



OFERTA TECNICA (JCE-CCC-CP-2024-0002)

ITEM	DESCRIPCION
1	<p data-bbox="667 548 1166 583" style="text-align: center;">FORTISWITCH 124F-FPOE</p> <p data-bbox="358 621 1471 758">El FortiSwitch™ 124F-FPOE está diseñado para satisfacer las demandas únicas de las sucursales empresariales y negocios. Una combinación incomparable de seguridad, facilidad de uso y escalabilidad hacen de FortiSwitch™ la opción ideal para Infraestructura Ethernet.</p> <p data-bbox="358 779 1471 1083">Administrar una sucursal empresarial remota o una red de pequeñas empresas puede ser una tarea desafiante debido a varios factores, incluida la falta de visibilidad de los dispositivos conectados, el tiempo y las herramientas limitadas para la gestión de LAN así como la escasez de personal cualificado. El acceso seguro de FortiSwitch™ 124F-FPOE integra a la perfección redes Ethernet con funciones de seguridad avanzadas, de manera efectiva eliminando los silos que dificultan la gestión del día a día. Rico en funciones y fácil de administrar con un bajo costo total de propiedad, FortiSwitch™ 124F-FPOE emerge como la opción óptima para control remoto. Redes Ethernet de sucursales empresariales y pequeñas empresas.</p> <p data-bbox="358 1115 1133 1150">NOMBRE: Fortinet Fortiswitch Switch Administrable POE</p> <p data-bbox="358 1178 732 1213">MODELO: FS-124F-FPOE</p> <p data-bbox="521 1272 1406 1377" style="text-align: center;">Conmutador POE administrado FortiSwitch-124F-FPOE L2+ con 24GE + 4SFP+, POE de 24 puertos con límite máximo de 370W y</p> <p data-bbox="358 1409 1455 1577">DETALLE: control inteligente de temperatura del ventilador + módulo transceptor 10GE SFP+ de corto alcance, para sistemas con ranuras SFP+ y SFP/SFP+</p> <p data-bbox="358 1671 935 1707">FACTOR DE FORMA: Montaje en Bastidor</p> <p data-bbox="358 1738 764 1774">CANTIDAD DE PUERTOS: 24</p> <p data-bbox="358 1806 1479 1875">GESTION REMOTA: HTTP, HTTPS, SNMP v1, SNMP v2c, SNMP v3, SSH, SNTP, Telnet/SSH, IPv4 and IPv6</p>

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Búfer de paquetes de 2 MB

- Autenticación 802.1x
- Negociación automática

Enlace ascendente automático (MDI/MDI-X automático)

Retransmisión DHCP, vigilancia DHCP, inspección ARP dinámica (DAI)

Ethernet energéticamente eficiente, control de flujo, vigilancia IGMP

Control de agregación de enlaces Protocolo (LACP), compatibilidad con LLDP
LLDP-MED

Compatibilidad con protocolo de árbol de expansión múltiple (MSTP)

Duplicación de puertos, calidad de servicio (QoS)

Compatibilidad con protocolo de árbol de expansión rápida (RSTP)

Compatibilidad con SNTP

Compatibilidad con protocolo de árbol de expansión (STP)

Control de tormentas

STP BPDU Guard

STP Root Guard

Compatibilidad con protocolo trivial de transferencia de archivos (TFTP)
etiquetado VLAN

ESTANDARES COMPACTIBLES: IEEE 802.1ab (LLDP), IEEE 802.1AX, IEEE 802.1D, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1s, IEEE 802.1w, IEEE 802.3, IEEE 802.3ab, IEEE 802.3ad (LACP), IEEE 802.3ae, IEEE 802.3af, IEEE 802.3at, IEEE 802.3az, IEEE 802.3bz, IEEE 802.3u, IEEE 802.3x, IEEE 802.3z

INTERFASES: 1 x consola de gestión RJ-45

24 x 1000Base-T RJ-45 Poe+

4 x 10Gbit LAN SFP+

Especificaciones de hardware

- Total de interfaces de red: 24x GE RJ45 y 4x 10GE SFP+
- Gestión dedicada 10/100 puerto: 0
- Puerto de consola serie RJ-45: 1
- Factor de forma: 1 RU Montaje en bastidor
- Puertos de alimentación a través de Ethernet (PoE): 24 (802.3af/at)
- Presupuesto de alimentación PoE: 370 W
- Tiempo medio entre fallos: > 10 años

Especificaciones del sistema

- Capacidad de conmutación (dúplex): 128 Gbps
- Paquetes por segundo (dúplex): 190 Mpps
- Almacenamiento de direcciones MAC: 32 K
- Latencia de red: < 1 s
- Compatible con VLAN: 4 K
- Tamaño del grupo de agregación de enlaces: 8
- Total de grupos de agregación de enlaces: 16
- Búferes de paquetes: 2 MB
- Memoria: 512 MB DDR3
- Flash: 64 MB

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- ACL: 768
- Instancias de árbol de expansión: 16

Dimensiones

- Alto x Fondo x Ancho (pulgadas): 1.73 x 10.24 x 17.32
- Alto x Fondo x Ancho (mm): 44 x 260 x 440
- Peso: 8.42 lbs (3.82 kg)

Entorno

- Potencia requerida: 100–240 V CA, 50-60 Hz
- Fuente de alimentación, CA incorporada
- Alimentación redundante, no
- Consumo de energía* (promedio / máximo), 449,8 W / 451,3 W
- Disipación de calor, 118.327 BTU/h
- Temperatura de funcionamiento, 32 °F a 113 °F (0 °C a 45 °C)
- Temperatura de almacenamiento, -4 °F a 158 °F (-20 °C a 70 °C)
- Humedad, 10% a 90% sin condensación
- Dirección del flujo de aire, de lado a atrás
- Nivel de ruido, 45.8 dBA

