12	Twelve RJ-45 10Mbps/100Mpbs/1Gbps ports for network traffic. The link speed and link duplex are auto-negotiate only.
2	SFP ports 13 through 20	These ports vary depending on your firewall model: • **PA-3220 firewall**—Ports 13 through 16 are SFP (1Gbps) and ports 17 through 20 are SFP or SFP+ (10Gbps) based on the installed transceiver. • **PA-3250 and PA-3260 firewalls**—Ports 13 through 20 are SFP (1Gbps) or SFP+ (10Gbps) based on the installed transceiver.
3	QSFP+ ports 21 through 24	(PA-3260 only) Four QSFP+ (40Gbps) ports as defined by the IEEE 802.3ba standard.
4	HSCI port	One SFP+ (10Gbps) port (supports only an SFP+ transceiver or passive SFP+ cable). Use this port to connect two PA-3200 Series firewalls in a high availability (HA) configuration as follows: • In an active/passive configuration, this port is for HA2 (data link).

Item	Component	Description
		• In an active/active configuration, you can configure this port for HA2 and HA3. HA3 is used for packet forwarding for asymmetrically routed sessions that require Layer 7 inspection for App-ID and Content-ID. *The HSCI ports must be connected directly between the two firewalls in the HA configuration (without a switch or router between them). When directly connecting the HSCI ports between two PA-3200 Series firewalls that are physically located near each other, Palo Alto Networks recommends that you use a passive SFP+ cable.* *For installations where the two firewalls are not near each other and you cannot use a passive SFP+ cable, use a standard SFP+ transceiver and the appropriate cable length.*
5	HA1-A and HA1-B ports	Two RJ-45 10Mbps/100Mbps/1000Mbps ports for high availability (HA) control. *To support high availability over a long distance, you must use an external device such as a dry VLAN.* *If the firewall dataplane restarts due to a failure or manual restart, the HA1-B link will also restart. If this occurs and the HA1-A link is not connected and configured, then a split brain condition occurs. Therefore, we recommend that you connect and configure the HA1-A ports and the HA1-B ports to provide redundancy and to avoid split brain issues.*
6	MGT port	Use this Ethernet 10Mbps/100Mbps/1000Mbps port to access the management web interface and perform administrative tasks. The firewall also uses this port for management services, such as retrieving licenses and updating threat and application signatures.

Item	Component	Description
7	CONSOLE port (RJ-45)	Use this port to connect a management computer to the firewall using a 9-pin serial-to-RJ-45 cable and terminal emulation software.
		The console connection provides access to firewall boot messages, the Maintenance Recovery Tool (MRT), and the command line interface (CLI).
		📋 *If your management computer does not have a serial port, use a USB-to-serial converter.*
		Use the following settings to configure your terminal emulation software to connect to the console port:
		• Data rate: 9600
		• Data bits: 8
		• Parity: None
		• Stop bits: 1
		• Flow control: None
8	USB port	A USB port that accepts a USB flash drive with a bootstrap bundle (PAN-OS configuration).
		Bootstrapping speeds up the process of configuring and licensing the firewall to make it operational on the network with or without internet access.
9	CONSOLE port (Micro USB)	Use this port to connect a management computer to the firewall using a standard Type-A USB-to-micro USB cable.
		The console connection provides access to firewall boot messages, the Maintenance Recovery Tool (MRT), and the command line interface (CLI).
		Refer to the Micro USB Console Port page for more information and to download the Windows driver or to learn how to connect from a Mac or Linux computer.
10	LED status indicators	Eight LEDs that indicate the status of the firewall hardware components (see Interpret the PA-3200 Series Status LEDs).

PA-3200 Series Back Panel

The following image shows the back panel of the PA-3200 Series firewall and the table describes each back-panel component. The PA-3220, PA-3250, and PA-3260 back-panel components are identical.

Item	Component	Description
1	System drive	One 240GB solid-state drive (SSD) used to store the PAN-OS system files, system logs, and network traffic logs.
2	Exhaust fan tray	Provides ventilation and cooling for the firewall.
3	Ground studs	Use the two-post ground stud to connect the firewall to earth ground. The firewall ships with a 6AWG two-post ground lug (attached to the ground studs) but does not include a ground cable.
4	PS1 and PS2 power supplies	Use the power supply inputs (either AC or DC depending on the installed power supply type) to connect power to the firewall. The second power supply is for redundancy. When facing the back of the firewall, PS1 is on the left and PS2 is on the right.

Install the PA-3200 Series Firewall in an Equipment Rack

The PA-3200 Series next-generation firewall ships with two rack-mount brackets for installation in a two-post or four-post 19" equipment rack. If you install the firewall in a four-post rack, you can purchase and install the optional four-post rack kit to secure the firewall to the back rack posts for additional support.

- Install the PA-3200 Series Firewall Using the Rack-Mount Brackets
- Install the PA-3200 Series Firewall Using the Four-Post Rack Kit

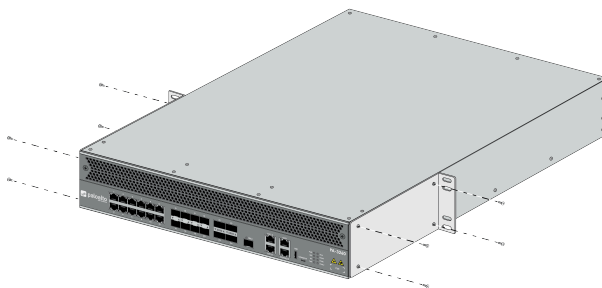# Install the PA-3200 Series Firewall Using the Rack-Mount Brackets

The following procedure describes how to install the PA-3200 Series firewall in a two-post or four-post equipment rack using the front rack-mount brackets that ship with the firewall. If you install the firewall in a four-post equipment rack and you want to attach the firewall to both front and rear posts, you can Install the PA-3200 Series Firewall Using the Four-Post Rack Kit (sold separately).
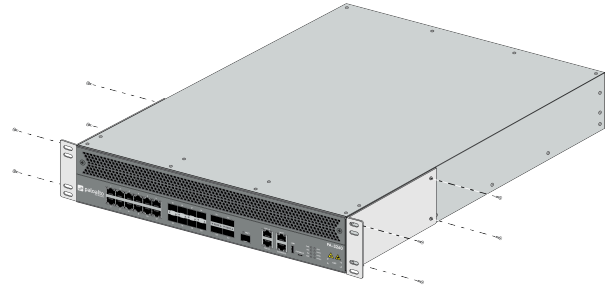
⊖ *When you install the firewall in a two-post equipment rack, ensure that the rack is properly anchored and can support the weight of the installed equipment without tipping.*

STEP 1 | Attach one rack-mount bracket to each side of the firewall using four #8-32 x 5/16" screws for each bracket and torque each screw to 15 in-lbs. You can install the rack-mount brackets in the front-mount or mid-mount positions to install the firewall in either a two-post or four-post equipment rack but we recommend the following:

- **Two-post rack**—Install the brackets in the mid-mount position.
- **Four-post rack**—Install the brackets in the front-mount position.


Brackets in Mid-Mount Position   Brackets in Front-Mount Position

STEP 2 | With help from another person, hold the firewall in the rack and secure the rack-mount brackets to the rack posts using four screws for each bracket. Use the appropriate screws

(#10-32 x 3/4" or #12-24 x 1/2") for your rack and torque each screw to 25 in-lbs. Use cage nuts (not provided) to secure the screws if the rack has square holes.
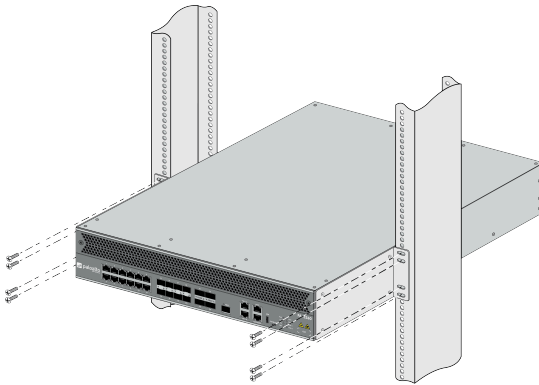

Two-Post Rack Installation
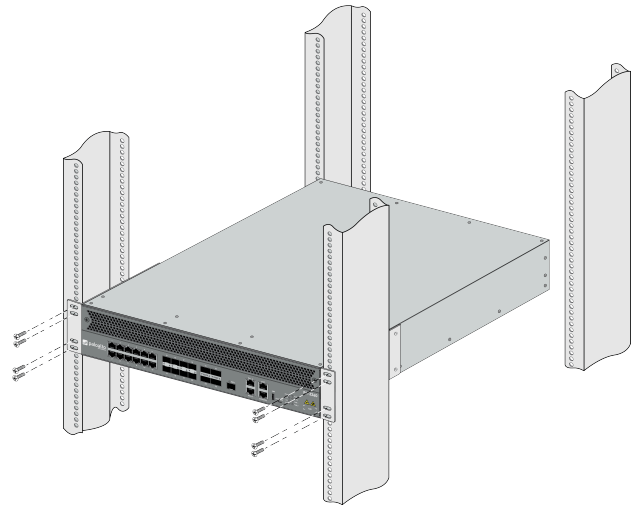
Four-Post Rack Installation

# Install the PA-3200 Series Firewall Using the Four-Post Rack Kit

The following procedure describes how to install the PA-3200 Series firewall in a 19" four-post equipment rack using the optional four-post rack kit (PAN-PA-2RU-RACK4). This kit is designed to provide additional support for the back of the firewall.

