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Fortinet FG-60E

Fortinet FortiGate 60E Firewall Instruction Manual

Model: FG-60E

1. Introduction

This manual provides essential instructions for the installation, operation, maintenance, and troubleshooting of your Fortinet FortiGate 60E Firewall. The FortiGate 60E is a compact, all-in-one network security appliance designed to deliver comprehensive threat protection and secure connectivity for small to medium-sized businesses and branch offices.

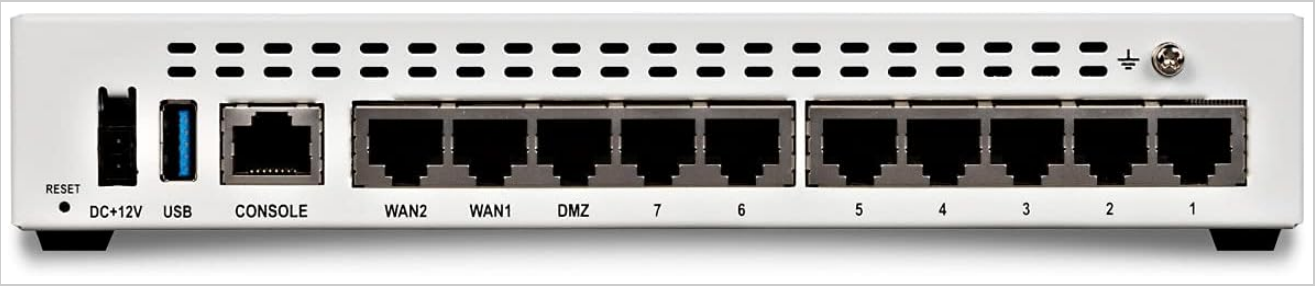


Figure 1: Front view of the Fortinet FortiGate 60E Firewall, showing status indicators.

2. Setup and Installation

Follow these steps to properly set up your FortiGate 60E device.

2.1 Package Contents

Verify that your package contains the following items:

- FortiGate 60E Appliance
- Power Adapter
- Ethernet Cable
- Quick Start Guide

2.2 Physical Installation

1. **Placement:** Place the FortiGate 60E on a stable, flat surface in a well-ventilated area. Ensure adequate space around the device for airflow. Avoid placing it near heat sources or in direct sunlight.

2. **Power Connection:** Connect the power adapter to the DC+12V port on the rear of the device and then plug it into a power outlet. The device will power on automatically.
3. **Network Connections:** Refer to the diagram below for port identification.