Certificación y cumplimiento

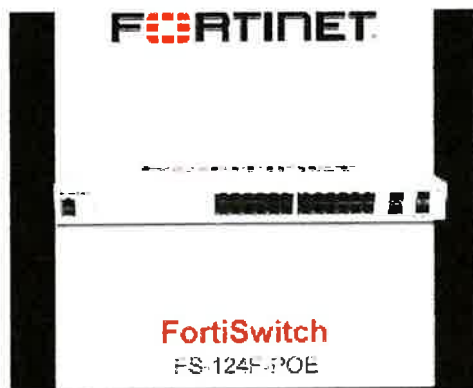
- FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2"

Garantía

- Garantía de Fortinet, garantía limitada de por vida** en todos los modelos

*El consumo de energía de los modelos POE es similar al modelo sin POE si POE no está en uso

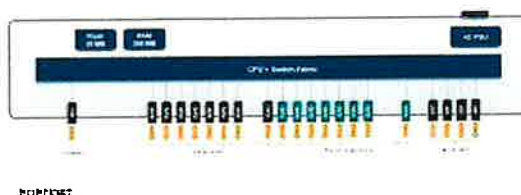
** Política de garantía de Fortinet: <http://www.fortinet.com/doc/legal/EULA.pdf>



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FortiSwitch 124E-POE Schematic



Fortinet FortiCare FS-124F FPOE Premium Support for 3 years (FC-10-S124F-247-02-36)

DESCRIPCION

Las soluciones de Fortinet brindan servicios críticos y, si surgen problemas, deben abordarse rápidamente para ayudar a garantizar la seguridad y la continuidad del negocio. Proporcionamos soporte técnico de FortiCare y servicios de devolución de mercancías (RMA) por dispositivo para soporte 24 horas al día, 7 días a la semana y resolución oportuna de problemas. Los servicios FortiCare respaldan todo el Fortinet Security Fabric, que ofrece soporte multidisciplinario y una única fuente para la resolución de problemas. Las opciones de soporte flexibles ayudan a su organización a maximizar el tiempo de actividad, la seguridad y el rendimiento según las necesidades de su negocio.

El soporte fundamental de FortiCare 24 horas al día, 7 días a la semana incluye números gratuitos globales para contactar al soporte, chat web para respuestas rápidas, un portal de soporte para la creación de tickets, servicio RMA estándar de envío el mismo día y acceso a actualizaciones de software.

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- N° del fabricante: FC-10-S124F-247-02-36
- N.º Bechtle: 4623069
- Segmento: Corporativo
- Duración: 3 año(s)
- Idioma del producto: Inglés
- Sistema operativo: Windows
- Tipo: Mantenimiento



FORTIGATE FG-60F

La serie FortiGate Next-Generation Firewall 60F es ideal para construir redes basadas en seguridad en sitios empresariales distribuidos y transformar la arquitectura WAN a cualquier escala. Con un amplio conjunto de servicios de seguridad FortiGuard basados en AI/ML y nuestra plataforma Security Fabric integrada, la serie FortiGate FortiWiFi 60F ofrece protección contra amenazas coordinada, automatizada y de extremo a extremo en todos los casos de uso. FortiGate tiene la primera SD-WAN integrada y acceso a red de confianza cero (ZTNA) de la industria dentro de una solución NGFW y funciona con un sistema operativo. FortiGate FortiWiFi 60F controla, verifica y facilita automáticamente el acceso del usuario a las aplicaciones, brindando coherencia con una experiencia de usuario perfecta y optimizada.

NOMBRE: FortiGate 60F

MODELO : FG-60F

DETALLE :

Especificaciones de hardware

- Puertos GE RJ45 WAN / DMZ: 2 / 1
- Puertos internos GE RJ45: 5
- Puertos GE RJ45 FortiLink (predeterminado): 2
- Puertos USB: 1
- Consola (RJ45): 1

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Rendimiento del sistema - Combinación de tráfico empresarial

- Rendimiento IPS: 1.4 Gbps
- Rendimiento NGFW: 1 Gbps
- Rendimiento de protección contra amenazas: 700 Mbps

Rendimiento del sistema

- Rendimiento del cortafuegos (paquetes UDP de 1518 / 512 / 64 bytes) :10/10/6 Gbps
- Latencia de firewall de (paquetes UDP de 64 bytes): 3.3 μ s
- Rendimiento del cortafuegos (paquetes por segundo): 9 Mpps
- Sesiones simultáneas (TCP): 700,000
- Nuevas sesiones/segundo (TCP): 35,000
- Políticas de cortafuegos: 5,000
- IPsec Rendimiento de VPN (512 bytes): 6.5 Gbps
- Túneles VPN IPsec de puerta de enlace a puerta de enlace: 200
- Túneles VPN IPsec de cliente a puerta de enlace: 500
- Rendimiento SSL-VPN: 900 Mbps
- Usuarios SSL-VPN simultáneos (máximo recomendado, modo túnel): 200
- Rendimiento de inspección SSL (IPS, HTTPS promedio): 630 Mbps
- Inspección SSL CPS (IPS, promedio HTTPS): 400
- Sesión simultánea de inspección SSL (IPS, promedio HTTPS): 55,000
- Rendimiento de control de aplicaciones (HTTP 64K): 1.8 Gbps
- Rendimiento CAPWAP (HTTP 64K): 8 Gbps
- Dominios virtuales de (predeterminado / máximo): 10 / 10
- Número máximo de FortiSwitches Soportado: 24
- Número máximo de FortiAP (modo total/túnel): 64 / 32
- Número máximo de FortiTokens: 500
- Configuraciones de alta disponibilidad: Activo-Activo, Activo-Pasivo, Agrupamiento