STEP 1 | Remove the front rack-mount brackets that ship with the firewall (if installed). For details about the front rack-mount brackets, see Install the PA-3200 Series Firewall Using the Rack-Mount Brackets.

STEP 2 | Attach one four-post side rack-mount rail to each side of the firewall. Use four #8-32 x 5/16" screws for the front four screw holes in each side rail and three #6-32 x 5/16" screws for the back three screw holes and torque each screw to 15 in-lbs.


#6-32 x 5/16"
Screws

#8-32 x 5/16"
Screws
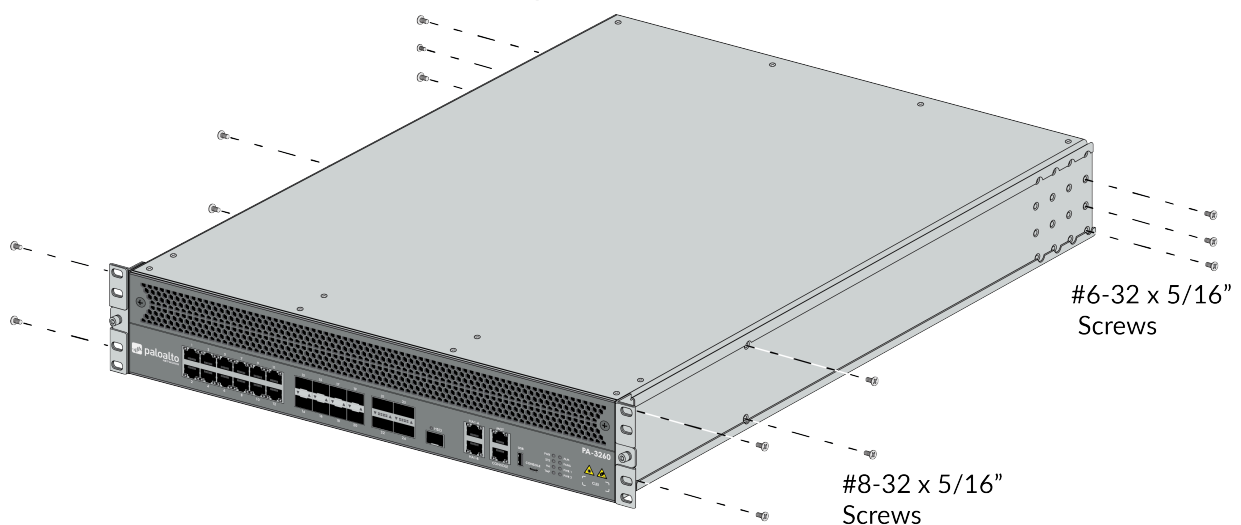
STEP 3 | With help from another person, hold the firewall in the rack and secure the side rails to the front rack-posts using four screws for each rail. Use the appropriate screws (#10-32 x

3/4" or #12-24 x 1/2") for your rack and torque each screw to 25 in-lbs. Use cage nuts (not provided) to secure the screws if the rack has square holes.
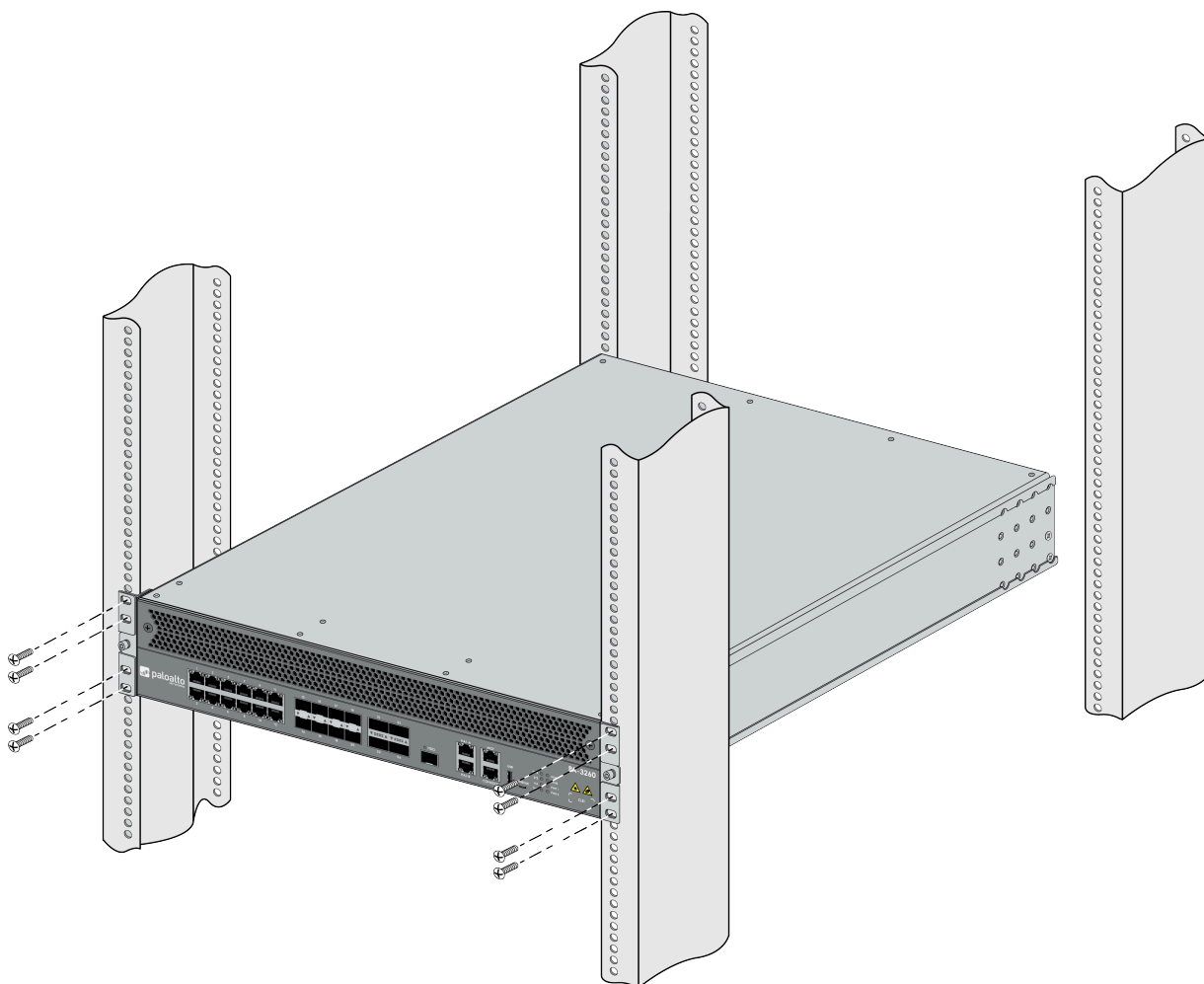
STEP 4 | Slide one four-post back rack-mount rail into each of the two previously installed side rack-mount rails, and secure the back rails to the back rack-posts using two screws for each bracket (#10-32 x 3/4" or #12-24 x 1/2" screws) and torque each screw to 25 in-lbs.
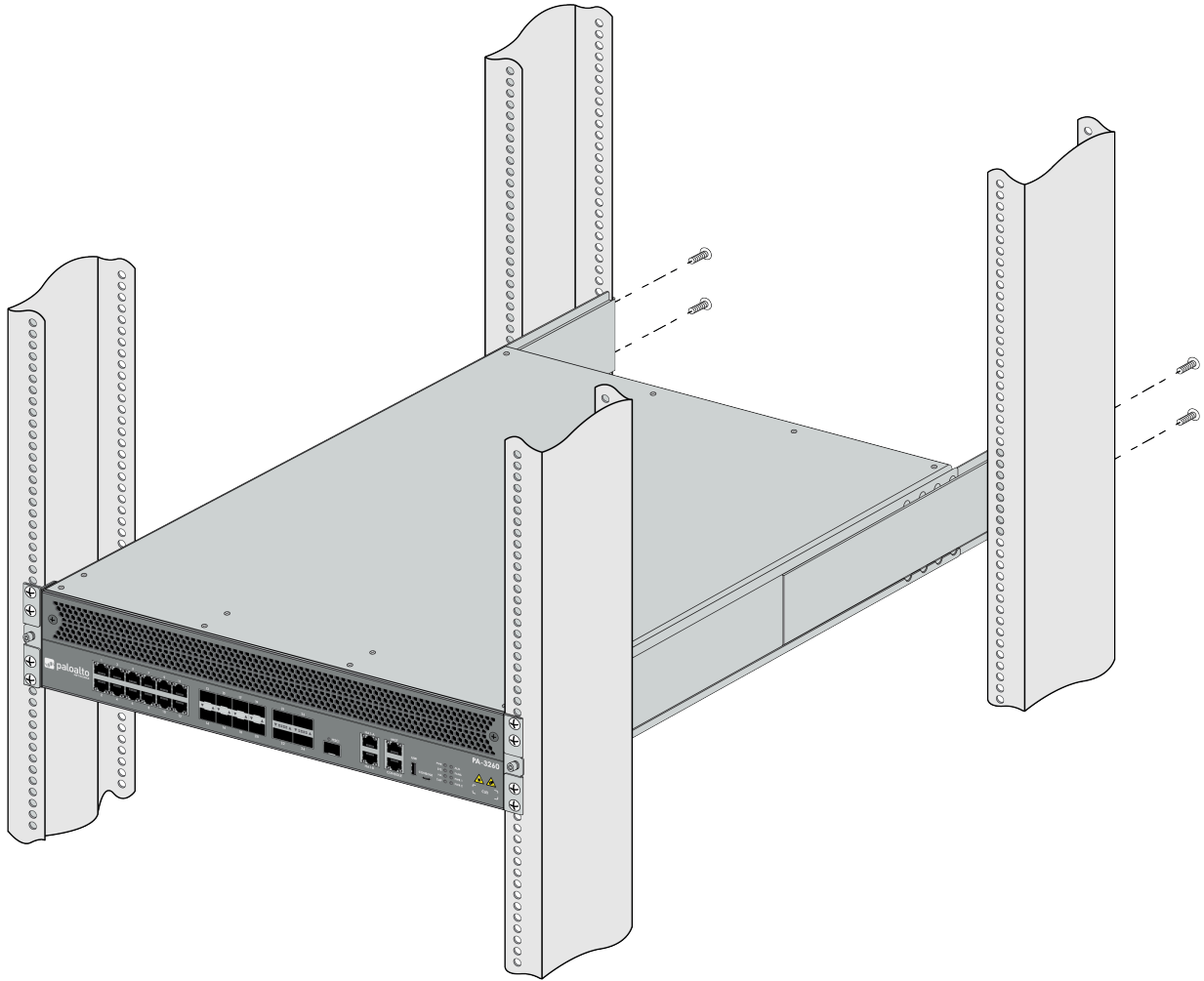
Connect Power to a PA-3200 Series Firewall