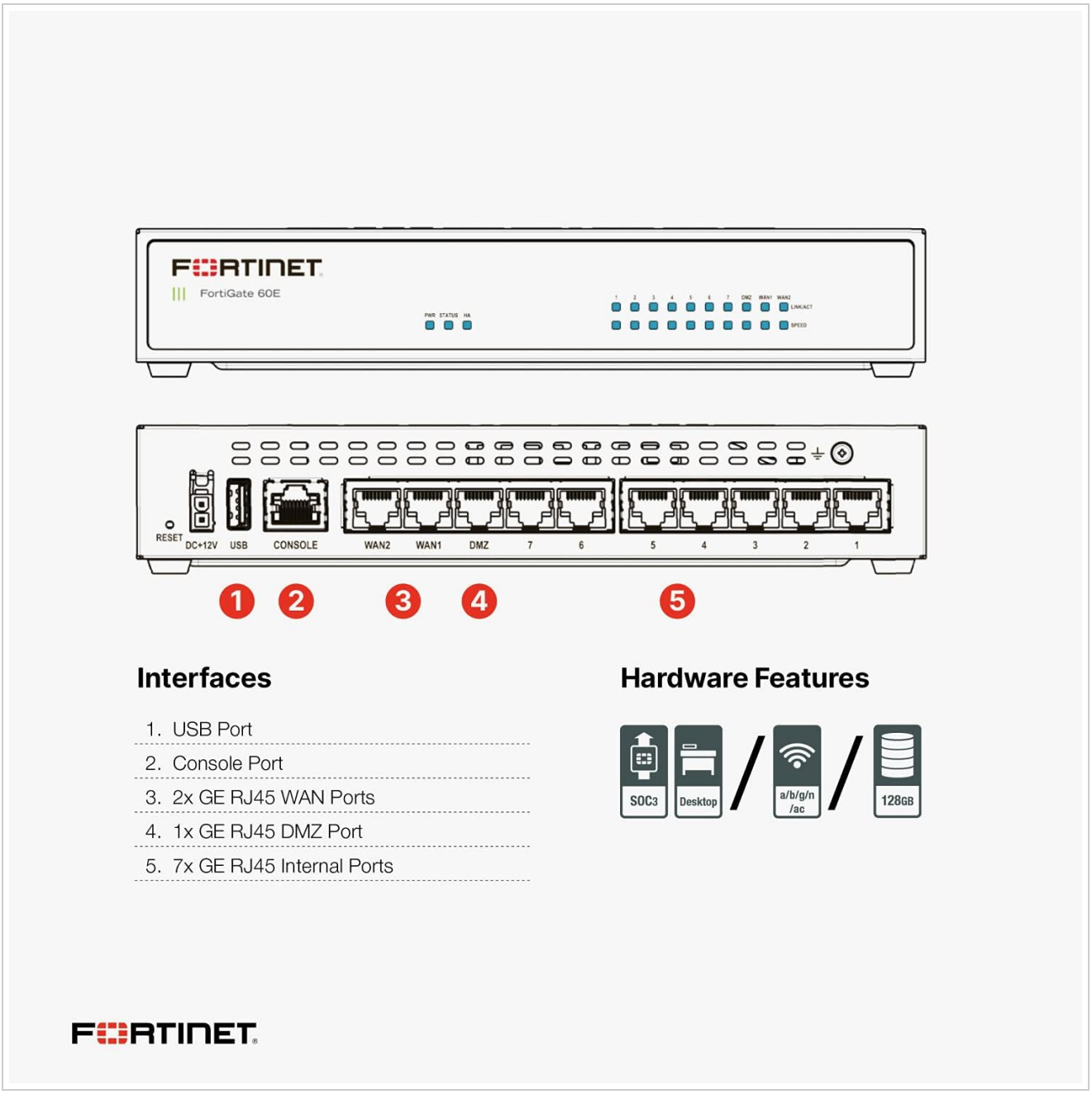
