

FORTINET FortiGate-120G

FortiGate-120G Firewall User Manual

Model: FG-120G | Brand: FORTINET

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, maintenance, and troubleshooting of the FortiGate-120G Firewall appliance. The FortiGate-120G is a high-performance network security appliance designed to provide robust protection and efficient network management for enterprise environments.

It features advanced capabilities such as SP5 hardware acceleration, multiple Gigabit Ethernet and SFP+ ports, and dual AC power supplies for reliable operation.

2. PRODUCT OVERVIEW

The FortiGate-120G is a powerful security appliance offering comprehensive threat protection and network management. Key features include:

- **Robust Port Configuration:** 18 GE RJ45 ports (1 management, 1 HA, 16 switch), 8 GE SFP slots, and 4 10GE SFP+ slots.
- **Cutting-edge Performance:** SP5 hardware acceleration for rapid application identification and efficient operations.
- **Dual AC Power Supplies:** Non-hot swappable for uninterrupted service and operational reliability.
- **Superior Security Features:** Integrated with Fortinet's Security Fabric, offering advanced threat protection, SSL inspection, and AI-powered FortiGuard services.
- **Streamlined Network Management:** FortiLink protocol for seamless integration and centralized control.

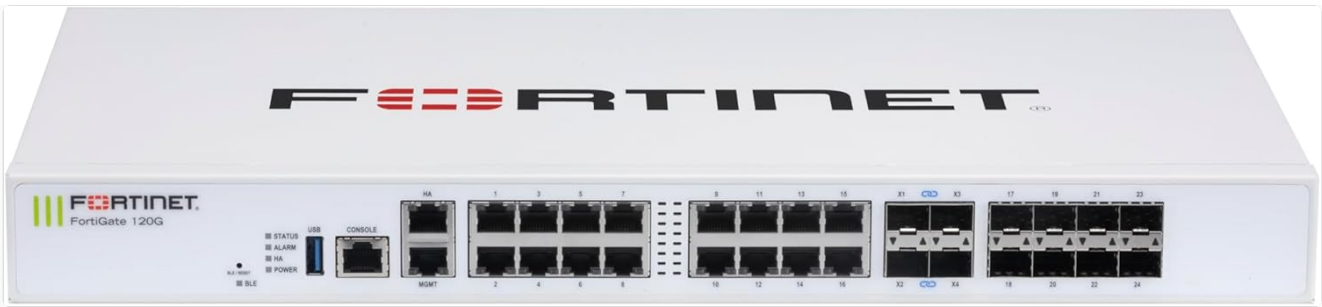


Figure 2.1: Front view of the FortiGate-120G appliance, showing the various RJ45 and SFP/SFP+ ports, status indicators, and console/USB ports.