Dimensiones

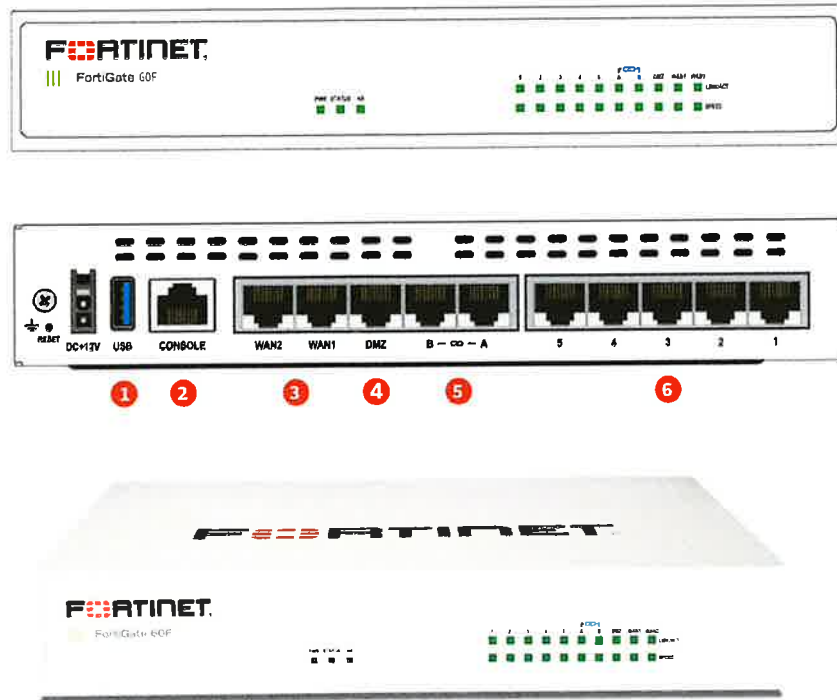
- Altura x Anchura x Longitud (pulgadas): 1,5 x 8,5 x 6,3
- Altura x Anchura x Longitud (mm): 38,5 x 216 x 160 mm
- Peso 2,23 libras (1,01 kg): Factor de forma

Entorno operativo y certificaciones

- Potencia nominal 12 V CC: 3 A
- Potencia requerida: Alimentado por un adaptador de corriente de CC externo, 100–240 V CA, 50/60 Hz Corriente máxima 100 V CA/1.0 A, 240 V CA/0.6 A
- Consumo de energía (promedio / máximo): 10.17 W / 12.43
- Disipación de calor: 42.4 BTU/hr.
- Temperatura de funcionamiento: 32 °F a 104 °F (0 °C a 40 °C)
- Temperatura de almacenamiento: de -31 °F a 158 °F (de -35 °C a 70 °C)
- Humedad: 10% a 90% sin condensación
- Nivel de ruido sin ventilador: 0 dBA
- Altitud de funcionamiento: Hasta 7,400 pies (2,250 m)
- Cumplimiento: FCC, ICES, CE, RCM, VCCI, BSMI, UL/cUL, CB

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- Certificaciones: USGv6/IPv6



FortiGate-60F 3 Year Unified Threat Protection (UTP) (IPS, Advanced Malware Protection, Application Control, URL, DNS & Video Filtering, Antispam Service, and FortiCare Premium)

- | | |
|-------------------------------|--|
| ▪ Marca | ▪ FORTINET |
| ▪ Número de parte: | ▪ FC-10-0060F-950-02-36FC-10-0060F-950-02-36 |
| ▪ Características especiales: | ▪ WPS |
| ▪ Dispositivos compatibles: | ▪ Laptop |
| ▪ Usos Recomendados: | ▪ Seguridad |
| ▪ Método de control: | ▪ Aplicación |

FORTINET FortiGate-60F 3YR Licencia Unificada de Protección contra Amenazas (UTP) (FC-10-0060F-950-02-36)

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Certificado de Revendedor Autorizado

Fecha: 26 de enero de 2024

Fortinet, Inc. ("Fortinet") opera a través de un canal de distribuidores y revendedores independientes. A la vista de ello, Fortinet confirma por la presente que:

VARA, SRL

con domicilio social en: Calle Socrates Nolasco No. 1, Ensance Naco, Santo Domingo, 10119, Dominican Republic;

es actualmente un revendedor (FortiPartner) autorizado para vender productos y servicios de Fortinet en DO conforme a las siguientes designaciones:

- Nivel de contrato: Advocate
- Modelo de negocio: Integrator

Este certificado se emite en la fecha señalada arriba y es válido por un periodo de 180 días a partir de dicha fecha.

Siempre y cuando el FortiPartner identificado anteriormente haya adquirido servicios de soporte, y estos hayan sido, efectivamente, registrados y contratados con Fortinet, Fortinet se compromete a proporcionar dicho servicio de soporte para los productos aplicables de conformidad con los términos del contrato de soporte de Fortinet disponibles en la dirección: <https://support.fortinet.com>. Los productos de Fortinet son distribuidos de conformidad con los términos y la garantía de Fortinet establecidos en el acuerdo de licencia de usuario final (End User License Agreement) disponible en la dirección: <http://www.fortinet.com/docs/legal/EULA.pdf>.

La validez de este Certificado se encuentra sujeta a que el FortiPartner mantenga su contrato vigente con Fortinet y que éste cumpla las políticas y directrices de Fortinet. El programa de partners de Fortinet y sus directrices están disponibles en http://www.fortinet.com/partners/partner_program_fpp.html. Sin perjuicio de lo anterior, los FortiPartner no representan a Fortinet y, por consiguiente, no están autorizados a emitir declaraciones vinculantes por o para Fortinet.


