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ION 3200 and ION 3200H Hardware Reference



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Before You Begin

Learn about the product safety and compliance before you begin:

- Tamper Proof Statement
- Third Party Component Support
- Product Safety Warnings

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.

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Third Party Component Support

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

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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 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).
- WAN and LAN ethernet ports are suitable for interconnection to other local device ethernet ports. These ports are not designed for direct connection to Public Switched Telephone Network (PSTN) ports or interfaces. In addition, copper-based WAN ports, LAN ports, and copper-based modular transceivers are not rated to connect to telecommunications Outside Plant (OSP) cabling.
- 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.

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- **Radio Frequency (RF) Radiation Exposure Warning:** Hazardous Radiation Exposure Warning —Adjustments or procedures other than those specified may result in hazardous RF radiation exposure. A minimum distance of 20cm (7.87in) must be maintained between the operating radio antennas and personnel.
- **Antenna Installation Warning:** To avoid hazardous RF radiation exposure, ensure the device is switched off when installing or changing antennas.
- **Cellular Devices**: The USB 2.0 port on the cellular device is used for maintenance only.
- **International Statements and Information Pertaining to Radio Products**
  - **Information on compliance to RF exposure guidelines:** The Palo Alto Networks cellular-enabled devices are designed to comply with the following national and international standards on human RF exposure. To ensure compliance with these RF exposure standards, the device is advised to be operated only with Palo Alto Networks approved antennas and accessories.
    - US 47 Code of Federal Regulations Part 2
    - American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers / IEEE C 95.1 (99)
    - International Commission on Non-Ionizing Radiation Protection (ICNIRP) 98
    - Ministry of Health (Canada) Safety Code 6, Limits on Human Exposure to Radio Frequency Fields in the range from 3KHz to 300GHz
    - Australia Radiation Protection Standard
  - **International Guidelines for Exposure to Radio Waves:** The cellular enabled devices include a radio transmitter and receiver. It is designed not to exceed the limits for exposure to RF radiation specified in ICNIRP guidelines that were devised to include a substantial safety margin to ensure the safety of all persons, regardless of age and health.

    The World Health Organization has stated that current scientific information does not indicate a need for special precautions for wireless devices. They also recommend that further exposure reductions are possible by orienting antennas away from personnel or by increasing the separation distance.
  - **Additional Information on RF Exposure:**
    - FCC Bulletin 56: Questions and Answers about Biological Effects and Potential Hazards of Radio Frequency Electromagnetic Fields
    - FCC Bulletin 65: Evaluating Compliance with the FCC guidelines for Human Exposure to Radio Frequency Electromagnetic Fields
    - FCC Bulletin 65C (01-01): Evaluating Compliance with the FCC guidelines for Human Exposure to Radio Frequency Electromagnetic Fields: Additional Information for Evaluating Compliance for Mobile and Portable Devices with FCC limits for Human Exposure to Radio Frequency Emission
    - World Health Organization Internal Commission on Non-Ionizing Radiation Protection at this URL: https://www.who.int/initiatives/the-international-emf-project
    - United Kingdom, National Radiological Protection Board at this URL: www.nrpb.org.uk
    - Cellular Telecommunications Association at this URL: www.ctia.org/
    - The Mobile and Wireless Forum (MWF) at this URL: www.emfhealth.info/index.cfm

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- **National Statements and Information Pertaining to Radio Products**
  - **US**
    - **RF Exposure Warning:** This equipment was evaluated to FCC radio frequency (RF) exposure limits set forth for an uncontrolled environment. To comply with FCC exposure limits, antennas for this product must be located at a distance of a minimum of 20cm (7.87in) or more from all persons.
    - **Product Modification Warning:** The radio contained in this product operates with other devices in this frequency band and with other services operating within the radio spectrum. Any changes or modifications to the product without approval from Palo Alto Networks could void the user's authority to operate the device. Such modifications include the use of non-approved antennas, accessories, or amplifiers. The radio has been evaluated under FCC Bulletin OET 65C and found compliant to the requirements as set forth in CFR 47 Sections 2.1091.
    - **Cellular Products:** This device operates under the authority of a licensed radio service under 47 Code of Federal Regulations Parts 22, 24, and 27.
    - **FCC Co-location:** This product must not be co-located or operate in conjunction with another radio.
    - **FCC Guidelines for Exposure to Radio Waves:** The cellular enabled devices include a radio transmitter and receiver. It is designed not to exceed the limits for exposure to RF radiation specified in FCC Part 1.1310. The FCC guidelines are based on IEEE ANSI C 95.1 (92) and include a substantial safety margin to ensure the safety of all persons, regardless of age and health. The device has been tested and found compliant with the applicable regulations as part of the radio certification process. The US Food and Drug Administration (FDA) has stated that current scientific information does not indicate a need for special precautions for wireless devices. The FCC recommends that further exposure reductions are possible [1] by orienting antennas away from personnel, [2] by increasing the separation distance.
  - **Canada**
    - **Industry Canada Radio Interference Statement:** This device contains transmitter(s)/ receiver(s) that comply with Innovation, Science and Economic Development (ISED) Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

      This device may not cause interference.

      This device must accept any interference, including interference that may cause undesired operation of the device.

      French Translation: L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:L'appareil ne doit pas produire de brouillage.L'appareil doit

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accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

- **RF Exposure Warning:** This equipment complies with ISED RF exposure limits set forth for an uncontrolled environment. This equipment must be installed and operated with a minimum distance of 20cm (7.87in) between personnel and the radio antennas.
- **ISED Co-location:** This product must not be co-located or operate in conjunction with another radio.
- **Industry Canada Guidelines for Exposure to Radio Waves:** The cellular enabled devices include a radio transmitter and receiver. It is designed not to exceed the limits for exposure to RF radiation as referenced in Health Canada Safety Code 6. Those guidelines include a substantial safety margin to ensure the safety of all persons, regardless of age and health.

  Health Canada states that current scientific information does not indicate a need for special precautions for wireless devices. Health Canada recommends that further exposure reductions are possible [1] by orienting antennas away from personnel or [2] by increasing the separation distance.

  The systems are designed to be operated to avoid contact with the antennas by the user. It is recommended to set the system in a location where the antennas can remain at least a minimum distance as specified from the user in accordance with the regulatory guidelines which are designed to reduce the exposure to the user.

- **EU**

  This equipment is intended to be used in all EU and EFTA countries. Outdoor use may be restricted to certain frequencies and/or may require a license for operation. The use of wireless devices in hazardous locations is limited to the constraints posed by the safety directors of such environments. The use of a portable device may be restricted in some locations.

  The use of wireless devices in hospitals is restricted to the limits set forth by each hospital. The use of software or firmware not supported/provided by the manufacturer may result in the equipment being no longer compliant with the regulatory requirements.

- **Australia and New Zealand**

  To ensure compliance with RF exposure standards, the system must only be operated with Palo Alto Networks approved antennas and accessories.