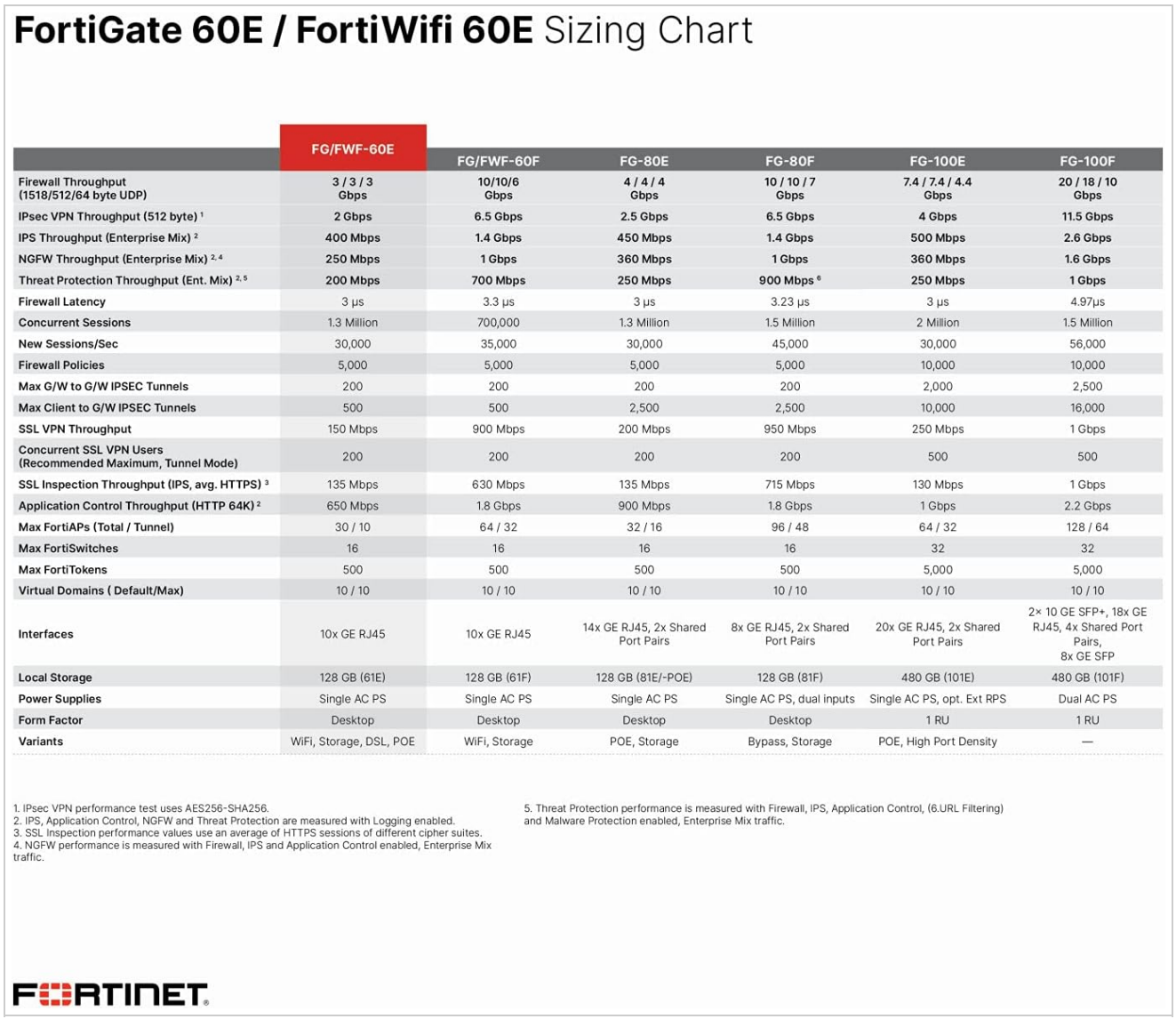