 Manufacturer Confirmation
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SEÑORES : JUNTA CENTRAL ELECTORAL
ATN : COMITE DE COMPRAS Y CONTRATACIONES
PROCESO : JCE-CCC-CP-2024-0002
DIRECCION: AVE. 27 DE FEBRERO ESQ. AVE. LUPERON, PLAZA LA BANDERA

CONDICIONES DE PAGO

Distinguidos Señores:

Luego de extenderles un cordial saludo, tenemos a bien informarles que en caso de ser adjudicados con el proceso JCE-CCC-CP-2024-0002, el plazo de pago es 20% con la orden y el 80% restante a 30 días contra entrega

Sin otro particular por el momento, les saluda muy atentamente



Eric Vásquez
Gerente General

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SEÑORES : JUNTA CENTRAL ELECTORAL
ATN : COMITE DE COMPRAS Y CONTRATACIONES
PROCESO : JCE-CCC-CP-2024-0002DIRECCION:
DIRECCION: AVE. 27 DE FEBRERO ESQ. AVE. LUPERON

ENTREGA

Distinguidos Señores:

Luego de extenderles un cordial saludo, tenemos a bien informarles que en caso de ser adjudicados con la solicitud de referencia JCE-CCC-CP-2024-0002, el plazo de entrega seria aproximadamente de 25 días calendario luego de recibida la orden y adjudicación correspondiente

Sin otro particular por el momento, les saluda muy atentamente

Eric Vásquez

Gerente General

Eric Vásquez



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SEÑORES : JUNTA CENTRAL ELECTORAL
ATN : COMITE DE COMPRAS Y CONTRATACIONES
PROCESO : JCE-CCC-CP-2024-0002
DIRECCION: AVE. 27 DE FEBRERO ESQ. AVE. LUPERON

GARANTIA

Distinguidos Señores:

Luego de extenderles un cordial saludo, tenemos a bien informarles que en caso de ser adjudicados con la solicitud de referencia JCE-CCC-CP-2024-0002, el plazo de garantía es de 3 años, a partir de la fecha de recepción de los Switch y la factura correspondiente

Sin otro particular por el momento, les saluda muy atentamente

Eric Vásquez
Gerente General



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FortiSwitch™ Secure Access



Highlights

- Standalone or Integrated FortiLink deployment option
- Zero-touch deployment
- On premise and cloud-based management options
- Intuitive management allows for ease of set up for network access and security
- Easy-to-use network access control (NAC) at no cost
- User- and device-based access control and policy enforcement
- Secure access service edge (SASE) support
- Scalable and flexible for branches or small business
- Up to 48 access ports in a compact 1 RU form factor
- Power over Ethernet and PoE+ support
- Wire-speed switching with up to 10GE uplinks

Security, Ease of Use, and Scalability

The FortiSwitch™ Access Family is tailored to meet the unique demands of enterprise branch offices and small businesses. An unparalleled combination of security, ease of use, and scalability makes FortiSwitch™ the ideal choice for Ethernet infrastructure.

Managing a remote enterprise branch or small business network can be a challenging task due to various factors including a lack of visibility of connected devices, limited time and tools for LAN management, and a shortage of skilled personnel. The FortiSwitch Secure Access family seamlessly integrates Ethernet networking with advanced security features, effectively eliminating the silos that hinder day-to-day management. Feature-rich and easy to manage with a low total cost of ownership, FortiSwitch emerges as the optimal choice for remote enterprise-branch and small-businesses Ethernet networks.

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Available in



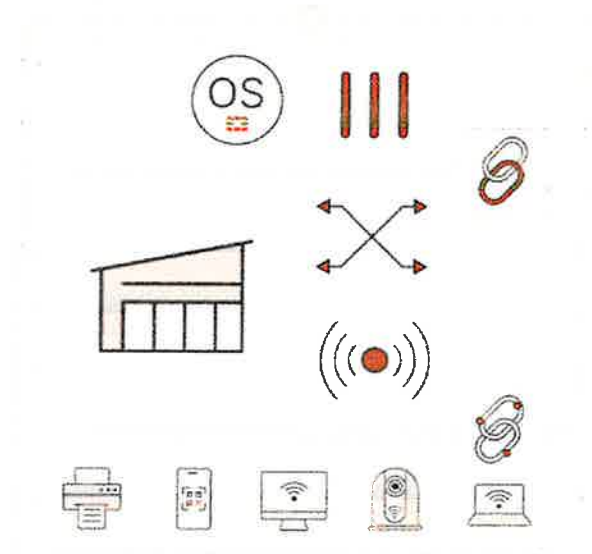
Appliance

Secure Networking Through FortiLink

FortiLink is an innovative proprietary management protocol that enables seamless integration and management between a FortiGate Next-Generation Firewall and the FortiSwitch Ethernet switching platform. By using FortiLink, the FortiSwitch becomes a logical extension of the FortiGate, allowing for centralized management of both network security and access layer functions through a single interface.

Easy-to-use Network Access Control (NAC) at No Cost

FortiLink integration enables basic NAC functionality to profile and securely onboard devices as they connect. FortiLink NAC offers visibility into all connected devices, automated segmentation and security policies for IoT devices, quarantine if compromised, and virtual patching to help protect against threats.



Built-in Ethernet Port Security

Traditional Ethernet port security demands manual effort and continuous maintenance, which is impractical for IT administrators of remote branches or small business. Consequently, Ethernet ports are frequently left unprotected. FortiSwitch access switching offers IT administrators the ability secure ports ensuring only approved users and devices get access to the network. The automation of port security without requiring 802.1x makes making policy enforcement easy to implement and manage while NGFW-level policies ensure granular control and zero-trust access for users and devices.

User- and Device-Based Access Control and Policy Enforcement

Whether leveraging Fortinet Identity Access Management (IAM) or third-party identity providers, FortiLink automation can leverage user identity to make granular role-based policy decisions, allowing you to implement zero-trust principles.