  To ensure compliance with exposure limits to radio frequency fields, the antenna must be no closer than 20cm (7.87in) from personnel.

  Radio communications devices are sometimes used for radio applications with commercial or safety of life implications. Users of such applications are encouraged to have particular regard to the suitability of operating under the Australian Radio communications Class License for their radio communications need.

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ION 3200 and ION 3200H Overview

Learn about the next generation SASE ION 3200 device.

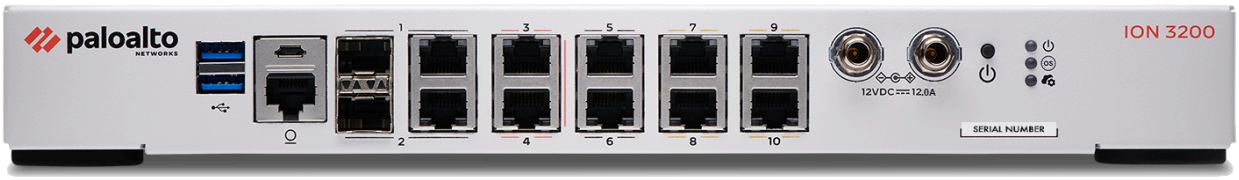
- Overview of ION 3200 and ION 3200H
- ION 3200 and ION 3200H Hardware Specifications
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- ION Device 3200H LEDs
- ION 3200 Installation Kit Components
- ION 3200 and ION 3200H Compliance Statement

Overview of ION 3200 and ION 3200H

Prisma SD-WAN ION 3200 is a next generation software-defined device that can be deployed in a branch or a data center. With the introduction of ION 3200, accelerate your SASE deployment to a branch or a DC by applying WAN connectivity without installing additional hardware to enable rapid deployments.

The new high-performance ION 3200 device comes with fiber optic ports offering RJ-45/SFP Combo WAN ports, higher power SFP ports to support smart SFPs, wired LAN switching, wireless LAN Access points, PoE to power external cellular gateways, and other PoE powered devices such as Internet Protocol phones or cameras or Wireless Access Points.

When the ION 3200 device runs in Layer 2 mode, it will support features like the ION 1200-S device. When the ION 3200 device runs in Layer 3 mode, it will be the current ION 3200 device.



The variants of the ION 3200 series are:

- ION 3200H

  Enterprise small branch Hardened device and have the following main features:



- a TPM module for key storage and security
- Active/passive and active/active high availability (HA)
- 5G capability for select models

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- ION 3200H-C5G-WW

  Enterprise small branch Hardened device integrated with L2 switch ports and 5G for world wide.



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ION 3200 and ION 3200H Hardware Specifications

Learn the hardware specifications of the ION 3200 variants series:

	ION 3200
Description	Enterprise small branch and DC
Ports	
Console Port	1 x RJ-45, UART/USB Type B Console
WAN/LAN ports	8x 10/100/1000Mbps RJ-45 + 2x1Gbps (RJ-45/ SFP) Combo ports. By default, all ports are DHCP-enabled, ports 1 and 2 are used to connect to internet.
USB	2 x Type-A
eMMC Storage	128GB
PoE	Ports 7 -10 are PoE ports indicated with a yellow bar below and above the ports, 90W per system, 60W max/port, • 4 x PoE (802.3af) 15.4 W maximum • 3 x PoE+ (802.3at) 30 W maximum • 1 x PoE++ (802.3bt) 60 W maximum for type 3 PSEs.
Memory	16GB
Type or Watts	150W via external power adapter
Power Input	External power adaptor: AC100-240V, 50-60Hz, 2.0A, Class I, output: DC12V, 12.5A ION 3200 input rating: DC12V, 12A
Redundant Power Supply	Yes
Mechanical	
System Cooling	Fanless
Certifications	
Certifications	IEC 62368-1, cMETus, FCC & CE Class A, TEC, KCC, RoHS

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	ION 3200
Environmental	
Operating temperature (3000 m altitude)	32°F - 104°F (0°C - 40°C)
Storage temperature	-4°F - 158°F (-20°C - 70°C)
Operating humidity (non-condensing)	5-90%
Storage humidity (non-condensing)	5-90%
Physical	
Dimensions	8.87”Wx13”Lx1.66”H
Weight (lbs)	8.30
Mount options	Rack, Desktop, and Wall

Table 1: ION 3200H- Hardened variant

	ION 3200H	ION 3200H-C5G-WW
Description	Enterprise small branch device with temperature hardened platform.	Enterprise small branch device with temperature hardened platform integrated with L2 switch ports and 5G for world wide.
Ports		
Port 0	Ethernet 1Gbps port.	
Console Port	1 x RJ-45	
WAN/LAN ports	6 x 10/100/1000Mbps RJ-45, 2 x RJ-45/SFP combo ports, by default, all ports are DHCP-enabled, ports 1 and 2 are used to connect to internet.	
L2 Switch Ports	4xRJ-45 LAN, 1Gbps	
USB 3.0	2 x Type-A	
Bypass Pair	2xRJ-45 (1pair)	
eMMC Storage	128GB	
Memory	8GB	

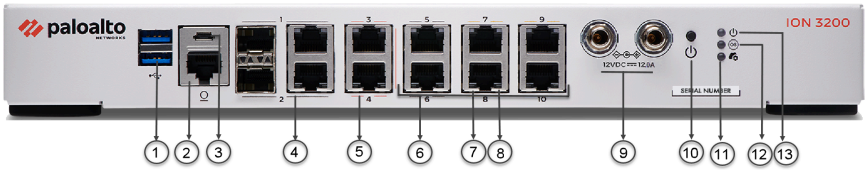
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	ION 3200H	ION 3200H-C5G-WW
Type or Watts	180W Power adapter	
Power Input	Redundant DC 12 - 48 V, 4 A	
Mechanical		
System Cooling	Fanless	
Certifications		
Certifications	FCC Class A, CE Class A, VCCI Class A IEEE 1613 and IEC 61850-3 power substation standards UL 62368-1:2014, CSA C22.2 No. 62368-1:14, IEC/EN 62368-1: 2014, IEC 62368-1: 2018 Cellular certifications - AT&T, T-Mobile, PTCRB and Verizon	
Environmental		
Operating temperature (3000 m altitude)	-40°F - 158°F (-40°C to 70°C) and 0°C to 60°C (when used with the provided power adapter)	
Storage temperature	-40°F - 158°F (-40°C to 70°C)	
Operating humidity (non-condensing)	10-90%	
Storage humidity (non-condensing)	10-90%	
IP Rating	IP40	
Physical		
Dimensions	9” x 13” x 1.73”(228.6mm x 330.2mm x 43.9mm)	
Weight (lbs)	9.85	
Mount options	Rack, Desktop, and Wall	

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ION 3200 Front Panel

The following image shows the front panel of the ION 3200 and the table describes the front panel components.