PA-3200 Series firewalls have either two AC or two DC power supplies (the second power supply is for redundancy). Before you connect power, read the PA-3200 Series Electrical Specifications.
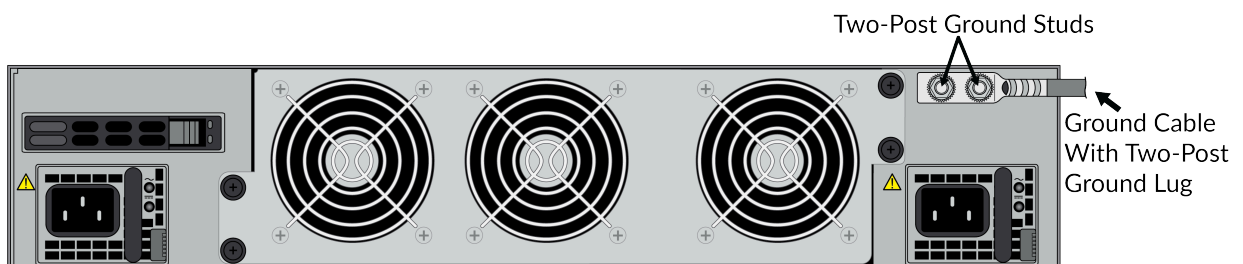
- Connect AC Power to a PA-3200 Series Firewall
- Connect DC Power to a PA-3200 Series Firewall

Connect AC Power to a PA-3200 Series Firewall

The following procedure describes how to connect AC power to a PA-3200 Series firewall with AC power supplies.

📋 *The power configuration (AC or DC) can be changed in the field. However, you cannot install both an AC and DC power supply in the same firewall. The firewall ships with AC power supplies (DC power supplies sold separately).*

⚠️ *To avoid injury to yourself or damage to your Palo Alto Networks® hardware or the data that resides on the hardware, read the* Product Safety Warnings.

STEP 1 | Remove the two nuts and star washers from the ground studs on the back of the firewall and then remove the two-post ground lug.

Two-Post Ground Studs

Ground Cable With Two-Post Ground Lug

**STEP 2 |** Crimp a 6AWG ground cable (not included) to the two-post ground lug and then attach the ground lug to the ground studs on the firewall. Replace the star washers and nuts and torque to 25 in-lbs. Connect the other end of the ground cable to earth ground.

STEP 3 | Connect the AC power cord to power input 1 (PWR 1) and connect a second power cord to power input 2 (PWR 2).

AC Input (PWR 1)