Secure Access Service Edge (SASE)

This FortiSwitch enterprise architecture offers a built-in foundation for zero-trust network access (ZTNA) and secure access service edge (SASE), offering the flexibility to easily deploy the type and level of security you need at the edge of your network.

Operational Simplicity

Deploying, managing, and perfecting an Ethernet switching infrastructure can be challenging and time-consuming, particularly when done remotely or with limited staff.

FortiSwitch switching architecture can be securely deployed and managed in minutes through zero-touch deployment. Whether FortiSwitch is deployed in standalone mode or FortiLink mode, its easy-to-use intuitive workflows and unified views let you provision, manage, and optimize your small business or remote branches at scale.

Whether cloud or on-premises, centralized management delivers a unified view of the LAN, security, and in the case of SD-Branch: SD-WAN and 5G wireless gateways. This feature provides a consistent user experience for optimal operational efficiency, simplifying management, optimization, and troubleshooting. The result is a shorter mean time to repair both network and security issues.



Scalable and Flexible for Branches or Small Business

FortiSwitch access architecture scales to meet the need of today's small business and remote branches without sacrificing security. Supporting up to 48 ports in a compact 1 RU form factor, FortiSwitch can deliver the performance and scale you require.

Eliminate Bottlenecks

With wire speed 1GE access ports and dedicated uplinks capable of speeds up to 10GE, the FortiSwitch Access Series provides the performance and speed needed for next generation SD-Branch applications.

Next-Generation Power Over Ethernet Support

With PoE+ support in all models, FortiSwitch delivers and manages power for devices such as cameras, sensors, and wireless access points.

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Product Offerings

Model Numbers

100E Series: FS-124E, FS-124E-POE, FS-124E-FPOE, FS-148E, FS-148E-POE

100F Series: FS-108F, FS-108F-POE, FS-108F-FPOE, FS-124F, FS-124F-POE, FS-124F-FPOE, FS-148F, FS-148F-POE, FS-148F-FPOE

200 Series: FS-224D-FPOE, FS-224E, FS-224E-POE, FS-248D, FS-248E-POE, FS-248E-FPOE

Features

Refer to the FortiSwitch Feature Matrix for details about the features supported by each FortiSwitch model.

FORTISWITCH FORTILINK MODE (WITH FORTIGATE)

Management and Configuration

- Auto Discovery of Multiple Switches
- 8 to 300 Managed Switches depending on FortiGate model
- FortiLink Stacking (Auto Inter-Switch Links)
- FortiLink Secure Fabric
- Software Upgrade of Switches
- Centralized VLAN Configuration
- Switch POE Control
- Link Aggregation Configuration
- Spanning Tree
- LLDP/MED
- IGMP Snooping
- L3 Routing and Services (FortiGate)
- Policy-Based Routing (FortiGate)
- Virtual Domain (FortiGate)
- Automated detection and recommendations
- Dynamic Port Profiles for FortiSwitch ports
- Provision firmware upon authorization
- Health Monitoring

High Availability

- Support FortiLink FortiGate in HA Cluster
- LAG support for FortiLink Connection
- Active-Active Split LAG from FortiGate to FortiSwitches for Advanced Redundancy

FORTISWITCH FORTILINK MODE (WITH FORTIGATE)

Security and Visibility

- 802.1X Authentication (Port-based, MAC-based, MAB)
- Syslog Collection
- DHCP Snooping
- Device Detection
- MAC Black/White Listing (FortiGate)
- Policy Control of Users and Devices (FortiGate)
- Block Intra-VLAN Traffic
- Network Device Detection
- Host Quarantine on Switch Port
- Integrated FortiGate Network Access Control (NAC) function
- FortiGuard IoT identification
- FortiSwitch recommendations in Security Rating
- Switch Controller traffic collector
- Port Statistics
- Clients Monitoring

UTM Features

- Firewall (FortiGate)
- IPC, AV, Application Control, Botnet (FortiGate)



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Features

Refer to the FortiSwitch Feature Matrix for details about the features supported by each FortiSwitch model.

FORTISWITCH	FORTISWITCH
<p>Layer 2</p> <ul style="list-style-type: none"> Jumbo Frames Auto-negotiation for Port Speed and Duplex MDI/MDIX Auto-crossover IEEE 802.1D MAC Bridging/STP IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) STP Root Guard STP BPDU Guard Edge Port / Port Fast IEEE 802.1Q VLAN Tagging Private VLAN IEEE 802.3ad Link Aggregation with LACP Unicast/Multicast traffic balance over trunking port {dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac} IEEE 802.1AX Link Aggregation Spanning Tree Instances (MSTP/CST) IEEE 802.3x Flow Control and Back-pressure IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3z 1000Base-SX/LX IEEE 802.3ab 1000Base-T IEEE 802.3ae 10 Gigabit Ethernet IEEE 802.3az Energy Efficient Ethernet IEEE 802.3bz Multi Gigabit Ethernet IEEE 802.3 CSMA/CD Access Method and Physical Layer Specifications Storm Control MAC, IP, Ethertype-based VLANs Virtual-Wire Split Port (QSFP+ breakout to 4x10G SFP+ or 4x1G SFP) Time-Domain Reflectometry (TDR) Support LAG min/max bundle Rapid PVST interoperation Ingress Pause Metering Loop Guard Per-port storm control Priority-based Flow Control (802.1Qbb) IEEE 802.1ad QinQ VLAN Mapping IEEE 802.3ba, 802.3bj, and 802.3bm 40 and 100 Gigabit Ethernet Auto topology Dynamically shared packet buffers 	<p>Layer 3</p> <ul style="list-style-type: none"> Static Routing (Hardware-based) Dynamic Routing Protocols: OSPFv2, RIPv2, VRRP, BGP, ISIS * Multicast Protocols: PIM-SSM * ECMP Bidirectional Forwarding Detection (BFD) DHCP Relay IP conflict detection and notification DHCP server Unicast Reverse Path Forwarding - uRPF IPv6 route filtering Filtering routemaps based on routing protocol Security and Visibility Port Mirroring Admin Authentication Via RFC 2865 RADIUS IEEE 802.1X Authentication Port-based IEEE 802.1X Authentication MAC-based IEEE 802.1X Guest and Fallback VLAN IEEE 802.1X MAC Access Bypass (MAB) IEEE 802.1X Dynamic VLAN Assignment Radius CoA (Change of Authority) Radius Accounting MAC-IP Binding sFlow ACL IEEE 802.1ab Link Layer Discovery Protocol (LLDP) IEEE 802.1ab LLDP-MED IEEE 802.1ae MAC Security (MAC Sec) DHCP-Snooping Dynamic ARP Inspection Sticky MAC and MAC Limit IEEE 802.1X open auth IEEE 802.1X EAP pass-through Flow Export (NetFlow and IPFIX) ACL Multistage ACL Multiple Ingress ACL Schedule IP source guard IPv6 RA Guard LLDP-MED ELIN support Per-port and per-VLAN MAC learning limit Assign VLANs via Radius attributes (RFC 4675) Wake on LAN
<p>Services</p> <ul style="list-style-type: none"> IGMP proxy / querier MLD Snooping MLD proxy / querier IGMP Snooping 	<p>*Requires 'Advanced Features' License.</p>