Item	Component	Description
1	USB Port	USB 3.0 (reserved for future use).
2	Console Port	RJ-45 Serial console port.
3	Micro USB	Micro USB Type B Console connector.
4	SFP/RJ-45 Combo Ports	Ports 1 and 2 are SFP/RJ-45 ports.
5	Bypass Pair	Ports 3 and 4 are RJ-45 ports with Bypass. Bypass is indicated with orange bars on the right side of the ports.
6	Ethernet Ports	Ports 5, 6, 7, 8, 9, 10 are RJ-45 ports. Ports 7-10 are PoE ports indicated with yellow bars above and below the ports.
7	Link Speed LED	On ethernet ports 1-10, the left LED indicates the link speed.
8	Activity LED	On ethernet ports 1-10, the right LED indicates the activity on the port.
9	Power	Power Input.
10	Restart button	Restart button.
11	Controller LED	Controller LED; the LED turns green on successful connection with the Prisma SD-WAN controller.
12	OS LED	Operating System status LED.

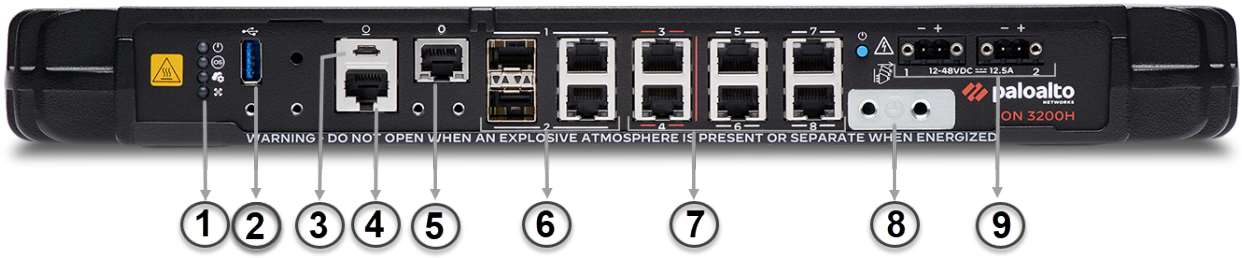
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Item	Component	Description
13	Power LED	Power LED; the LED turns green when powered on.

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ION 3200H Front Panel

The following image shows the front panel of the ION 3200H and the table describes the front panel components.



Item	Component	Description
1	LED status indicators	Four LEDs that indicate the status of the ION device components (see ION Device 3200H LEDs).
2	USB port	USB 3.0 (reserved for future use).
3	CONSOLE port (Micro USB)	Use this port to connect a management computer to the device using a standard Type-A USB-to-micro USB cable (not included with the device). The console connection provides access to device boot messages, the Maintenance Recovery Tool (MRT), and the command line interface (CLI). Refer to Micro USB Console Port for more information and to download the Windows driver or to learn how to connect from a Mac or Linux computer.
4	CONSOLE port (RJ-45)	Use this port to connect a management computer to the device using a RJ-45 to USB

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Item	Component	Description
		cable and terminal emulation software. The console connection provides access to device boot messages, the Maintenance Recovery Tool (MRT), and the command line interface (CLI). Use the following settings to configure your terminal emulation software to connect to the console port: • Data rate: 115200 • Data bits: 8 • Parity: none • Stop bits: 1 • Flow control: None
5	Port 0	Use this Ethernet 1Gbps port.
6	SFP/RJ-45 combo ports	Two SFP/RJ-45 combo ports for 10/100/1000Mbps speeds.
7	RJ-45 ports	Seven RJ-45 10/100/1000Mbps ports for network traffic. Ports 3 and 4 are fail-open ports or bypass pairs. Bypass is indicated with a orange bar above and below the ports. They can be configured to provide a pass-through connection despite power or operating system failure. Ports 5-8 are access ports.
8	Ground studs	Use a dual screw ground lug to connect the device to earth ground (ground cable not included).
9	DC power inputs	Use the DC power inputs to connect power to the device.

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Item	Component	Description
		A second power supply can be used for redundancy.

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ION 3200H-C5G-WW Front Panel

The following image shows the front panel of the ION 3200H-C5G-WW and the table describes the front panel components.

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Item	Component	Description
1	Antennas	Four antennas that provide 5G connectivity to the device.
2	LED status indicators	Four LEDs that indicate the status of the ION device components (see ION Device 3200H LEDs).
3	USB port	USB 3.0 (reserved for future use).
4	SIM slot	Install up to two nano SIMs into this slot to enable mobile network connectivity.  *The SIM cards must be rated to 85C.*
5	CONSOLE port (Micro USB)	Use this port to connect a management computer to the device using a standard Type-A USB-to-micro USB cable (not included with the device). The console connection provides access to device boot messages, the Maintenance Recovery Tool (MRT), and the command line interface (CLI). Refer to Micro USB Console Port for more information and to download the Windows driver or to learn how to connect from a Mac or Linux computer.
6	CONSOLE port (RJ-45)	Use this port to connect a management computer to the device using a RJ-45 to USB cable and terminal emulation software. The console connection provides access to device boot messages, the Maintenance Recovery Tool (MRT), and the command line interface (CLI).

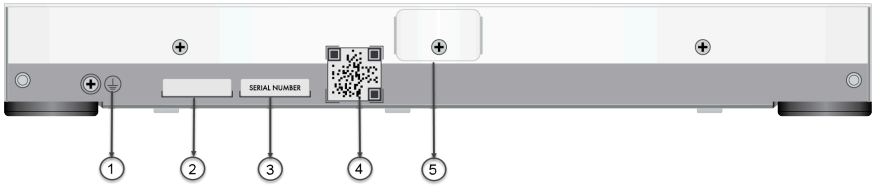
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Item	Component	Description
		Use the following settings to configure your terminal emulation software to connect to the console port: • Data rate: 115200 • Data bits: 8 • Parity: none • Stop bits: 1 • Flow control: None
7	Port 0	Use this Ethernet 1Gbps port.
8	SFP/RJ-45 combo ports	Two SFP/RJ-45 combo ports for 10/100/1000Mbps speeds.
9	RJ-45 ports	Seven RJ-45 10/100/1000Mbps ports for network traffic. Ports 3 and 4 are fail-open ports or bypass pairs. Bypass is indicated with a orange bar above and below the ports. They can be configured to provide a pass-through connection despite power or operating system failure. Ports 5-8 are access ports.
10	Ground studs	Use a dual screw ground lug to connect the device to earth ground (ground cable not included).
11	DC power inputs	Use the DC power inputs to connect power to the device. A second power supply can be used for redundancy.

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ION 3200 Back Panel

The following image shows the back panel of the ION 3200 and the table describes the back panel components.



Item	Description
1	Earth ground connection.
2	Part Number
3	Serial Number
4	QR Code
5	Tamper proof label.

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ION 3200H and ION 3200H-C5G-WW Back Panel

The following image shows the back panel of the ION 3200H and ION 3200H-C5G-WW and the table describes the back panel components.