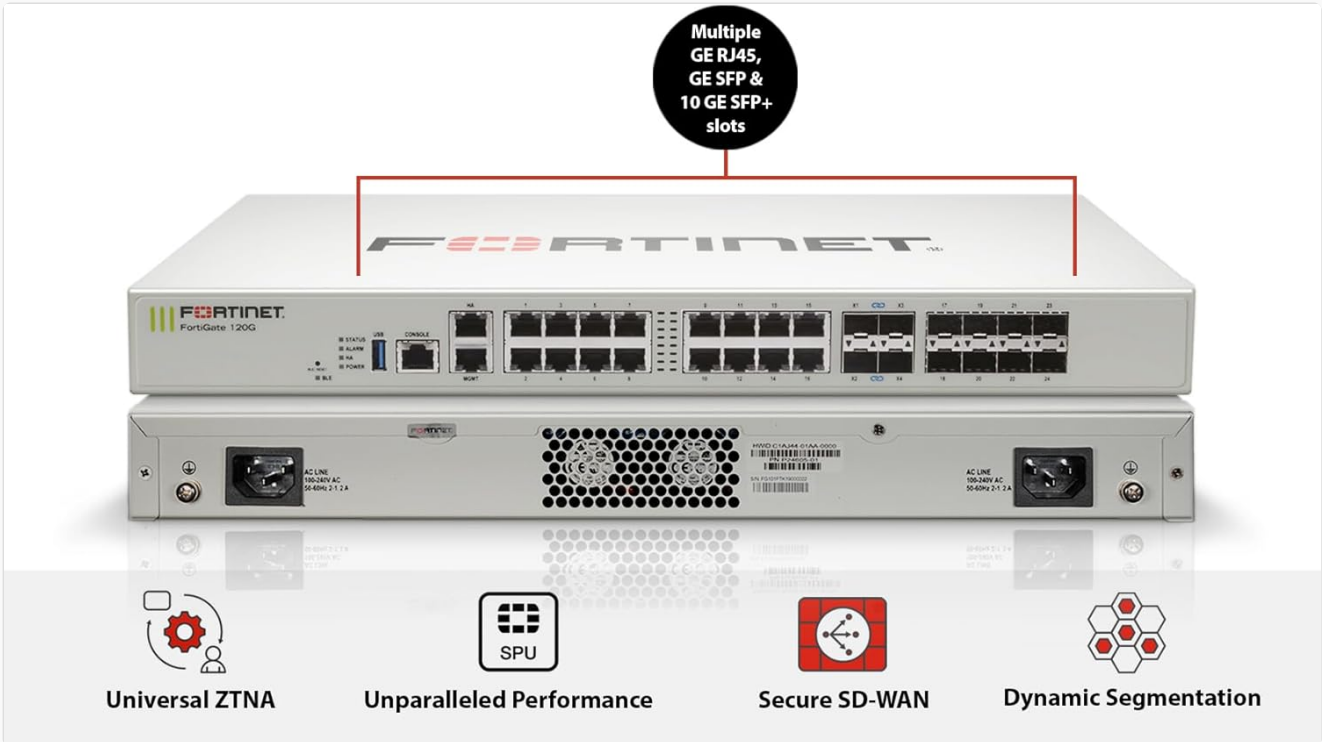


Figure 2.2: Front and rear view of the FortiGate-120G, highlighting the multiple GE RJ45, GE SFP, and 10 GE SFP+ slots, along with the dual AC power inputs at the rear.

3. SETUP AND INSTALLATION

3.1. Package Contents

Verify that all components are present in the package:

- FortiGate-120G Appliance
- Power Cords (x2)
- Rack-mount Kit (if applicable)
- Quick Start Guide

3.2. Physical Installation

The FortiGate-120G can be installed in a standard 19-inch rack or placed on a desktop.

Rack Installation:

1. Attach the provided rack-mount ears to the sides of the appliance using the screws.

2. Secure the appliance into the rack using appropriate rack screws. Ensure adequate ventilation around the unit.

Desktop Installation:

1. Place the appliance on a flat, stable surface.
2. Ensure there is sufficient space for airflow around the unit, especially at the front and rear vents.



Figure 3.1: Physical dimensions of the FortiGate-120G, indicating a height of 1.73 inches, width of 17 inches, and length of 10 inches, with a weight of 12.17 pounds. This information is crucial for proper rack or desktop placement.

3.3. Power Connection

Connect the two provided AC power cords to the power inlets at the rear of the FortiGate-120G and then to separate, grounded power outlets. The dual power supplies ensure redundancy.



Figure 3.2: Rear view of the FortiGate-120G, showing the dual AC power inlets (100-240V AC, 50-60Hz, 1.5A Max) and ventilation.

3.4. Initial Network Connection

For initial configuration, connect a management workstation to the FortiGate-120G using one of the following methods:

- **Console Port:** Connect a serial cable from your workstation to the RJ45 console port on the FortiGate-120G. Use a terminal emulator (e.g., PuTTY) with settings: 9600 baud, 8 data bits, no parity, 1 stop bit, no flow control.
- **Management Port:** Connect an Ethernet cable from your workstation to the dedicated management port (MGMT) on the FortiGate-120G. The default IP address for the management interface is typically 192.168.1.99.

4. OPERATING INSTRUCTIONS

4.1. Powering On and Off

To power on the FortiGate-120G, ensure both power cords are securely connected to active power outlets. The device will automatically power on. To power off, disconnect both power cords from the power outlets.