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Features

Refer to the FortiSwitch Feature Matrix for details about the features supported by each FortiSwitch model.

FORTISWITCH	FORTISWITCH
<p>High Availability</p> <ul style="list-style-type: none"> Multi-Chassis Link Aggregation (MCLAG) <p>Quality of Service</p> <ul style="list-style-type: none"> IEEE 802.1p Based Priority Queuing IP TOS/DSCP Based Priority Queuing IEEE 1588 PTP (Transparent Clock) Explicit Congestion Notification Egress priority tagging Percentage Rate Control 	<p>Management</p> <ul style="list-style-type: none"> IPv4 and IPv6 Management Telnet / SSH HTTP / HTTPS SNMP v1/v2c/v3 SNTP Standard CLI and Web GUI Interface Software download/upload: TFTP/FTP/GUI Managed from FortiGate Support for HTTP REST APIs for Configuration and Monitoring Dual Firmware Support RMON Group 1 Packet Capture SPAN, RSPAN, and ERSPAN Link Monitor POE Control Modes System Temperature and Alert Syslog UDP/TCP Provide warning if L2 table is getting full Display Average Bandwidth and Allow Sorting on Physical Port / Interface Traffic System alias command SNMP v3 traps Automation Stitches

ORIGINAL



Features

ALL FORTISWITCH MODELS

RFC and MIB Support*

BFD

- RFC 5880: Bidirectional Forwarding Detection (BFD)
- RFC 5881: Bidirectional Forwarding Detection (BFD) for IPv4 and IPv6 (Single Hop)
- RFC 5882: Generic Application of Bidirectional Forwarding Detection (BFD)

BGP

- RFC 1771: A Border Gateway Protocol 4 (BGP-4)
- RFC 1965: Autonomous System Confederations for BGP
- RFC 1997: BGP Communities Attribute
- RFC 2545: Use of BGP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing
- RFC 2796: BGP Route Reflection - An Alternative to Full Mesh IBGP
- RFC 2842: Capabilities Advertisement with BGP-4
- RFC 2858: Multiprotocol Extensions for BGP-4
- RFC 4271: BGP-4
- RFC 6286: Autonomous-System-Wide Unique BGP Identifier for BGP-4
- RFC 6608: Subcodes for BGP Finite State Machine Error
- RFC 6793: BGP Support for Four-Octet Autonomous System (AS) Number Space
- RFC 7606: Revised Error Handling for BGP UPDATE Messages
- RFC 7607: Codification of AS 0 Processing
- RFC 7705: Autonomous System Migration Mechanisms and Their Effects on the BGP AS_PATH Attribute
- RFC 8212: Default External BGP (EBGP) Route Propagation Behavior without Policies
- RFC 8654: Extended Message Support for BGP

DHCP

- RFC 2131: Dynamic Host Configuration Protocol
- RFC 3046: DHCP Relay Agent Information Option
- RFC 7513: Source Address Validation Improvement (SAVI) Solution for DHCP

IP/IPv4

- RFC 2697: A Single Rate Three Color Marker
- RFC 3168: The Addition of Explicit Congestion Notification (ECN) to IP
- RFC 5227: IPv4 Address Conflict Detection
- RFC 5517: Cisco Systems' Private VLANs: Scalable Security in a Multi-Client Environment
- RFC 7039: Source Address Validation Improvement (SAVI) Framework

IP Multicast

- RFC 2362: Protocol Independent Multicast-Sparse Mode (PIM-SM): Protocol Specification
- RFC 2710: Multicast Listener Discovery (MLD) for IPv6 (MLDv1)
- RFC 4541: Considerations for Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) Snooping Switches
- RFC 4605: Internet Group Management Protocol (IGMP)/Multicast Listener Discovery (MLD)-Based Multicast Forwarding ("IGMP/MLD Proxying")
- RFC 4607: Source-Specific Multicast for IP