Item	Component	Description
1	Earthing	Earth ground connection. The ground connector is not required during normal operation.
2	Serial Number	Serial number of the ION device.
3	Part Number	Part number of the ION device.
4	QR Code	QR code links to the ION 1200 Hardware Reference.

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ION 3200 LEDs

Refer to ION 3200 Front Panel for position of the LEDs on the device and its description.

LEDs	Description
Power	• Green LED indicates the device is powered on. • Red LED indicates that the device is not getting enough power or power failure. • Off LED indicates that the device is powered off.
Operating System Status	• Green LED indicates OS is running. • Red LED indicates secure boot has failed.
Controller	• Green LED indicates that the device is connected to the controller. • Red LED indicates the device is attempting to connect to the controller or device not connected to controller. • Off LED indicates that the device is not attempting to connect to the controller.
Link Activity	On ethernet ports, the right LED displays the link activity. The LED blinks when there is activity detected on the link.
Link Speed	On ethernet ports, the left LED displays the link speed on the port. The LED blinks when there is speed detected on the link. • Off—No link or speed is 10Mbps. • Green—Link detected and speed is 100Mbps. • Yellow—Link detected and speed is 1Gbps. • SFP/SFP+

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ION Device 3200H LEDs

The following table describes how to interpret the status LEDs on all of the ION 3200H device.

LED	Description
Front Panel LEDs	
 (Power)	• Green—The device is powered on. • Red LED indicates that the device is not getting enough power or power failure. • Off LED indicates that the device is powered off.
 (Operating System Status)	• Green LED indicates OS is running. • Red LED indicates secure boot has failed.
 (Controller)	• Green LED indicates that the device is connected to the controller. • Red LED indicates the device is attempting to connect to the controller or device not connected to controller. • Off LED indicates that the device is not attempting to connect to the controller.
 (High Availability)	• Green—The device is the active peer in an active/passive configuration. • Yellow—The device is the passive peer in an active/passive configuration. • Off—High availability (HA) is not operational on this device.  *In an active/active configuration, the HA LED only indicates HA status for the local device and has two possible states (green or off); it does not indicate HA connectivity of the peer. Green indicates that the device is either active-primary or active-secondary and off indicates that the device is in any other state (for example, non-functional or suspended).*

Cellular LED	Cellular ION Device
Cellular	The device cellular LED indicates the signal strength. • Off—No modem detected.

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Cellular LED	Cellular ION Device
	• Solid green LED indicates maximum signal strength. Blinking green LED indicates good to poor Radio Signal Strength Indicator. The cellular LED blinking rate is based on the signal strength: • 25 blinks in 10 seconds—Good signal strength. • 10 blinks in 10 seconds—Fair signal strength. • 5 blinks in 10 seconds—Poor signal strength. You can also the view the signal strength on the Interface tab of the Prisma SD-WAN web interface.  - Excellent  - Good  - Fair  - Poor  - Modem Error, hover over the icon to see the error.  - No modem or signal detected.

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ION 3200 Installation Kit Components

The ION 3200 device installation kit contains the following parts and tools to install the device:

- 1x ION 3200 device ships with 1x 150W power adapter.
- 1x power cord, AC, which varies depending on the country or region.
- 1x Power adapter wall-mount kit (includes one power adapter bracket, a Velcro strap, and a plastic cable tie).
- 1x Shielded RJ-45 CAT6 Ethernet cable.
- Sheet, Limited Warranty.

The following optional hardware parts must be ordered separately:

- 1 x Region specific power cable.
- 1x Rack mount kit.

The following hardware parts can be ordered separately, if needed.

- 1x Power adapter.
- 1x USB to RJ-45 serial cable.

ION 3200H Installation Kit Components

The ION 3200H device installation kit contains the following parts and tools to install the device:

- 1x ION 3200H device ships with 1x 270W power adapter.
- 2x Euroblock connector and terminal block.
- 1x #10 Ground lug.
- 1x USB to Micro USB cable.
- 1x power cord, AC, which varies depending on the country or region.
- 1x AC/DC Power adapter wall-mount kit (includes one power adapter bracket, a Velcro strap, and a plastic cable tie).
- 1x Shielded RJ-45 CAT6 Ethernet cable.
- 1x Sheet, Limited Warranty.
- 1x China RoHS declaration.

The following optional hardware parts must be ordered separately:

- 1 x Region specific power cable.

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- 1x Antenna cable kit for ION 3200H-C5G-WW.
  - 1x ION 3200H short antenna cable measuring 17"
  - 1x ION 3200H long antenna cable measuring 27"

  The long antenna cable connects to the front panel side (overlay) and the short cable connects to the back panel side.

  ION 3200H-C5G-WW comes with 4 antenna cables in the rack mount kit.

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ION 3200 and ION 3200H Compliance Statement

The following compliance statements apply to this device:

- **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.
- **Nationally Recognized Testing Laboratory (NRTL)**—Product Maximum Ambient Temperature: 40 oC (ION 3200) and 60 oC (ION 3200H and ION 3200H-C5G-WW)

  Risk of explosion if battery is replaced by an incorrect type. Dispose of used battery according to local regulations.
- **CE (European Union (EU) Electromagnetic Compatibility Directive)**

  The device is in conformity with the harmonized standards and fulfills the essential requirements of the LVD Directive 2014/35/EU, EMC Directive 2014/30/EU, WEEE Directive 2012/19/EU, and RoHS Directives 2011/65/EU and 2015/863/EU.

  The device complies with the requirements relating to electrical equipment designed for use within certain voltage limits.
- **United Kingdom Declaration of Conformity (UKCA) Directives**

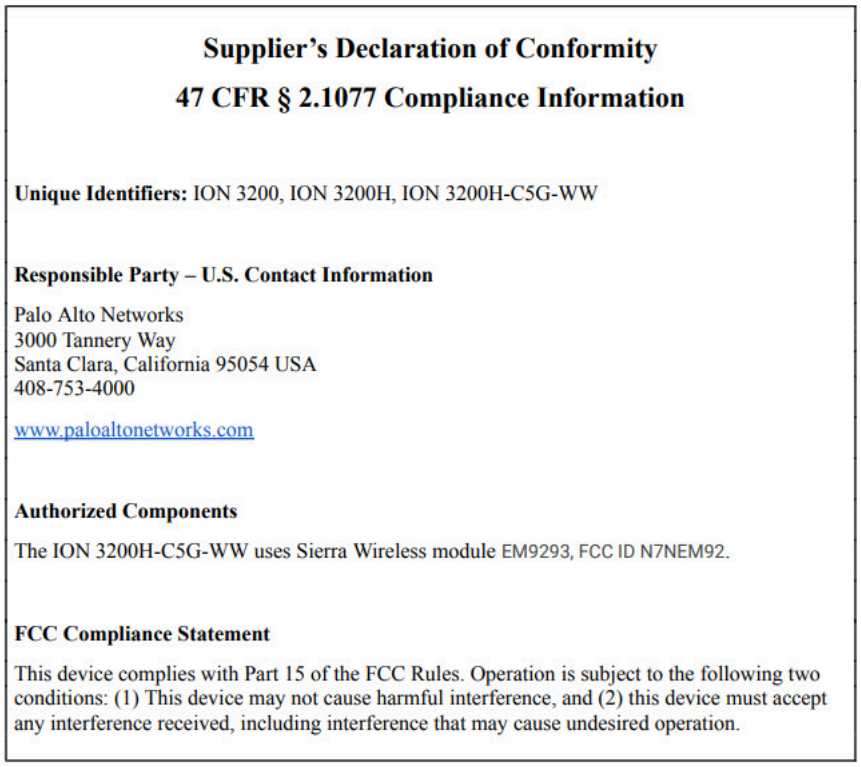
  The device is in conformity with the designated standards and fulfills the requirements of the Electrical Equipment (Safety) Regulations 2016, Electromagnetic Compatibility Regulations 2016, and The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012.
- **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

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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.