4.2. Status Indicators

Monitor the front panel LEDs for operational status:

- **STATUS:** Indicates system status (e.g., green for normal operation, blinking for activity).
- **ALARM:** Indicates a system alarm or error.
- **HA:** Indicates High Availability status.
- **POWER:** Indicates power supply status.
- **USB:** Indicates USB port activity.
- **BLE:** Indicates Bluetooth Low Energy status.

4.3. Initial Configuration

After connecting to the device via console or management port, access the FortiGate CLI or web-based manager for initial configuration. Refer to the FortiGate Administration Guide for detailed configuration steps, including setting up interfaces, security policies, and user authentication.

For web-based management, open a web browser and navigate to the IP address of the management interface (e.g., <https://192.168.1.99>). Use the default username "admin" and no password for the first login.

5. MAINTENANCE

5.1. Firmware Updates

Regularly check for and apply firmware updates to ensure optimal performance, security, and access to new features. Firmware can be downloaded from the Fortinet Support website.

5.2. System Backups

Periodically back up your FortiGate configuration to prevent data loss. This can be done via the web-based manager or CLI.

5.3. Environmental Considerations

Ensure the operating environment meets the following conditions:

- **Temperature:** 0°C to 40°C (32°F to 104°F)
- **Humidity:** 10% to 90% non-condensing
- Maintain clear airflow around the appliance to prevent overheating.

6. TROUBLESHOOTING

6.1. Common Issues and Solutions

Issue	Possible Cause	Solution
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Issue	Possible Cause	Solution
Device not powering on	Power cords not connected, faulty power outlet, power supply failure.	Verify power cord connections. Test power outlets. Check POWER LED status.
Cannot access web-based manager	Incorrect IP address, network connectivity issue, firewall policy blocking access.	Verify IP address and network settings. Check cable connections. Try accessing via console.
Slow network performance	High network traffic, misconfigured security policies, hardware limitations.	Monitor network usage. Review firewall policies. Consult performance specifications.

6.2. Resetting to Factory Defaults

If severe configuration issues arise, you may need to reset the FortiGate-120G to its factory default settings. This can typically be done via the console port using specific CLI commands. **Warning:** This will erase all configurations and data on the device.

7. SPECIFICATIONS

The following table outlines the key technical specifications for the FortiGate-120G:

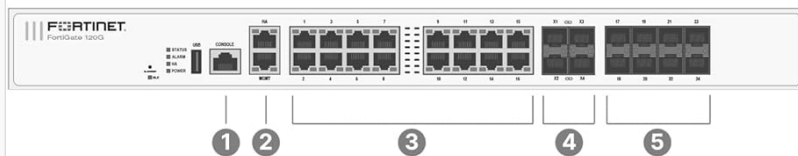
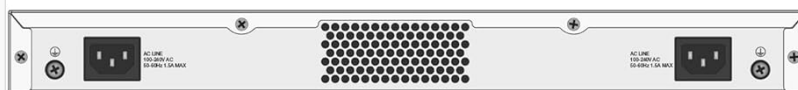
Feature	Detail
Model Number	FortiGate-120G (FG-120G)
Ports	18 x GE RJ45 (1 MGMT, 1 HA, 16 Switch), 8 x GE SFP, 4 x 10GE SFP+
Acceleration	SP5 Hardware Acceleration
Power Supply	Dual AC (Non-hot swappable)
Dimensions (H x W x L)	1.73 x 17 x 10 inches
Weight	13 pounds
Manufacturer	Fortinet
UPC	195875219500

FortiGate 120G Specifications

IPS Throughput	5.3 Gbps
NGFW Throughput	3.1 Gbps
Threat Protection Throughput	2.8 Gbps
Firewall Throughput (1518 / 512 / 64 byte UDP packets)	39/39/28 Gbps
Firewall Throughput (Packets Per Second)	42 Mpps
IPsec VPN Throughput (512 byte)	35 Gbps

Figure 7.1: Detailed performance specifications for the FortiGate-120G, including IPS Throughput (5.3 Gbps), NGFW Throughput (3.1 Gbps), Threat Protection Throughput (2.8 Gbps), Firewall Throughput (39/39/28 Gbps for 1518/512/64 byte UDP packets), Firewall Throughput (42 Mpps), and IPsec VPN Throughput (35 Gbps).