AC Input (PWR 2)
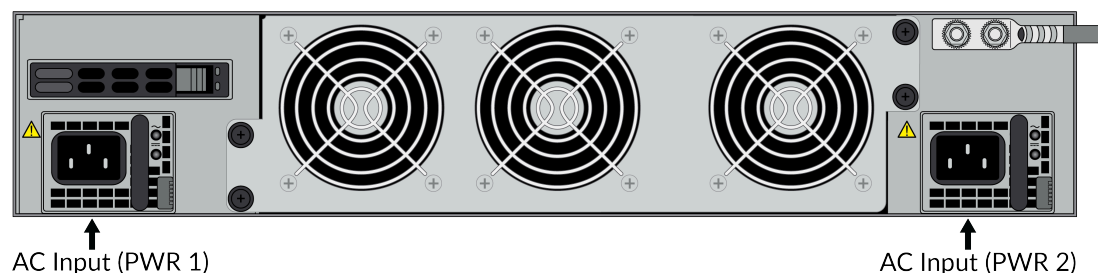
STEP 4 | Secure the power cords to the power supplies using the Velcro straps.
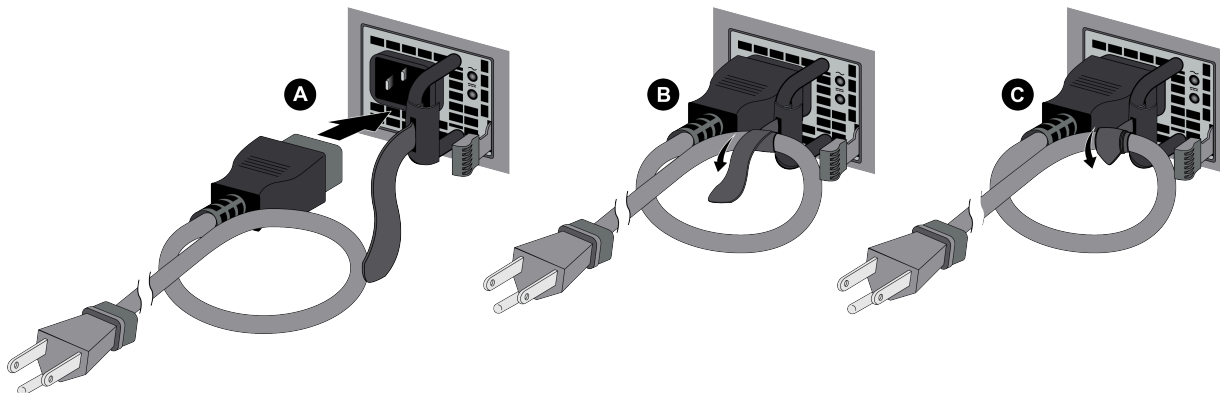
STEP 5 | Connect the other end of the power cords to an AC power source. After the first power supply is connected, the power supply powers on, the input and output LEDs on the power supply turn green, and the PWR LED and the power supply LED (PWR 1 or PWR 2) on the front of the firewall turns green.
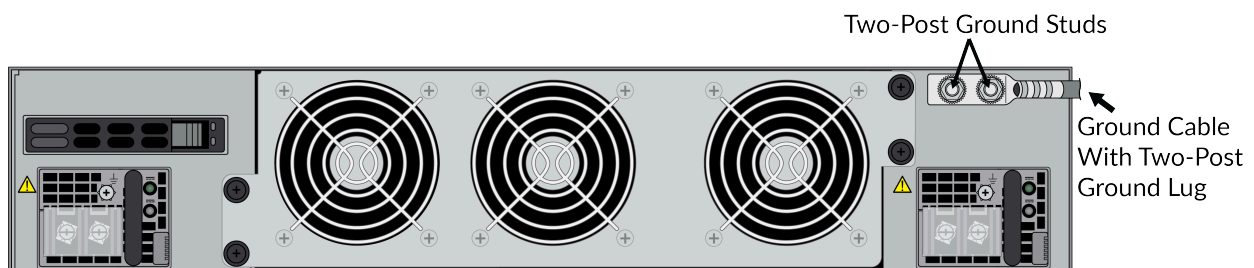
> *Connect the second power cord through a different circuit breaker to provide power redundancy and to allow for electrical circuit maintenance.*

Connect DC Power to a PA-3200 Series Firewall

The following procedure describes how to connect DC power to a PA-3200 Series firewall with DC power supplies.

📋 *The power configuration (AC or DC) can be changed in the field. However, you cannot install both an AC and DC power supply in the same firewall. The firewall ships with AC power supplies (DC power supplies sold separately).*

⚠️ *To avoid injury to yourself or damage to your Palo Alto Networks® hardware or the data that resides on the hardware, read the Product Safety Warnings.*

STEP 1 | Remove the two nuts and star washers from the ground studs on the back of the firewall and then remove the two-post ground lug.

Two-Post Ground Studs

Ground Cable With Two-Post Ground Lug

STEP 2 | Crimp a 6AWG ground cable (not included) to the two-post ground lug and then attach the ground lug to the ground studs on the firewall. Replace the star washers and nuts and torque to 25 in-lbs. Connect the other end of the ground cable to earth ground.

⚠️ *Power off the DC power sources that you will connect to the power supplies before you continue to the next step.*

STEP 3 | Attach the DC power cables (not included) from the DC power source to the DC power supplies on the back of the firewall.

1. Remove the plastic DC power input cover from each of the two DC power supplies and then remove the positive and negative terminal screws.

2. Crimp ring lugs to the ends of the positive and negative DC cables. These lugs are used to connect the DC cables to the DC inputs on the firewall.

3. Use the DC terminal screws to connect a positive DC power cable to the positive terminal on the first DC power supply and then connect a negative DC power cable to

the negative terminal. Repeat this step for the second DC power supply using separate positive and negative cables.

4. Replace the plastic covers over each DC power input.

5. Connect the two positive and two negative DC power cables to your power sources and ensure that you observe the correct polarity (positive to positive and negative to negative).

Connect the second set of power cables through a different DC circuit to provide power redundancy and to allow for electrical circuit maintenance.
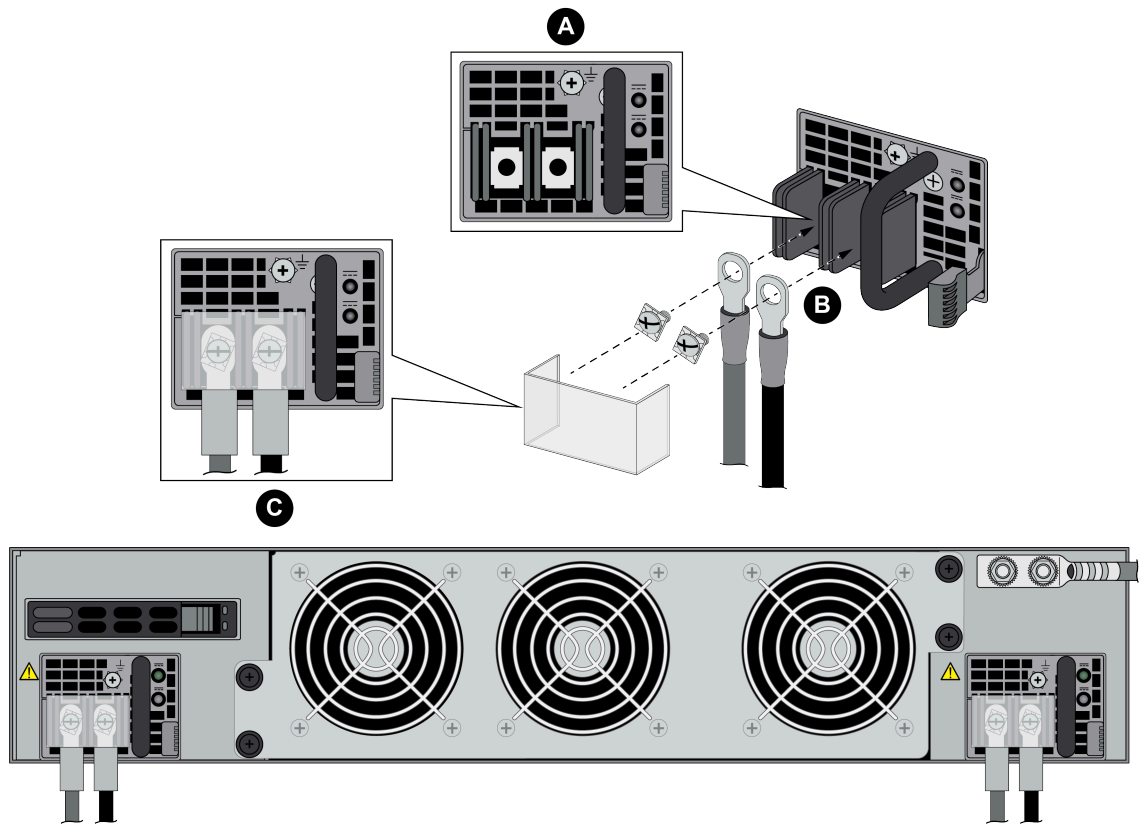
STEP 4 | After all DC power cables are securely connected, power on the DC power sources. The power supplies powers on, the input and output LEDs on the power supplies turn green, and the PWR LED and the power supply LEDs (PWR 1 and PWR 2) on the front of the firewall turns green.

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Service the PA-3200 Series Firewall

The following topics describe how to interpret the PA-3200 Series firewall status LEDs and how to replace the serviceable components.

- Interpret the PA-3200 Series Status LEDs
- Replace a PA-3200 Series Fan Tray
- Replace a PA-3200 Series Power Supply
- Replace a PA-3200 Series Drive

Interpret the PA-3200 Series Status LEDs

The following table describes how to interpret the status LEDs on a PA-3200 Series firewall.