ALL FORTISWITCH MODELS

RFC and MIB Support*

IPv6

- RFC 2464: Transmission of IPv6 Packets over Ethernet Networks: Transmission of IPv6 Packets over Ethernet Networks
- RFC 2474: Definition of the Differentiated Services Field (DS Field) in the end IPv6 Headers (DSCP)
- RFC 2893: Transition Mechanisms for IPv6 Hosts and Routers
- RFC 4213: Basic Transition Mechanisms for IPv6 Hosts and Router
- RFC 4291: IP Version 6 Addressing Architecture
- RFC 4443: Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification
- RFC 4861: Neighbor Discovery for IP version 6 (IPv6)
- RFC 4862: IPv6 Stateless Address Auto configuration
- RFC 5095: Deprecation of Type 0 Routing Headers in IPv6
- RFC 6724: Default Address Selection for Internet Protocol version 6 (IPv6)
- RFC 7113: IPv6 RA Guard
- RFC 8200: Internet Protocol, Version 6 (IPv6) Specification
- RFC 8201: Path MTU Discovery for IP version 6

IS-IS

- RFC 1195: Use of OSI IS-IS for Routing in TCP/IP and Dual Environments
- RFC 5306: Routing IPv6 with IS-IS

MIB

- RFC 1213: MIB II parts that apply to FortiSwitch 100 units
- RFC 1354: IP Forwarding Table MIB
- RFC 1493: Bridge MIB
- RFC 1573: SNMP MIB II
- RFC 1643: Ethernet-like Interface MIB
- RFC 1724: RIPv2-MIB
- RFC 1850: OSPF Version 2 Management Information Base
- RFC 2233: The Interfaces Group MIB using SMIPv2
- RFC 2618: Radius-Auth-Client-MIB
- RFC 2620: Radius-Acc-Client-MIB
- RFC 2665: Definitions of Managed Objects for the Ethernet-like Interface Types
- RFC 2674: Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering and Virtual LAN extensions
- RFC 2787: Definitions of Managed Objects for the Virtual Router Redundancy Protocol
- RFC 2819: Remote Network Monitoring Management Information Base
- RFC 2863: The Interfaces Group MIB
- RFC 2932: IPv4 Multicast Routing MIB
- RFC 2934: Protocol Independent Multicast MIB for IPv4
- RFC 3289: Management Information Base for the Differentiated Services Architecture
- RFC 3433: Entity Sensor Management Information Base
- RFC 3621: Power Ethernet MIB
- RFC 6933: Entity MIB (Version 4)

ORIGINAL

* RFC and MIB supported by FortiSwitch Operating System. Check FortiSwitch Feature Matrix for model specific support.



Features

ALL FORTISWITCH MODELS

RFC and MIB Support*

OSPF

- RFC 1583: OSPF version 2
- RFC 1765: OSPF Database Overflow
- RFC 2328: OSPF version 2
- RFC 2370: The OSPF Opaque LSA Option
- RFC 2740: OSPF for IPv6
- RFC 3101: The OSPF Not-So-Stubby Area (NSSA) Option
- RFC 3137: OSPF Stub Router Advertisement
- RFC 3623: OSPF Graceful Restart
- RFC 5340: OSPF for IPv6 (OSPFv3)
- RFC 5709: OSPFv2 HMAC-SHA Cryptographic Authentication
- RFC 6549: OSPFv2 Multi-Instance Extensions
- RFC 6845: OSPF Hybrid Broadcast and Point-to-Multipoint Interface Type
- RFC 6860: Hiding Transit-Only Networks in OSPF
- RFC 7474: Security Extension for OSPFv2 When Using Manual Key Management
- RFC 7503: OSPF for IPv6
- RFC 8042: CCITT Draft Recommendation T.4
- RFC 8362: OSPFv3 Link State Advertisement (LSA) Extensibility

OTHER

- RFC 2030: SNMP
- RFC 3176: InMon Corporation's sFlow: A Method for Monitoring Traffic in Switched and Routed Networks
- RFC 3768: VRRP
- RFC 3954: Cisco Systems NetFlow Services Export Version 9
- RFC 5101: Specification of the IP Flow Information Export (IPFIX) Protocol for the Exchange of Flow Information
- RFC 5798: VRRPv3 (IPv4 and IPv6)

ALL FORTISWITCH MODELS

RFC and MIB Support*

RADIUS

- RFC 2865: Admin Authentication Using RADIUS
- RFC 2866: RADIUS Accounting
- RFC 4675: RADIUS Attributes for Virtual LAN and Priority Support
- RFC 5176: Dynamic Authorization Extensions to Remote Authentication Dial In User Service (RADIUS)

RIP

- RFC 1058: Routing Information Protocol
- RFC 2080: RIPng for IPv6
- RFC 2082: RIP-2 MD5 Authentication
- RFC 2453: RIPv2
- RFC 4822: RIPv2 Cryptographic Authentication

SNMP

- RFC 1157: SNMPv1/v2c
- RFC 2571: Architecture for Describing SNMP
- RFC 2572: SNMP Message Processing and Dispatching
- RFC 2573: SNMP Applications
- RFC 2576: Coexistence between SNMP versions

ORIGINAL

* RFC and MIB supported by FortiSwitch Operating System. Check FortiSwitch Feature Matrix for model specific support.