Figure 2: Rear view of the FortiGate 60E, showing various ports including WAN, DMZ, and internal LAN ports.



FortiGate 60E / FortiWifi 60E Sizing Chart

	FG/FWF-60E	FG/FWF-60F	FG-80E	FG-80F	FG-100E	FG-100F
Firewall Throughput (1518/512/64 byte UDP)	3 / 3 / 3 Gbps	10/10/6 Gbps	4 / 4 / 4 Gbps	10 / 10 / 7 Gbps	7.4 / 7.4 / 4.4 Gbps	20 / 18 / 10 Gbps
IPsec VPN Throughput (512 byte) [1]	2 Gbps	6.5 Gbps	2.5 Gbps	6.5 Gbps	4 Gbps	11.5 Gbps
IPS Throughput (Enterprise Mix) [2]	400 Mbps	1.4 Gbps	450 Mbps	1.4 Gbps	500 Mbps	2.6 Gbps
NGFW Throughput (Enterprise Mix) [2, 4]	250 Mbps	1 Gbps	360 Mbps	1 Gbps	360 Mbps	1.6 Gbps
Threat Protection Throughput (Ent. Mix) [2, 5]	200 Mbps	700 Mbps	250 Mbps	900 Mbps [6]	250 Mbps	1 Gbps
Firewall Latency	3 µs	3.3 µs	3 µs	3.23 µs	3 µs	4.97µs
Concurrent Sessions	1.3 Million	700,000	1.3 Million	1.5 Million	2 Million	1.5 Million
New Sessions/Sec	30,000	35,000	30,000	45,000	30,000	56,000
Firewall Policies	5,000	5,000	5,000	5,000	10,000	10,000
Max G/W to G/W IPSEC Tunnels	200	200	200	200	2,000	2,500
Max Client to G/W IPSEC Tunnels	500	500	2,500	2,500	10,000	16,000
SSL VPN Throughput	150 Mbps	900 Mbps	200 Mbps	950 Mbps	250 Mbps	1 Gbps
Concurrent SSL VPN Users (Recommended Maximum, Tunnel Mode)	200	200	200	200	500	500
SSL Inspection Throughput (IPS, avg. HTTPS) [3]	135 Mbps	630 Mbps	135 Mbps	715 Mbps	130 Mbps	1 Gbps
Application Control Throughput (HTTP 64K) [2]	650 Mbps	1.8 Gbps	900 Mbps	1.8 Gbps	1 Gbps	2.2 Gbps
Max FortiAPs (Total / Tunnel)	30 / 10	64 / 32	32 / 16	96 / 48	64 / 32	128 / 64
Max FortiSwitches	16	16	16	16	32	32
Max FortiTokens	500	500	500	500	5,000	5,000
Virtual Domains (Default/Max)	10 / 10	10 / 10	10 / 10	10 / 10	10 / 10	10 / 10
Interfaces	10x GE RJ45	10x GE RJ45	14x GE RJ45, 2x Shared Port Pairs	8x GE RJ45, 2x Shared Port Pairs	20x GE RJ45, 2x Shared Port Pairs	2× 10 GE SFP+, 18x GE RJ45, 4x Shared Port Pairs, 8x GE SFP
Local Storage	128 GB (61E)	128 GB (61F)	128 GB (81E/-POE)	128 GB (81F)	480 GB (101E)	480 GB (101F)
Power Supplies	Single AC PS	Single AC PS	Single AC PS	Single AC PS, dual inputs	Single AC PS, opt. Ext RPS	Dual AC PS
Form Factor	Desktop	Desktop	Desktop	Desktop	1 RU	1 RU
Variants	WiFi, Storage, DSL, POE	WiFi, Storage	POE, Storage	Bypass, Storage	POE, High Port Density	—

1. IPsec VPN performance test uses AES256-SHA256.
2. IPS, Application Control, NGFW and Threat Protection are measured with Logging enabled.
3. SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.
4. NGFW performance is measured with Firewall, IPS and Application Control enabled, Enterprise Mix traffic.
5. Threat Protection performance is measured with Firewall, IPS, Application Control, (6.URL Filtering) and Malware Protection enabled, Enterprise Mix traffic.

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Figure 3: Diagram detailing the interfaces and hardware features of the FortiGate 60E.

- **WAN Ports (WAN1, WAN2):** Connect your internet service provider's modem or router to these ports.
- **DMZ Port:** Use this port for devices that require limited access to the internal network, such as public servers.
- **Internal Ports (1-7):** Connect your internal network devices (switches, computers, etc.) to these ports.
- **Console Port:** For direct command-line interface (CLI) access using a serial cable.
- **USB Ports:** For connecting external storage or a 3G/4G modem for backup connectivity.

2.3 Initial Configuration

After physical connections, access the device's web-based manager for initial configuration. Refer to the Quick Start Guide for default IP address and login credentials.

3. Operating Instructions

The FortiGate 60E runs on FortiOS, a powerful operating system that provides a wide range of security and networking features.

3.1 FortiOS Overview

FortiOS offers a unified platform for managing various security functions, including firewall, VPN, intrusion prevention, web filtering, and application control. Access the web-based manager via a web browser to configure these features.

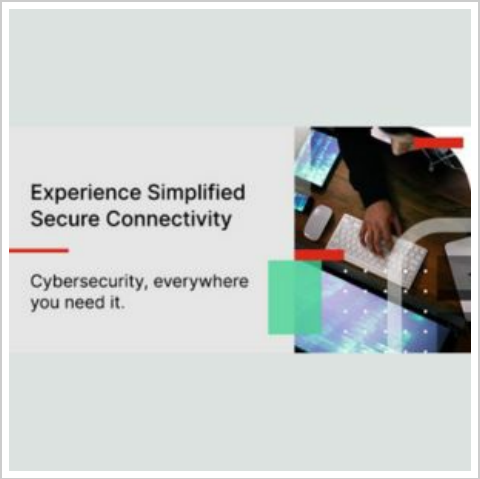


Figure 4: Understanding FortiGate Next-Generation Firewall (NGFW) capabilities.