- **Federal Communications Commission (FCC) Compliance Statement**



Supplier's Declaration of Conformity

47 CFR § 2.1077 Compliance Information

Unique Identifiers: ION 3200, ION 3200H, ION 3200H-C5G-WW

Responsible Party – U.S. Contact Information

Palo Alto Networks
3000 Tannery Way
Santa Clara, California 95054 USA
408-753-4000

www.paloaltonetworks.com

Authorized Components

The ION 3200H-C5G-WW uses Sierra Wireless module EM9293, FCC ID N7NEM92.

FCC Compliance Statement

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.

- **ICES (Canadian EMC 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.

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- **Taiwan Declaration of the Presence Condition of the Restricted Substances Marking.**

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限用物質含有情況標示聲明書

Declaration of the Presence Condition of the Restricted Substances Marking

證書號碼／受理編號：(No.) 新申請

商品標籤及商品檢驗標識：(Picture)

Certificate No./Application No.

樣張及其標示位置：(Description and Picture)

Product Label and Commodity Inspection Mark.

設備名稱：　網路服務器　　，型號（型式）：ion 3000

Equipment Name　　Type designation (Type)

單元Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
內部電源供應器 POWER SUPPLY	-	○	○	○	○	○
輸出/入裝置 I/O	○	○	○	○	○	○
固態硬碟HDD	○	○	○	○	○	○
儲存裝置 FLASH DISK	○	○	○	○	○	○
風扇 FAN	-	○	○	○	○	○
金屬機構件 ME metal part	○	○	○	○	○	○
塑膠機構件 ME plastic part	○	○	○	○	○	○
配件(例: 電源線等) Accessory (ex:cable, etc.)	○	○	○	○	○	○
印刷電路板元件 PCBA	-	○	○	○	○	○

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

如果將鋰電池更換成錯誤類型的電池，會有爆炸的危險。 電池只能更換為與製造商建議相同或等同類型的電池。

備考1.〝超出0.1 wt %〞及〝超出0.01 wt %〞係指限用物質之百分比含量超出百分比含量基準值。

Note 1: "Exceeding 0.1 wt %" and "exceeding 0.01 wt %" indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考2.〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值。

Note 2: "○" indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考3.〝 - 〞係指該項限用物質為排除項目。

Note 3: The "–" indicates that the restricted substance corresponds to the exemption.

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- **Thailand Regulation for Non-Radio Equipment (ION 3200):**

  เครื่องโทรคมนาคมและอุปกรณ์นี้มีความสอดคล้องตามมาตรฐานหรือข้อกำหนดทางเทคนิคของ กสทช
  (This telecommunication equipment conforms to the technical standards or requirements of NBTC.)

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Install ION 3200 and ION 3200H

This chapter describes how to install the ION 3200 series:

- Install ION 3200 on a Wall
- Install ION 3200H on a Wall
- Wall Mount Template
- Install ION 3200 and ION 3200H in a Rack
- Install the ION 3200H on a Flat Surface
- Install Antennas on ION 3200H-C5G-WW
- Power on the ION 3200 and ION 3200H

Install ION 3200 on a Wall

Install an ION 3200 on a drywall or plywood wall using the wall-mount kit as described in the following procedure.

STEP 1 | Mark four locations on the wall that line up with the wall mount holes on the bottom of the device as shown in the Wall Mount Template.

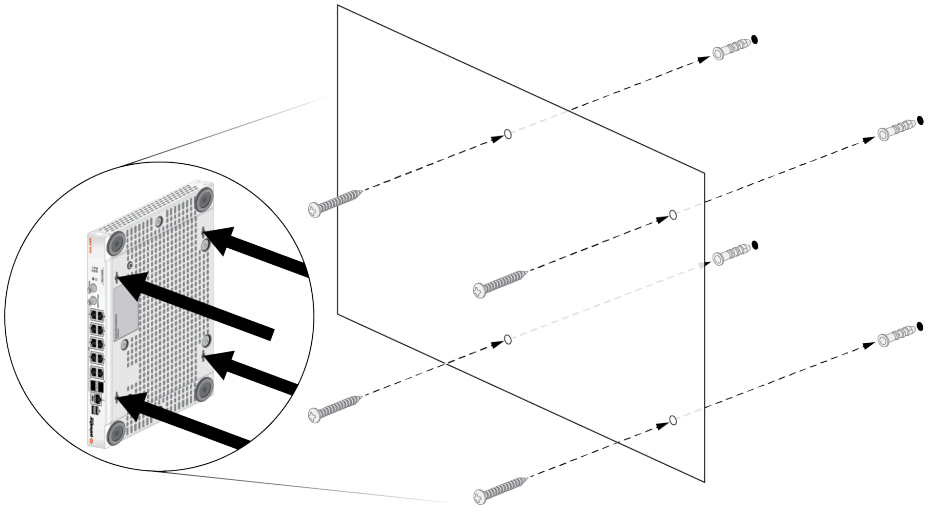
Print the Wall Mount Template on a US letter size sheet (8.5" x 11"), in portrait mode, and scale to actual size to ensure the screw hole markers line up correctly.

Ensure there are no building services (water, gas, or wiring) behind the wall where you intend to install the device.

STEP 2 | Use a #1 Phillips-head screwdriver to install the appropriate screws into each of the four marked locations:

- Drywall—Press a drywall anchor slightly into the center of a template mark. Then use the screwdriver to apply pressure while turning the anchor clockwise until the surface of the anchor is flush with the wall. After the drywall anchor is secure, install a 1.25” anchor screw into the anchor until the bottom of the screw head protrudes 1/4” (.6cm) from the wall. Repeat this step for the other three screw locations unless either is located over wood, in which case, use a .75” wood screw instead of a drywall anchor and screw.
- Plywood wall—Use the screwdriver to insert a .75” wood screw into the center of each template mark that is located over wood until the bottom of the screw heads protrude 1/4” (.6cm) from the wall.

STEP 3 | Align the four holes on the bottom of the device with the four screws on the wall and hang the device on the screws. Make sure the device is securely connected to each of the four screws before you let go.