LED	Description
Front Panel LEDs	
PWR (Power)	• **Green**—The firewall is powered on. • **Off**—The firewall is not powered on or an error occurred with the internal power system (for example, power is not within tolerance levels).
STS (Status)	• **Green**—The firewall is operating normally. • **Yellow**—The firewall is booting.
HA (High Availability)	• **Green**—The firewall is the active peer in an active/passive configuration. • **Yellow**—The firewall is the passive peer in an active/passive configuration. • **Off**—High availability (HA) is not operational on this firewall. *In an active/active configuration, the HA LED only indicates HA status for the local firewall and has two possible states (green or off); it does not indicate HA connectivity of the peer. Green indicates that the firewall is either active-primary or active-secondary and off indicates that the firewall is in any other state (For example, non-functional or suspended).*
TMP (Temperature)	• **Green**—The firewall temperature is normal. • **Yellow**—The firewall temperature is outside tolerance levels. See the PA-3200 Series Environmental Specifications for the operating temperature range.
ALM (Alarm)	• **Red**—A hardware failure, such as a power supply failure, a firewall failure that caused an HA failover, a drive failure, or the hardware overheated and exceeded the high temperature threshold. • **Off**—The firewall is operating normally.
FANS	• **Green**—The fan tray and all fans are operating normally.

LED	Description
	• **Red**—A fan failed. If one of the three fans fail, the firewall will continue to operate but if two fans fail, the firewall will shut down.
PWR 1 and PWR 2 (Power)	When facing the back of the firewall, power supply 1 (PWR 1) is on the left and power supply 2 (PWR 2) is on the right. • **Green**—The power supply is functioning normally. • **Red**—The power supply is present but is not working.
Ethernet Port LEDs	
RJ-45	These ports have two LEDs. • **Left LED**—Solid green indicates a network link. • **Right LED**—Blinking green indicates network activity.
SFP, SFP+, and QSFP LEDs	These ports have one green LED. • Solid green indicates a network link. • Blinking green indicates network activity.
Back Panel LEDs	
Power supply LEDs	The top LED provides status of the power input and the bottom LED provides status of the power supply output.

LED	Description

The AC and DC power supply LEDs function the same way. With AC power supplies, the input LED indicates the status of the AC input power and the output LED indicates the DC output that powers the firewall. With DC power supplies, the input and output are both DC.	• **Input LED (Top)**
	
	   • **Solid green**—Input voltage operating within the normal specified range.
	
	   • **Blinking green**—Overvoltage or undervoltage warning.
	
	   • **Off**—Exceeded the overvoltage or undervoltage threshold or no input power.
	
	• **Output LED (Bottom)**
	
	   • **Solid green**—Main output and standby output enabled; no power supply warnings or faults.
	
	   • **Blinking green**—Standby output enabled with no power supply warning or fault detected.
	
	   • **Blinking yellow**—Power supply warning detected.
	
	   • **Solid yellow**—Power supply fault detected.

Fan tray LED	• **Green**—The fan trays and all fans are operating normally. • **Red**—A fan in the fan tray failed (see Replace a PA-3200 Series Fan Tray).

Replace a PA-3200 Series Fan Tray

The PA-3200 Series firewalls have one fan tray with three fans. If one fan fails, the LED on the fan tray turns red and the firewall generates a system log. When this occurs, immediately replace the fan tray to avoid service interruption. If two fans fail, the firewall will shut down and you must replace the fan tray to restore functionality.

If one fan fails, you can replace the fan tray while the firewall is powered on but you must replace it within 45 seconds or the thermal protection circuit automatically shuts down the firewall.

⚠️ *To avoid injury to yourself or damage to your Palo Alto Networks® hardware or the data that resides on the hardware, read the* Product Safety Warnings.

**STEP 1 |** Remove the replacement fan tray from the packaging.

STEP 2 | Remove the failed fan tray.

➖ *You must replace the fan tray within 45 seconds or the thermal protection circuit automatically shuts down the firewall.*

1. Turn the four fan-tray thumb screws counter-clockwise until the screws stop.
2. Gently pull the fan tray toward you (using the thumb screws) and pull the tray out of the firewall.
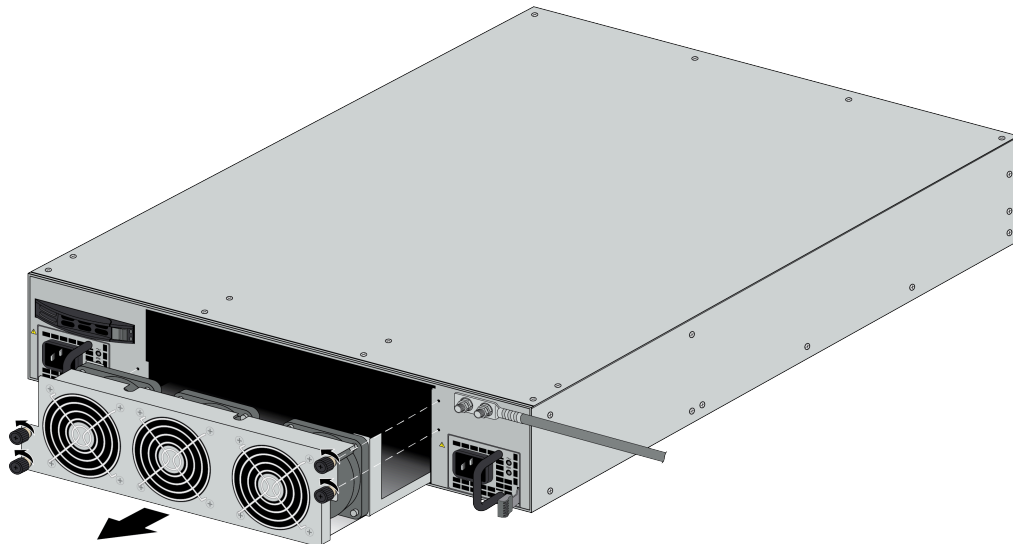
STEP 3 | Slide the replacement fan tray into the empty fan-tray slot and push the tray in until it is fully seated in the slot. Turn the four fan-tray thumb screws clockwise to secure the tray in the firewall.

The fan tray LED and the FANS LED on the front of the firewall turn green.

If the thermal protection circuit powered off the firewall due to overheating or fan failures, you need to disconnect and reconnect power. On an AC model, disconnect both power cords, wait at least five seconds, and then reconnect the cords. On a DC model, shut down the DC circuit that is providing power to the firewall, wait at least five seconds, and then restore the power.

Replace a PA-3200 Series Power Supply

PA-3200 Series firewalls have either two AC or two DC power supplies (the second power supply is for redundancy). If one power supply fails, you can replace it without service interruption as described in the following procedures.

- Replace a PA-3200 Series AC Power Supply
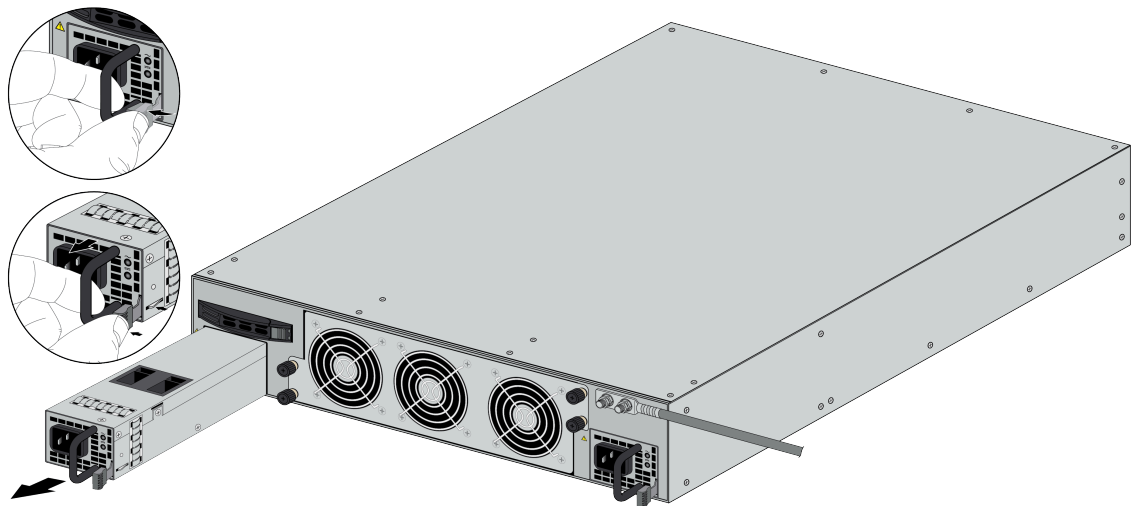- Replace a PA-3200 Series DC Power Supply