3.2 Key Features

- **Advanced Firewall:** Stateful inspection firewall with advanced policy controls.
- **VPN:** Secure remote access and site-to-site connectivity.
- **Threat Protection:** Integrated intrusion prevention system (IPS), antivirus, and anti-malware.
- **Application Control:** Granular control over network applications.
- **Web Filtering:** Block access to malicious or inappropriate websites.

3.3 Fortinet Security Fabric

The FortiGate 60E is a foundational component of the Fortinet Security Fabric, providing broad visibility, integrated threat intelligence, and automated responses across your entire digital attack surface.

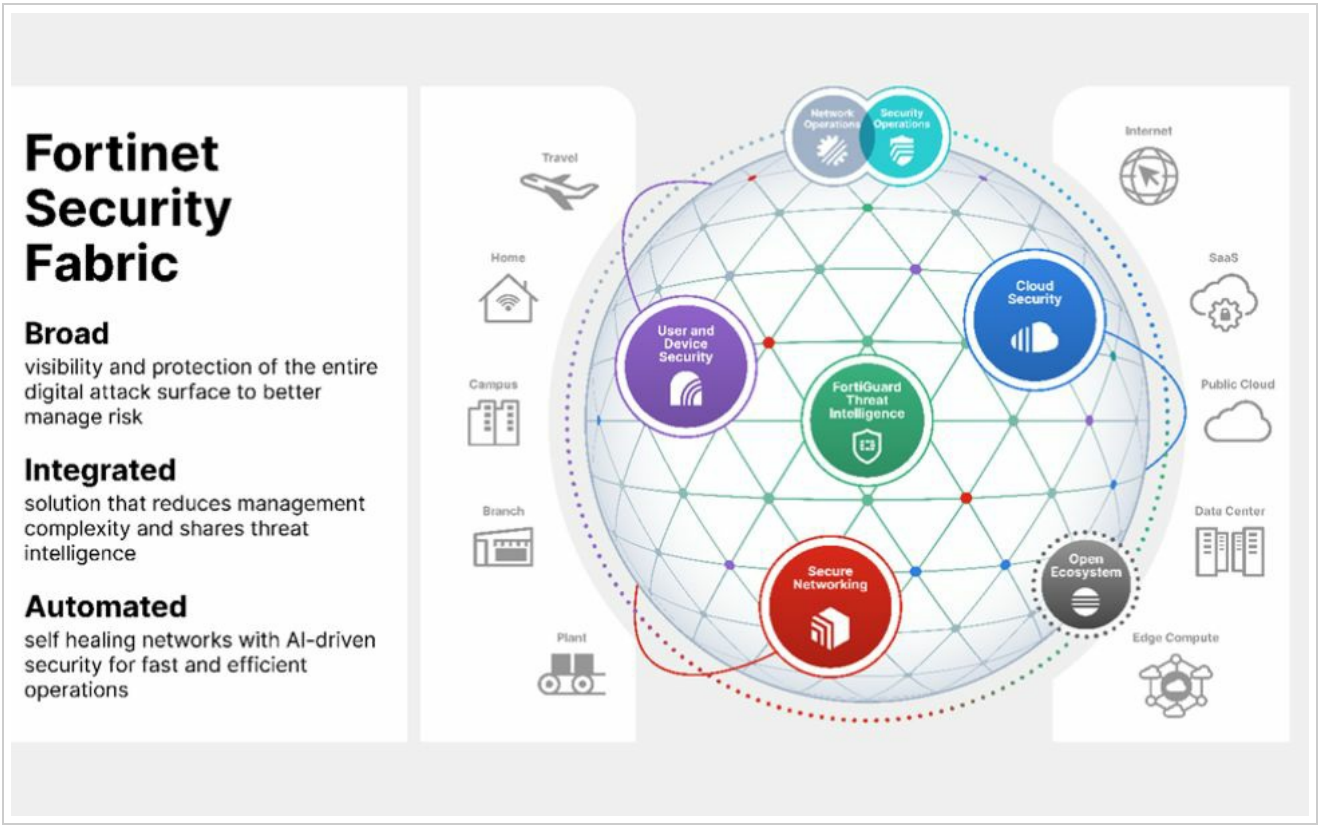


Figure 5: Diagram illustrating the interconnected components of the Fortinet Security Fabric.

4. Maintenance

Regular maintenance ensures optimal performance and security of your FortiGate 60E.

4.1 Firmware Updates

Periodically check for and install the latest FortiOS firmware updates. Firmware updates often include security patches, bug fixes, and new features. Access the Fortinet Support website or your device's web-based manager for update information.

4.2 System Monitoring

Monitor system logs and performance metrics regularly through the FortiOS dashboard. This helps identify potential issues early and ensures the device is operating efficiently.