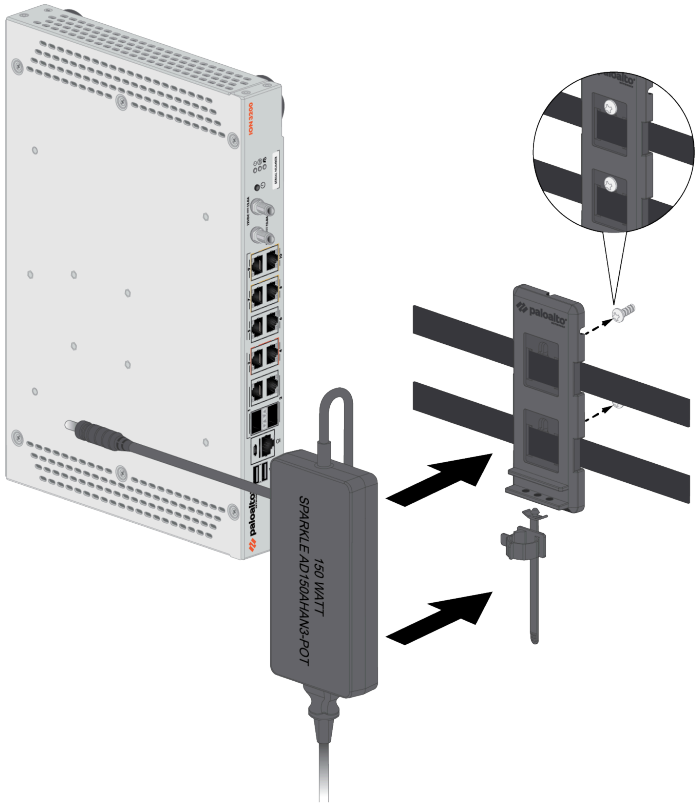


Screws and anchors are part of the wall-mount kit which is a separate kit option.

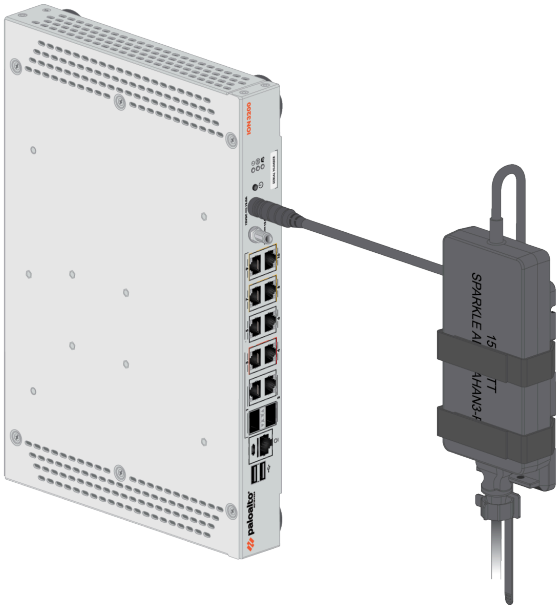
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STEP 4 | Install the power adapter in the wall-mount bracket using the Velcro strap and cable tie. Make sure to align the cable tie with the notches in the bracket to prevent the power cord from falling out.

After you secure the power adapter to the bracket, mount the bracket next to the device using wood or drywall screws as appropriate.



The following image shows a completed installation for an ION 3200 with a single power adapter.



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Install ION 3200H on a Wall

Install an ION 3200H on a drywall or plywood wall using the wall-mount kit as described in the following procedure.

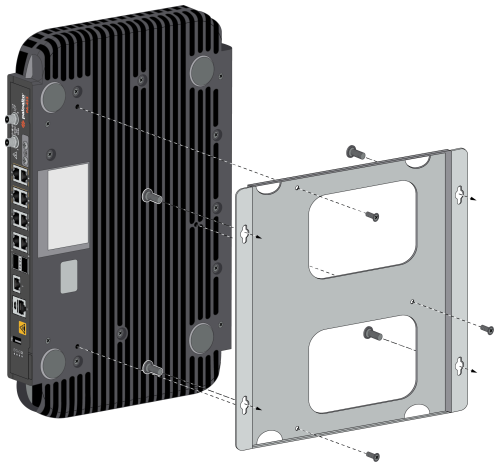
The wall mount kit (PAN-1RU-SMALL-WALLMNT) is not included with the device and must be purchased separately.

After installing, make sure to keep the device clean and clear of dust to ensure optimal heat dissipation and maintain proper hardware operation.

STEP 1 | Mark the locations on the wall that line up with the wall mount holes on the bottom of the provided wall mount.

Ensure there are no building services (water, gas, or wiring) behind the wall where you intend to install the device.

STEP 2 | Attach the device to the wall mount using three #6-32 screws and a #2 Phillips-head screwdriver.

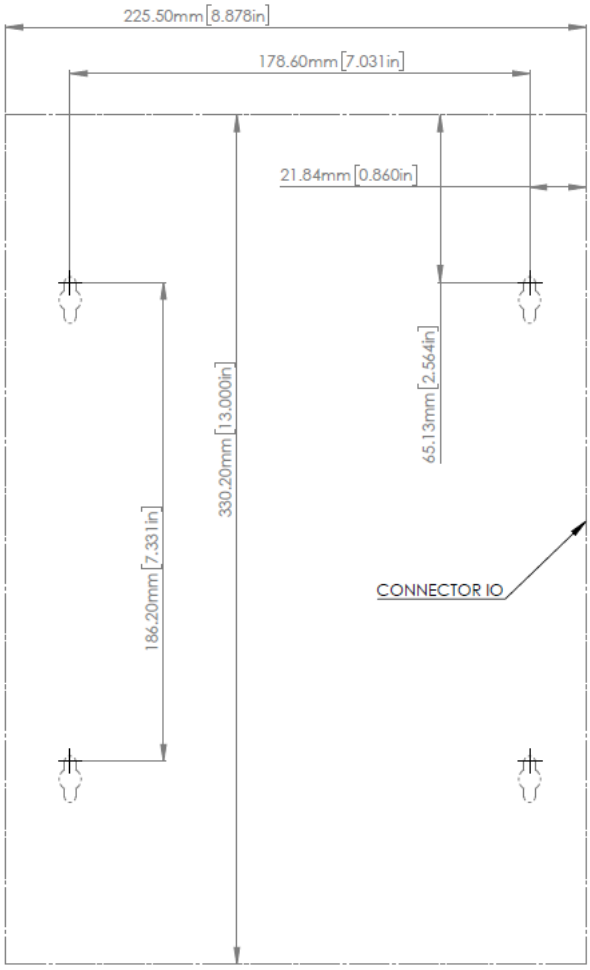


STEP 3 | Attach the wall mount to the wall using four screws that are appropriate for your wall (sheet metal and drywall inserts are included with the wall mount kit). Ensure that the side fins run vertically, as shown in the above figure.

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Wall Mount Template

Download and print the following wall mount template to secure the template to the wall where you intend to mount the ION 3200 device and use it to mark the location for each of the four wall-mount screws.