Replace a PA-3200 Series AC Power Supply

The following procedure describes how to replace an AC power supply.
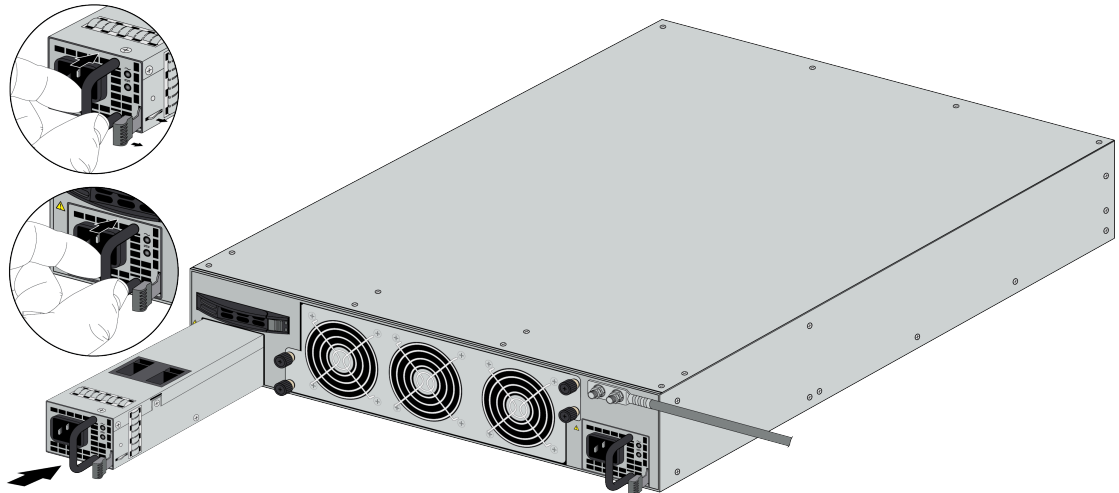
> ⚠️ *To avoid injury to yourself or damage to your Palo Alto Networks® hardware or the data that resides on the hardware, read the* Product Safety Warnings.

STEP 1 | Identify the failed power supply by viewing the **System** logs or by viewing the power supply status LEDs described in Interpret the PA-3200 Series Status LEDs.

STEP 2 | Remove the Velcro strap that secures the AC power cord to the failed power supply and disconnect the power cord from the firewall.

STEP 3 | Grasp the handle on the failed power supply and then simultaneously press the release lever to the left and pull the power supply outward to remove it.

STEP 4 | Remove the replacement power supply from the packaging and slide it into the empty power supply slot. Push the power supply all the way in until the release lever clicks and secures the power supply.

STEP 5 | Connect the AC power cord to the power supply input and secure it to the power supply using the Velcro strap. The power supply powers on, the input and output LEDs on the power supply turn green, and the PWR LED and the power supply LED (PWR 1 or PWR 2) on the front of the firewall turns green.

Replace a PA-3200 Series DC Power Supply

The following procedure describes how to replace a DC power supply.

⚠️ *To avoid injury to yourself or damage to your Palo Alto Networks® hardware or the data that resides on the hardware, read the* Product Safety Warnings.
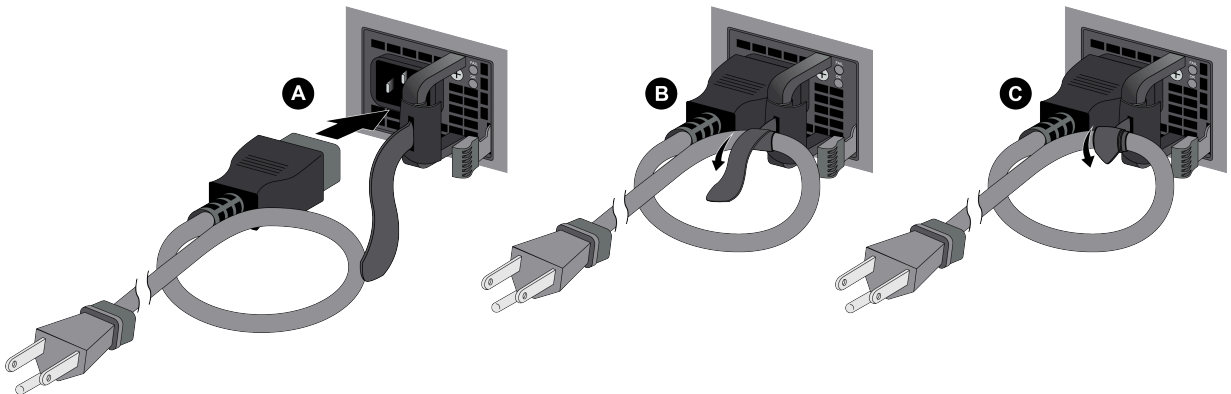
STEP 1 | Identify the failed power supply by viewing the **System** logs or by viewing the power supply status LEDs (see Interpret the PA-3200 Series Status LEDs).

> ⚠️ *Power off the DC power source that is connected to the failed power supply, before you continue to the next step.*

STEP 2 | Remove the plastic cover that protects the DC input terminals and then use a Phillips-head screwdriver to remove the screws holding the positive and negative DC cables to the DC input terminals.
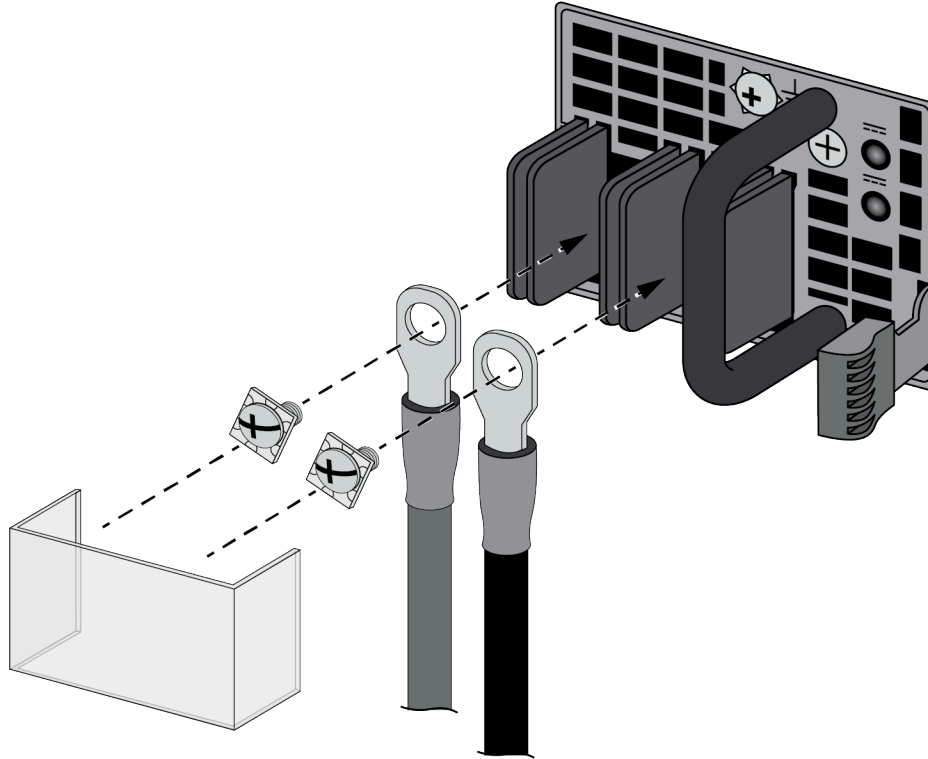
STEP 3 | Grasp the handle on the failed power supply and then simultaneously press the release lever to the left and pull the power supply outward to remove it.
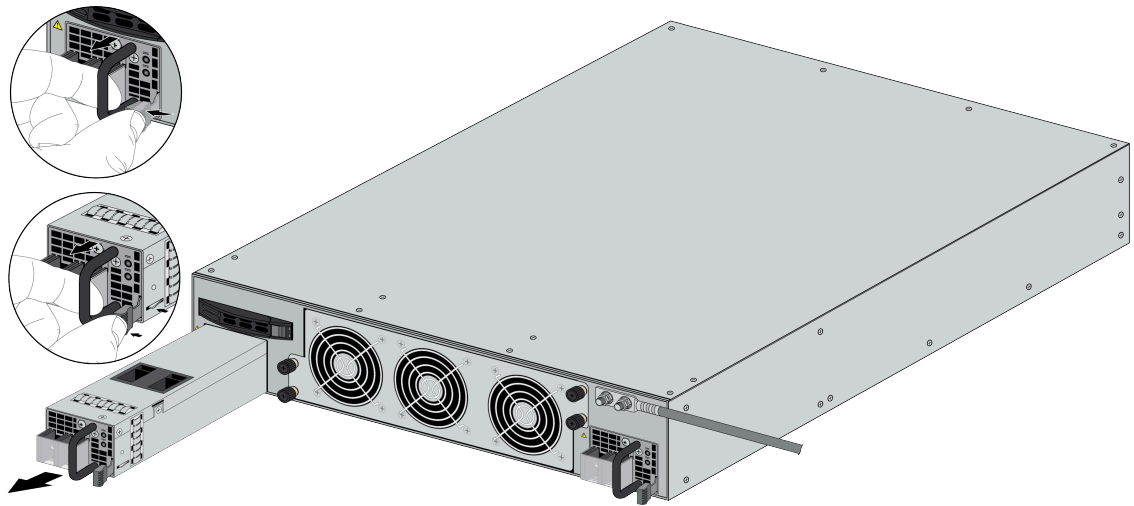
STEP 4 | Remove the replacement power supply from the packaging and slide it into the empty power supply slot. Push the power supply all the way in until the release lever clicks and secures the power supply.
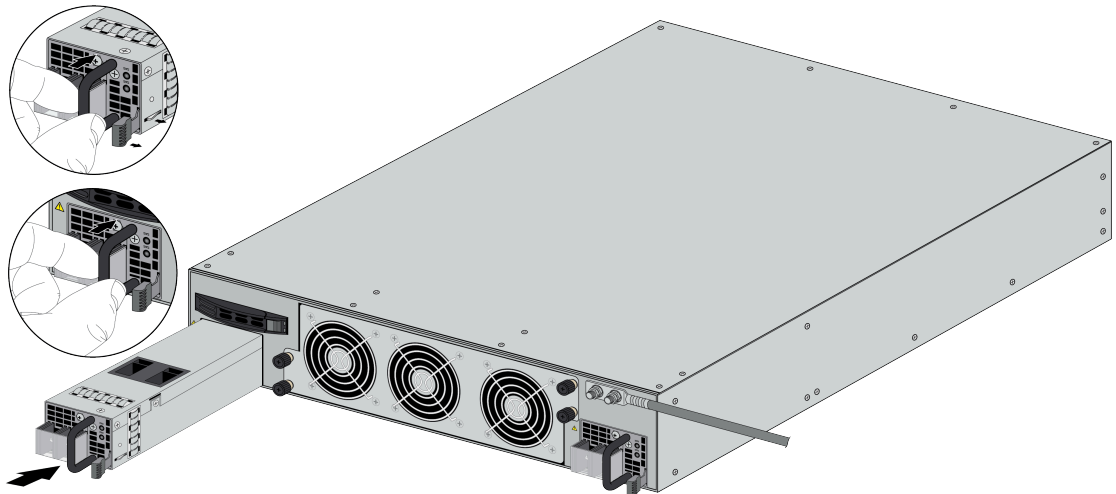
STEP 5 | Reconnect the positive and negative DC power cables to the new power supply using the DC terminal screws.