4.3 Cleaning

Keep the device free from dust and debris. Use a soft, dry cloth to clean the exterior. Ensure ventilation openings are not obstructed.

5. Troubleshooting

This section addresses common issues you might encounter with your FortiGate 60E.

5.1 No Power

- Ensure the power adapter is securely connected to both the device and a working power outlet.
- Verify the power outlet is functional by plugging in another device.

5.2 No Network Connectivity

- Check all Ethernet cable connections to ensure they are secure and properly seated in the correct ports (WAN, LAN).
- Verify that your internet service provider's equipment (modem/router) is operational.
- Confirm network interface status in the FortiOS web-based manager.

5.3 Unable to Access Web-based Manager

- Ensure your computer is connected to an internal LAN port of the FortiGate.
- Verify your computer's IP address is in the same subnet as the FortiGate's management interface (e.g., if FortiGate is 192.168.1.99, your computer should be 192.168.1.x).
- Try clearing your browser's cache or using a different browser.

5.4 Factory Reset

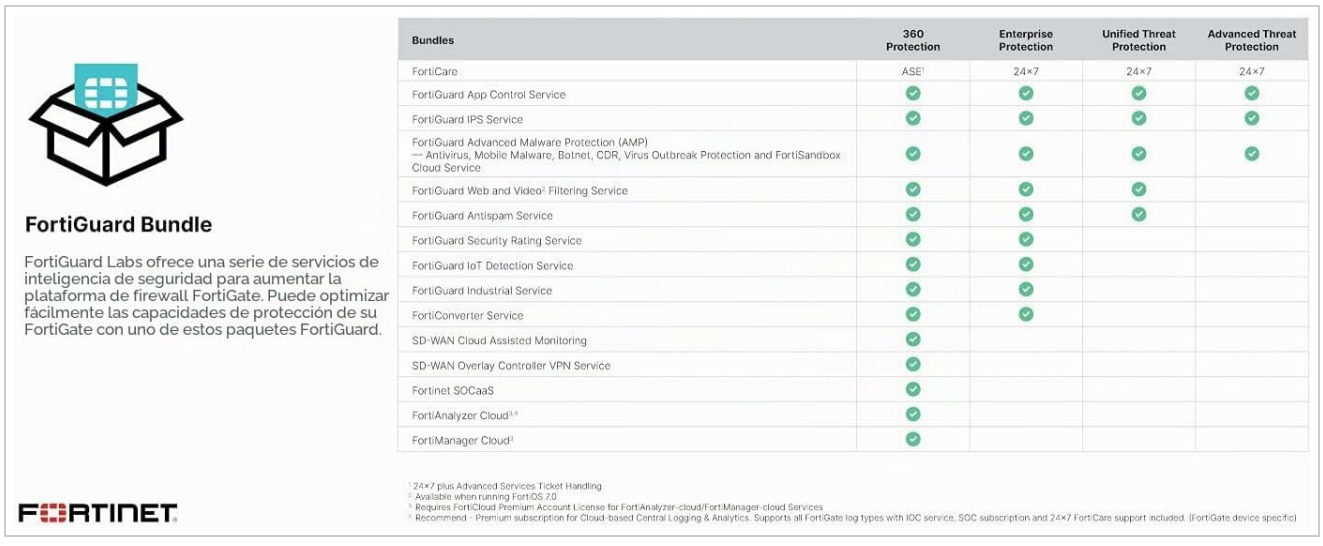
If persistent issues occur, a factory reset can restore the device to its default settings.**Warning: This will erase all configurations.**