FortiGate 120G/121G



Interfaces

1. 1x RJ45 Console Port
2. 2x RJ45 HA and Management Ports
3. 16x GE RJ45 Ports
4. 4x 10GE SFP+ FortiLink Slots
5. 8x SFP Ports

Hardware Features

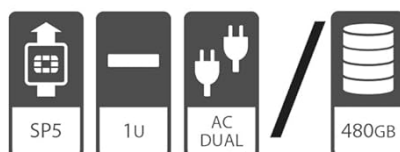


Figure 7.2: Diagram illustrating the interfaces of the FortiGate-120G, including 1x RJ45 Console Port, 2x RJ45 HA and Management Ports, 16x GE RJ45 Ports, 4x 10GE SFP+ FortiLink Slots, and 8x SFP Ports. Also shown are hardware features like SP5 acceleration, 1U rack size, dual AC power, and 480GB storage.

8. WARRANTY AND SUPPORT

8.1. Product Warranty

The FortiGate-120G appliance comes with a standard hardware warranty provided by Fortinet. For specific warranty terms and conditions, please refer to the warranty documentation included with your product or visit the official Fortinet website.

8.2. Technical Support

For technical assistance, product documentation, and software downloads, please visit the Fortinet Support website:

<https://support.fortinet.com>

Fortinet offers various support plans and services, including FortiCare subscriptions, which provide access to technical support, firmware updates, and advanced services. Information on available subscriptions can be found on the Fortinet website.

Subscriptions

Service Category	Service Offering	A-la-carte	Bundles		
			Enterprise Protection	Unified Threat Protection	Advanced Threat Protection
FortiGuard Security Services	IPS Service	•	•	•	•
	Anti-Malware Protection (AMP) — Antivirus, Mobile Malware, Botnet, CDR, Virus Outbreak Protection and FortiSandbox Cloud Service	•	•	•	•
	URL, DNS & Video Filtering Service	•	•	•	
	Anti-Spam		•	•	
	AI-based Inline Malware Prevention Service	•	•		
	Data Loss Prevention Service ¹	•	•		
	OT Security Service (OT Detection, OT Vulnerability correlation, Virtual Patching, OT Signature / Protocol Decoders) ¹	•			
	Application Control		included with FortiCare Subscription		
	CASB SaaS Control		included with FortiCare Subscription		
SD-WAN and SASE Services	SD-WAN Underlay Bandwidth and Quality Monitoring Service	•			
	SD-WAN Overlay-as-a-Service for SaaS-based overlay network provisioning	•			
	SD-WAN Connector for FortiSASE Secure Private Access	•			
	FortiSASE subscription including cloud management and 10Mbps bandwidth license ²	•			
NOC and SOC Services	FortiGuard Attack Surface Security Service (IoT Detection, IoT Vulnerability Correlation, and Security Rating Updates) ¹	•	•		
	FortiConverter Service	•	•		
	Managed FortiGate Service	•			
	FortiGate Cloud (SMB Logging + Cloud Management)	•			
	FortiAnalyzer Cloud	•			
	FortiAnalyzer Cloud with SOCaas	•			
Hardware and Software Support	FortiGuard SOCaas	•			
	FortiCare Essentials	•			
	FortiCare Premium	•	•	•	•
Base Services	FortiCare Elite	•			
	Internet Service (SaaS) DB Updates		included with FortiCare Subscription		
	GeoIP DB Updates		included with FortiCare Subscription		
	Device/OS Detection Signatures		included with FortiCare Subscription		
	Trusted Certificate DB Updates		included with FortiCare Subscription		
	DDNS (v4/v6) Service		included with FortiCare Subscription		

1. Full features available when running FortiOS 7.4.1
2. Desktop Models only

Figure 8.1: Overview of Fortinet subscription services, including FortiGuard Security Services (IPS, Anti-Malware, URL Filtering, Anti-Spam, Data Loss Prevention, OT Security), SD-WAN and SASE Services, NOC and SOC Services, Hardware and Software Support (FortiCare Essentials, Premium, Elite), and Base Services (Internet Service DB Updates, GeoIP DB Updates, Device/OS Signatures, Trusted Certificate DB Updates, DDNS). These services enhance the functionality and security of the FortiGate-120G.