⚠️ *Make sure you establish the correct polarity: positive to positive and negative to negative.*
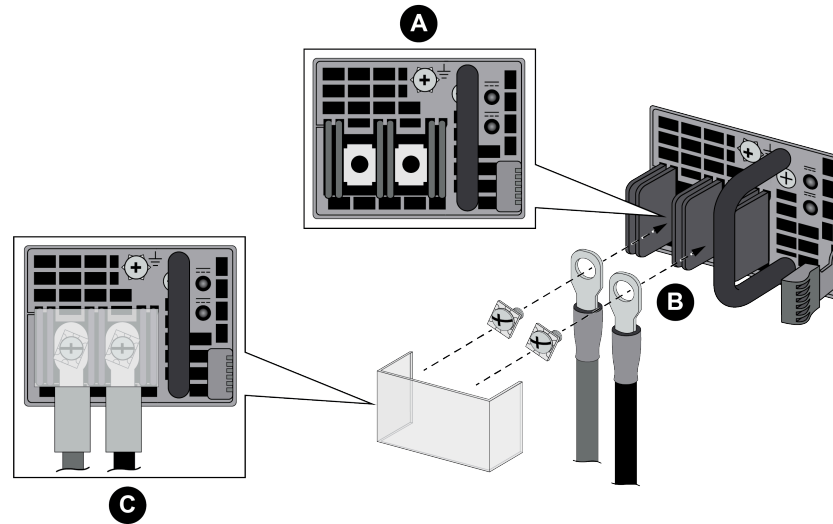
STEP 6 | When all DC power cables are securely connected and the plastic guard is properly reattached, power on the DC power source. The power supplies powers on, the input and output LEDs on the power supplies turn green, and the PWR LED and the power supply LEDs (PWR 1 and PWR 2) on the front of the firewall turns green.

Replace a PA-3200 Series Drive

The PA-3200 Series firewalls use a single solid-state drive (SSD) to store the PAN-OS system files, system logs, and network traffic logs. If this drive fails, you must replace it to restore functionality to the firewall.

📋 *The replacement drive ships with a factory default PAN-OS image with the default configuration. After you install the new drive, you will need to obtain a backup configuration that you saved from the failed firewall to* restore *your configuration.*

⚠️ *To avoid injury to yourself or damage to your Palo Alto Networks® hardware or the data that resides on the hardware, read the* Product Safety Warnings.

STEP 1 | Disconnect power from the firewall. For AC power supplies, remove the AC power cords. For DC power supplies, shut down the DC power source.

STEP 2 | Press the ejector button on the drive carrier to release the carrier handle and gently pull the handle toward you to remove the carrier and drive.
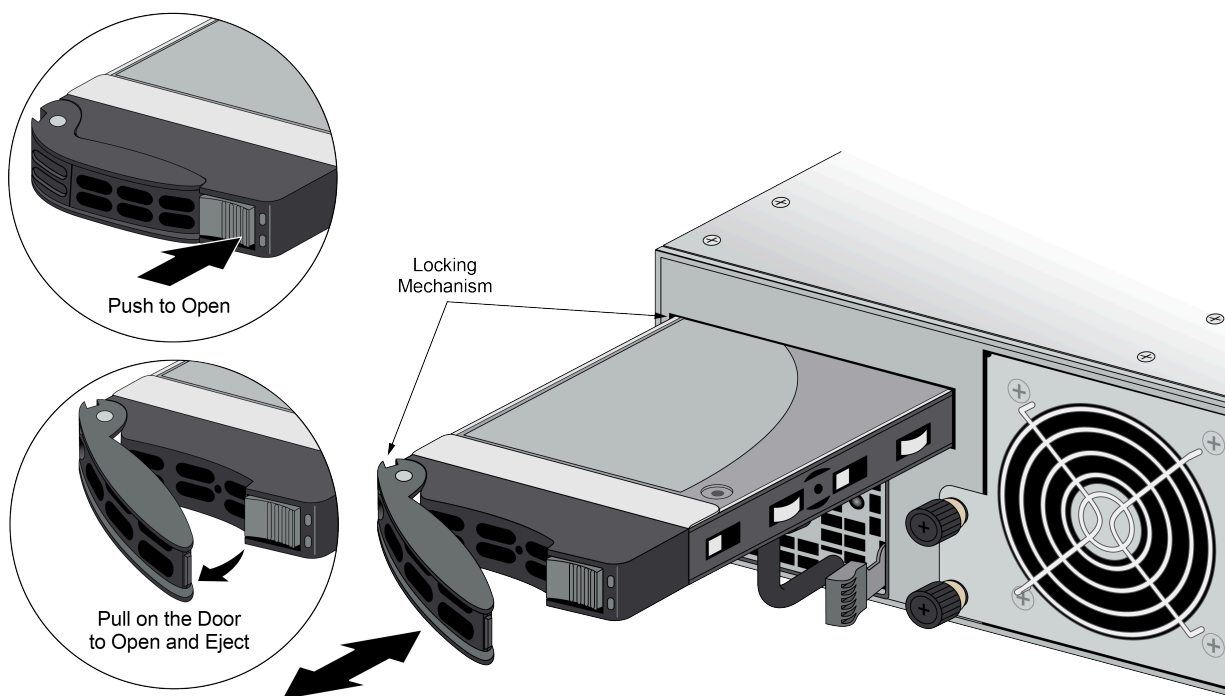
STEP 3 | Remove the replacement drive from the packaging and place it on an antistatic surface.