- With the device powered on, use a paperclip or similar pointed object to press and hold the**RESET** button (located on the rear panel, see Figure 2) for approximately 10 seconds.
- Release the button when the status LEDs change, indicating the reset process has begun.

6. Specifications

Detailed technical specifications for the Fortinet FortiGate 60E Firewall.

Feature	Specification
Model Number	FG-60E
Dimensions (L x W x H)	16 x 21.6 x 3.8 cm
Weight	900 g
Connectivity Technology	Ethernet, RJ11, USB
Number of Ports	10 (including WAN, DMZ, Internal LAN)
Data Transfer Rate	3000 Megabits per second
LAN Port Bandwidth	1000 Mbps
Max Upload Data Transfer Rate	2000 Megabits per second
Operating System	FortiOS
Security Protocol	WPS (for compatible devices/management)
Wireless Communication Standard	802.11ac (for compatible devices/management)
Recommended Use	Business
Coverage	Up to 100 users
Firewall Security Level	Advanced
Internet Connectivity	Yes
Router Network Type	Wired
Modem Compatibility	No (external modem required for internet access)
Control Method	Remote Control, Push Button
Manufacturer	Fortinet
Country of Origin	China



FortiGuard Bundle

FortiGuard Labs ofrece una serie de servicios de inteligencia de seguridad para aumentar la plataforma de firewall FortiGate. Puede optimizar fácilmente las capacidades de protección de su FortiGate con uno de estos paquetes FortiGuard.

Bundles	360 Protection	Enterprise Protection	Unified Threat Protection	Advanced Threat Protection
FortiCare	ASE[1]	24×7	24×7	24×7
FortiGuard App Control Service	✓	✓	✓	✓
FortiGuard IPS Service	✓	✓	✓	✓
FortiGuard Advanced Malware Protection (AMP) — Antivirus, Mobile Malware, Botnet, CDR, Virus Outbreak Protection and FortiSandbox Cloud Service	✓	✓	✓	✓
FortiGuard Web and Video[2] Filtering Service	✓	✓	✓	
FortiGuard Antispam Service	✓	✓	✓	
FortiGuard Security Rating Service	✓	✓		
FortiGuard IoT Detection Service	✓	✓		
FortiGuard Industrial Service	✓	✓		
FortiConverter Service	✓	✓		
SD-WAN Cloud Assisted Monitoring	✓			
SD-WAN Overlay Controller VPN Service	✓			
Fortinet SOCaaS	✓			
FortiAnalyzer Cloud[3,4]	✓			
FortiManager Cloud[3]	✓			

[1] 24×7 plus Advanced Services Ticket Handling
[2] Available when running FortiOS 7.0
[3] Requires FortiCloud Premium Account License for FortiAnalyzer-cloud/FortiManager-cloud Services
[4] Recommend 1 Premium subscription for Cloud-based Central Logging & Analytics. Supports all FortiGate log types with IOC service, SOC subscription and 24×7 FortiCare support included. (FortiGate device specific)

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Figure 6: FortiGate 60E/FortiWiFi 60E Sizing Chart, providing performance metrics for various models.

7. Warranty and Support

7.1 Product Warranty

The Fortinet FortiGate 60E Firewall comes with a**2-year manufacturer's warranty**. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims.

7.2 Technical Support

For technical assistance, product documentation, and software updates, please visit the official Fortinet Support website. You may need to register your product to access full support resources.
Fortinet Support Website: https://support.fortinet.com

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Details

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