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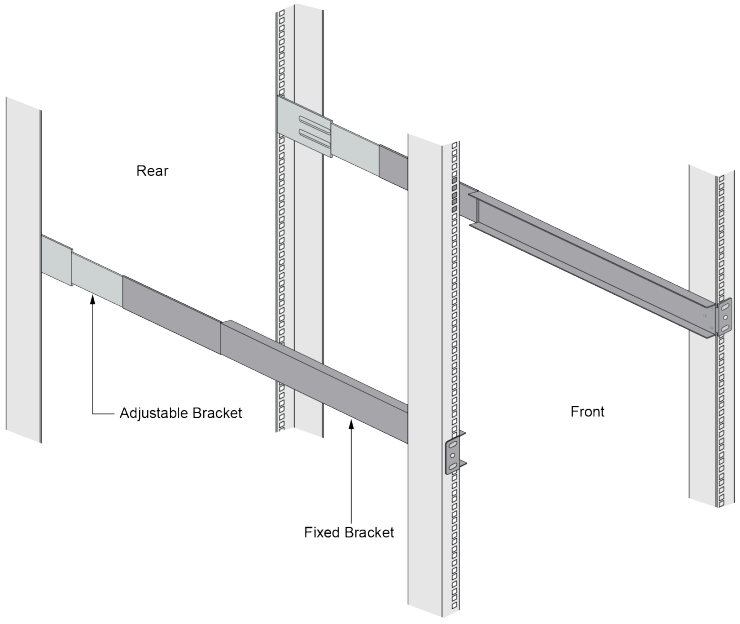
Install ION 3200 and ION 3200H in a Rack

Mount the ION device in a 19” equipment rack using the racktray. The mounting equipment requires 1 RU of rack space.

The racktray kit enables you to install an ION 3200 device in a 19" rack. The installation hardware consists of a metal base and two rails. To ease installation, first install the device in the racktray and then install the assembled racktray into the equipment rack.

The rack kits PAN-ION-RACKTRAY- ION 3200 and PAN-1RU-SMALL-RACK4- ION 3200H and ION 3200H 5G are not included with the device and must be purchased separately.

STEP 1 | Slide one of the adjustable mounting brackets into one of the fixed mounting brackets to create a mounting rail. Repeat for the second mounting rail. The adjustable and fixed brackets are the same for the left and right side.



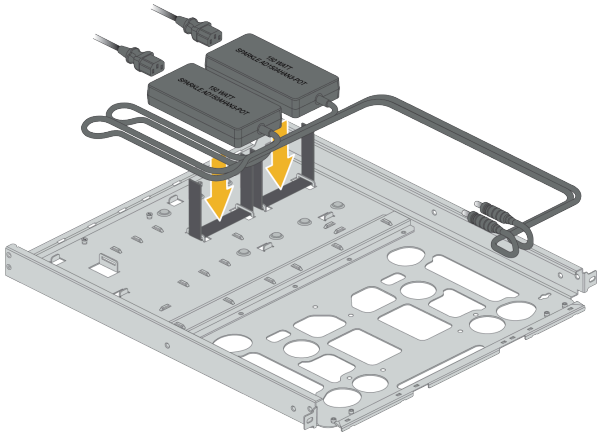
STEP 2 | Align the bottom edge of the mounting rails to the bottom of the 1 RU rack space reserved for the device. Align the slotted holes in the adjustable mounting bracket to the holes on the rear of the equipment frame.

The mounting rails are designed for equipment frames that are 26” to 32” deep.

STEP 3 | Secure the rails to the equipment frame with mounting screws (not provided) compatible with your equipment frame. Tighten the screws to their recommended torque value.

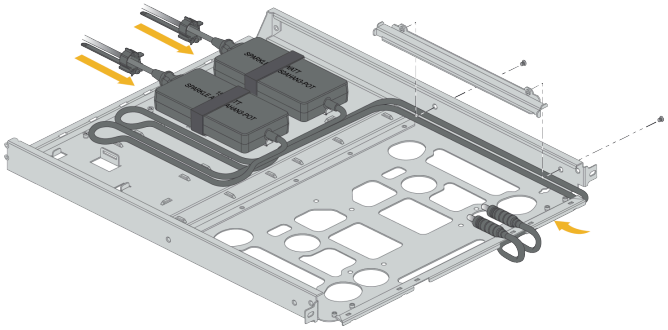
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STEP 4 | Slide the power adapter into the marked position and attach the AC cord, route the AC cord to the right side of the tray sidewall and underneath the front tray “C” channel.

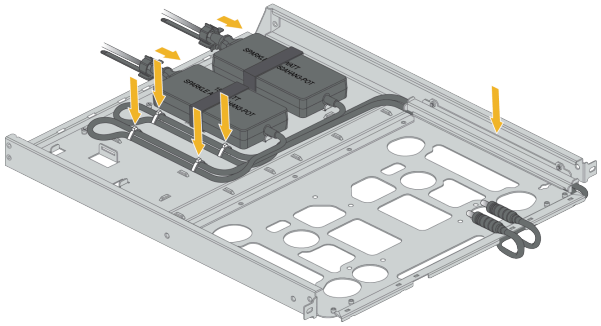


ION 3200 device comes with only one power adapter. The second power adapter as shown in the image is an optional power adapter.

STEP 5 | Attach the power cord routing cover to the tray sidewall and install AC retaining clamp.

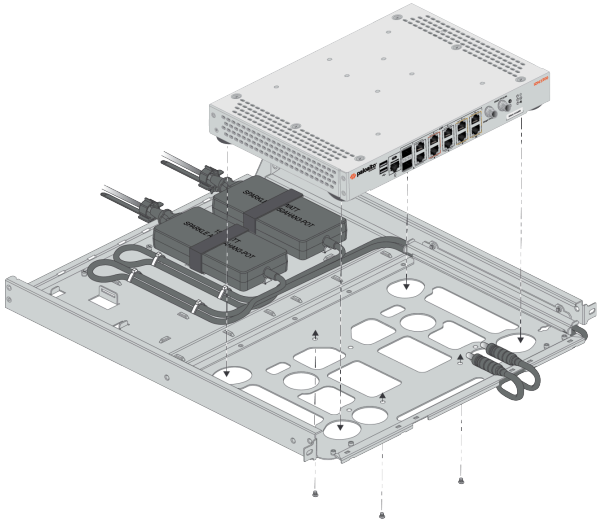


STEP 6 | Plug the power supply connector into the back of the device. Using the provided tie-wraps, bind and secure the power supply cable toward the back end of the tray using the sheet-metal lances toward the center of the tray.