STEP 4 | Install the replacement drive in the drive carrier.

1. Place the failed drive next to the replacement drive with the connectors facing the same direction.

2. Remove the four screws that hold the failed drive in the carrier and remove the drive from the carrier.
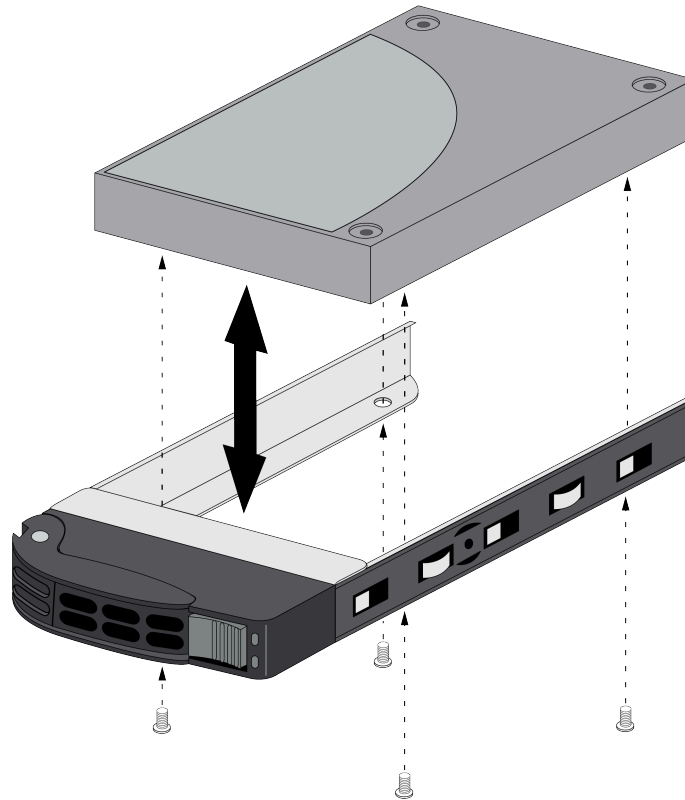
3. Install the replacement drive in the carrier and secure it using the four screws you removed from the failed drive.

STEP 5 | Install the replacement drive in the firewall.

1. Ensure that the drive carrier lever is in the open position; if it is not, press the ejector button on the drive carrier to release the lever and pull it out until it is fully open.

2. Slide the replacement drive and carrier assembly into the empty drive bay until it is about 1/4" (.6cm) from being fully inserted.

3. Before fully inserting the drive carrier, ensure that the lever attaches to the locking mechanism on the firewall and then close the lever to seat the carrier.

STEP 6 | Power on the firewall and connect a standard RJ-45 Ethernet cable from the RJ-45 port on your computer to the MGT port on the firewall.

STEP 7 | Change the IP address on your computer to an address in the 192.168.1.0/24 network, such as 192.168.1.2.

STEP 8 | From a web browser, go to https://192.168.1.1 and, when prompted, log in to the web interface using the default username and password (admin/admin).

STEP 9 | Configure management access and restore the firewall configuration.

For information on how to upgrade or downgrade PAN-OS, see the New Features Guide for the PAN-OS version that your firewall is running. The New Features Guides are located on the Technical Documentation portal.

PA-3200 Series Firewall Specifications

The following topics describe the PA-3200 Series firewall hardware specifications. For feature, capacity, and performance information, refer to the PA-3200 Series firewall datasheet.

- PA-3200 Series Physical Specifications
- PA-3200 Series Electrical Specifications
- PA-3200 Series Environmental Specifications
- PA-3200 Series Miscellaneous Specifications

PA-3200 Series Physical Specifications

The following table describes PA-3200 Series firewall physical specifications.

Specification	Value
Rack units and dimensions	**Rack units**—2U **Dimensions**—3.5" H x 20.53" D x 17.34" W (8.89cm H x 52.15cm D x 44.04cm W) 📋 *The depth dimension includes hardware that protrudes from the back of the firewall.*
Weight	• **Firewall weight**—29lbs (13.15Kg) • **Shipping weight**—41.5lbs (18.82Kg)

PA-3200 Series Electrical Specifications

The following table describes PA-3200 Series firewall electrical specifications. The electrical specifications are the same for all models in the series (PA-3220, PA-3250, and PA-3260 firewalls).

Specification	Value
Power Supplies	Two 650W AC or DC power supplies; the second power supply is for redundancy.
Input voltage	• **AC power supplies**—100-240VAC (50-60Hz) • **DC power supplies**— -48 to -60VDC
Power consumption	**Maximum** • AC power supplies—240W • DC power supplies—228W **Average** • AC and DC power supplies—195W
Maximum current consumption	• **AC power supplies**—2.3A@100VAC, 1.0A@240VAC • **DC power supplies**—4.7A@-48VDC, 3.8A@-60VDC
Maximum inrush current	The following value applies to both AC and DC power supplies. **Maximum inrush current per power supply**—25A

PA-3200 Series Environmental Specifications

The following table describes PA-3200 Series firewall environmental specifications.

Specification	Value
Operating temperature range	**All PA-3200 Series firewalls**—32°F to 122°F (0°C to 50°C)
Non-operating temperature	**All PA-3200 Series firewalls**— -4°F to 158°F (-20°C to 70°C)
Humidity tolerance (non-condensing)	**Operating and non-operating relative humidity**—10% to 90%
Airflow	Front-to-back
Maximum BTU/hr	**All PA-3200 Series firewalls**—819BTU/hr
Electromagnetic Interference (EMI)	**All PA-3200 Series firewalls**—FCC Class A, CE Class A, VCCI Class A
Acoustic noise	**All PA-3200 Series firewalls with AC or DC power supplies installed.** • **Average**—51 dB(A) • **Maximum**—65 dB(A)
Maximum operating altitude	**All PA-3200 Series firewalls**—10,000ft (3,048m)

PA-3200 Series Miscellaneous Specifications

The following table describes PA-3200 Series firewall miscellaneous specifications.

Specification	Value
Storage capacity	One 240GB SSD for system files and log storage.
Mean time between failures (MTBF)	14 years

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PA-3200 Series Firewall Hardware Compliance Statements

Palo Alto Networks obtains regulatory compliance certifications to comply with the laws and regulations in each country where there are requirements applicable to our products. Our products meet standards for product safety and electromagnetic compatibility when used for their intended purpose.

To view compliance statements for the PA-3200 Series firewalls, see PA-3200 Series Firewall Compliance Statements.

PA-3200 Series Firewall Compliance Statements

The following are the PA-3200 Series firewall hardware compliance statements:

- **BSMI EMC Statement**—User warning: This is a Class A product. When used in a residential environment it may cause radio interference. In this case, the user will be required to take adequate measures.

  - **Manufacturer**—Flextronics International.

  - **Country of Origin**—Made in the USA with parts of domestic and foreign origin.

- **CE (European Union (EU) Electromagnetic Compatibility Directive)**—This device is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility Directive (2014/30/EU).

  The above product conforms with Low Voltage Directive 2014/35/EU and complies with the requirements relating to electrical equipment designed for use within certain voltage limits.

- **Federal Communications Commission (FCC) statement for a Class A digital device or peripheral**—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 designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

  - Reorient or relocate the receiving antenna.

  - Increase the separation between the equipment and receiver.

  - Connect the equipment to an outlet on a circuit that is different from the one to which the receiver is connected.

  - Consult the dealer or an experienced radio/TV technician for help.

- **ICES (Canadian Department Compliance Statement)**—This Class A digital apparatus complies with Canadian ICES-003.

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

- **Korean Communications Commission (KCC) Class A Statement**—This equipment is an electromagnetic compatible device for business purposes (Class A). The provider or user should be aware that the equipment is intended for use outside the home.

- **Technischer Überwachungsverein (TUV)**

  Risk of explosion if battery is replaced by an incorrect type. Dispose of used battery according to local regulations.

- **VCCI**—This section provides the compliance statement for the Voluntary Control Council for Interference by Information Technology Equipment (VCCI), which governs radio frequency emissions in Japan.

  The following information is in accordance to VCCI Class A requirements:

  > この装置は、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。　　　　VCCI-A

  Translation: 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 corrective actions.

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