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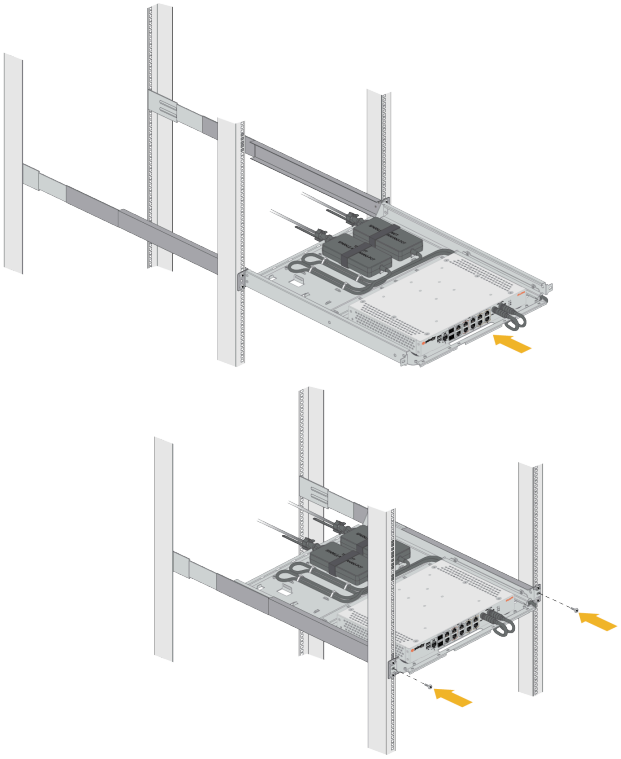
STEP 7 | With the front of the device facing forward, align the four rubber feet on the bottom of the device to the slotted holes in the provided mounting tray. Secure the device in place using two provided #6-32 x 3/16” Long Flathead screws.



STEP 8 | After assembling the device to the tray and connecting the power cable to the device, tie-wrap the power cord to the "C" channel.

STEP 9 | Slide the mounting tray into the rails previously fixed to the equipment rack. Stop when the front flange on the mounting tray is flush with the front of the rail.

STEP 10 | Align the slotted holes in the mounting tray to the holes in the equipment frame. Secure the mounting tray to the equipment frame on both sides using 3 screws each (not provided). The screws must be compatible with your equipment frame.



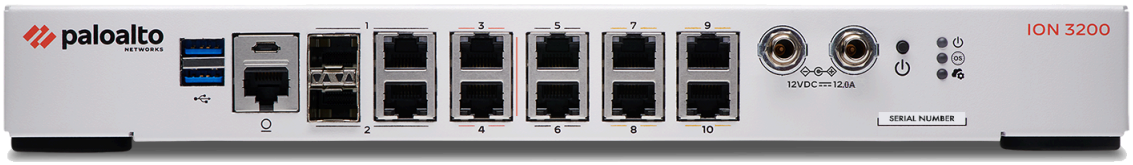
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STEP 11 | Proceed to Power on the ION 3200 and ION 3200H.

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Install the ION 3200 on a Flat Surface

The ION 3200 device ships with rubber “feet” attached to the bottom of the device. The device can be set horizontally upon a flat surface.



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Install the ION 3200H on a Flat Surface

The ION 3200H device ships with rubber “feet” attached to the bottom of the device. The device can be set horizontally upon a flat surface.



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Install Antennas on ION 3200H-C5G-WW

The ION 3200H-C5G-WW supports multi-band antennas which can be easily secured to the device.

The ION 3200H-C5G-WW has four antenna SMA (F) connectors.

The antennas must be connected before the device is installed in an equipment rack.

Before installing the device, it is recommended that you conduct a cellular location assessment of the installation site to receive the best signal strength before installing the device.

If installing the device on a wall or on a flat surface, it is recommended that you orient the antennas upright and slanted slightly outwards, not exceeding 45 degrees, to improve the signal quality.

Feature	Description
Antennas	Multi–Band 4G / 5G Antenna 4G - 3x SMA Antenna connectors 5G - 4x SMA Antenna connectors
Frequency Range	615-960MHz / 1500-1600MHz / 1710-2690MHz / 3300-3700MHz
Peak Gain	2.3dBi in 800MHz band, 4.4dBi in 1575MHz band, 2.6dBi in 2170MHz band, 1.7dBi in 3300MHz band, 3.8dBi in 4400MHz band
Max Antenna VSWR (voltage standing wave ratio)	<3:1
Interface	SMA (F) Connectors
Antenna Dimensions	197 mm x 58 mm x 8 mm (L x W x T)

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STEP 1 | Secure the antennas to the SMA connectors located at the corners of the device. Make sure to tighten each antenna by hand. The antennas are fixed at a 90 degree orientation but can be repositioned after installation.



STEP 2 | Adjust the antenna orientation to receive the optimal signal strength in your environment.

Check the signal strength of the firewall by viewing the Cellular LED (see ION Device 3200H LEDs).

- *Do not point the antennas toward one another or place them close together. Hold the antenna in a fixed position while tightening the splined nut on it.*
- *Ensure that power cables do not cross over the antennas as this can cause signal quality distortion and antenna performance degradation.*

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Power on the ION 3200 and ION 3200H

Connect the power cables to the ION device and plug the device power cable into an AC power outlet. When you switch on the power, the device powers on and the power indicator turns green.

Restart the ION 3200 and ION 3200H

Press the power switch three times (press and hold for one second, and then release) to restart the device.

Shut Down the ION 3200 and ION 3200H

Shut down the ION 3200 and and ION 3200H in the following ways:

- Shut down using the Device Toolkit commands

  Run the device toolkit command `debug shutdown` to shut down the device.

  Ensure the device is physically accessible to turn it back on, before executing the command.

- Shut down using the Power Switch

  Press the power switch for more than five to eight seconds and then release to shut down the ION 3200 and and ION 3200H device.

When you shut down the device using the device CLI toolkit command or the power switch, click the power switch once to power on the device.

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Troubleshoot the ION 3200 and ION 3200H

- Troubleshoot Common Issues of ION 3200 and ION 3200H

Troubleshoot Common Issues of ION 3200 and ION 3200H

Troubleshoot the issue by following the resolution steps mentioned in the table. If the issue persists, contact Palo Alto Networks Support.

Alerts and alarms are reported when there is fault in the system or an issue with the cellular modem. For detailed information on the alerts and alarms on the ION 3200 device, refer to the Prisma SD-WAN Administrator's Guide.

Issue	Resolution
No internet access	1. Check the modem status. 2. Make sure that your mobile broadband account is active.
No power in the PoE ports.	1. Confirm whether the powered (PD) device on the PoE port is attached properly. 2. If PD is attached but not receiving power, check if PoE is enabled on the port, port is administratively enabled and whether device budget permits powering on the PD.
Power Sourcing Equipment (PSE) controller encounters an internal error requiring a reload/power-cycle/RMA of the device.	1. Recover the device. 2. Check if a reload of the device or a power-cycle helps to recover the device. 3. Call Palo Alto Networks support if the issue is still not resolved.
The main power usage goes over the configured threshold for the system or for a port.	Check the PD power requirements for the port and all the PDs.Validate whether the power usage for the port and all the PDs is as expected and is over the configured threshold for the device.

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