Specifications

	FORTISWITCH 108F	FORTISWITCH 108F-POE	FORTISWITCH 108F-FPOE
Hardware Specifications			
Total Network Interfaces	7x GE RJ45, 1x GE/PoE-PD RJ45, and 2x GE SFP	8x GE RJ45 and 2x GE SFP	8x GE RJ45 and 2x GE SFP
Dedicated Management 10/100 Port	0	0	0
RJ-45 Serial Console Port	1	1	1
Form Factor	Desktop	Desktop / 19 inch rack bracket	Desktop / 19 inch rack bracket
Power over Ethernet (PoE) Ports	0	8 (802.3af/at)	8 (802.3af/at)
PoE Power Budget	0	65 W	130 W
Mean Time Between Failures	> 10 years	> 10 years	> 10 years
System Specifications			
Switching Capacity (Duplex)	20 Gbps	20 Gbps	20 Gbps
Packets Per Second (Duplex)	30 Mpps	30 Mpps	30 Mpps
MAC Address Storage	8 K	8 K	8 K
Network Latency	4 μs	4 μs	4 μs
VLANs Supported	4 K	4 K	4 K
Link Aggregation Group Size	8	8	8
Total Link Aggregation Groups	8	8	8
Packet Buffers	512 KB	512 KB	512 KB
Memory	256 MB DDR3	256 MB DDR3	256 MB DDR3
Flash	32 MB	32 MB	32 MB
ACL	768	768	768
Spanning Tree Instances	16	16	16
Dimensions			
Height x Depth x Width (inches)	1.18 × 4.72 × 7.09	1.73 × 8.23 × 9.85	1.73 × 8.23 × 9.85
Height x Depth x Width (mm)	30 × 120 × 180	44 × 209 × 250	44 × 209 × 250
Weight	1.36 lbs (0.62 kg)	3.75 lbs (1.70 kg)	4.05 lbs (1.84 kg)
Environment			
Power Required	100–240V AC, 50/60 Hz / PoE-PSE(af)	100–240V AC, 50/60 Hz	100–240V AC, 50/60 Hz
Power Supply	12V/1A DC power adapter included, PoE-PD Built in	AC built in	AC built in
Redundant Power	No	No	No
Power Consumption	6.2 W	74.4 W	139.2 W
Heat Dissipation	21.142 BTU/h	34.12 BTU/h	34.56 BTU/h
Operating Temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Storage Temperature	-49°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Humidity	5% to 95% non-condensing	5% to 95% non-condensing	5% to 95% non-condensing
Air-Flow Direction	side-to-back	side-to-back	side-to-back
Noise Level	Fanless	Fanless	Fanless
Certification and Compliance			
		FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	
Warranty			
Fortinet Warranty		Limited lifetime* warranty on all models	
* Fortinet Warranty Policy: https://www.fortinet.com/corp/legal/EUL_A.pdf			

ORIGINAL



FortiSwitch 108F



FortiSwitch 108F-POE



FortiSwitch 108F-FPOE

Specifications

	FORTISWITCH 124E	FORTISWITCH 124E-POE	FORTISWITCH 124E-FPOE
Hardware Specifications			
Total Network Interfaces	24x GE RJ45 and 4x GE SFP	24x GE RJ45 and 4x GE SFP	24x GE RJ45 and 4x GE SFP
Dedicated Management 10/100 Port	0	0	0
RJ-45 Serial Console Port	1	1	1
Form Factor	1 RU Rack Mount	1 RU Rack Mount	1 RU Rack Mount
Power over Ethernet (PoE) Ports	0	12 (802.3af/at)	24 (802.3af/at)
PoE Power Budget	0	185 W	370 W
Mean Time Between Failures	> 10 years	> 10 years	> 10 years
System Specifications			
Switching Capacity (Duplex)	56 Gbps	56 Gbps	56 Gbps
Packets Per Second (Duplex)	83 Mpps	83 Mpps	83 Mpps
MAC Address Storage	8 K	8 K	8 K
Network Latency	4µs	4µs	4µs
VLANs Supported	4 K	4 K	4 K
Link Aggregation Group Size	8	8	8
Total Link Aggregation Groups	8	8	8
Packet Buffers	512 KB	512 KB	512 KB
Memory	256 MB DDR3	256 MB DDR3	256 MB DDR3
Flash	32 MB	32 MB	32 MB
ACL	640	640	640
Spanning Tree Instances	16	16	16
Dimensions			
Height x Depth x Width (inches)	1.7 x 8.2 x 13	1.7 x 12.2 x 17.3	1.7 x 12.2 x 17.3
Height x Depth x Width (mm)	44 x 209 x 330	44 x 309 x 440	44 x 309 x 440
Weight	4.7 lbs (2.13 kg)	11.1 lbs (5.03 kg)	11.2 lbs (5.03 kg)
Environment			
Power Required	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz
Power Supply	AC Built in	AC Built in	AC Built in
Redundant Power	—	—	—
Power Consumption* (Average / Maximum)	15.83 W / 177.9 W	202.78 W / 205.45 W	387.78 W / 390.45 W
Heat Dissipation	54 BTU/h	60.67 BTU/h	60.67 BTU/h
Operating Temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Humidity	10% to 90% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing
Air-Flow Direction	side-to-back	side-to-back	side-to-back
Noise Level	Fanless	39.3 dBA	42.5 dBA
Certification and Compliance			
		FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	

Warranty

Fortinet Warranty

Limited lifetime** warranty on all models

* POE models power consumption is similar to non-POE model if POE is not in use

** Fortinet Warranty Policy: <http://www.fortinet.com/docs/legals/EULA.pdf>

ORIGINAL



FortiSwitch 124E



FortiSwitch 124E-POE



FortiSwitch 124E-FPOE



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Specifications

	FORTISWITCH 148E	FORTISWITCH 148E-POE
Hardware Specifications		
Total Network Interfaces	48x GE RJ45 and 4x GE SFP	48x GE RJ45 and 4x GE SFP
Dedicated Management 10/100 Port	0	0
RJ-45 Serial Console Port	1	1
Form Factor	1 RU Rack Mount	1 RU Rack Mount
Power over Ethernet (PoE) Ports	0	24 (802.3af/at)
PoE Power Budget	0	370 W
Mean Time Between Failures	> 10 years	> 10 years
System Specifications		
Switching Capacity (Duplex)	104 Gbps	104 Gbps
Packets Per Second (Duplex)	155 Mpps	155 Mpps
MAC Address Storage	16 K	16 K
Network Latency	3860 ns	3860 ns
VLANs Supported	4 K	4 K
Link Aggregation Group Size	8	8
Total Link Aggregation Groups	16	16
Packet Buffers	1.5 MB	1.5 MB
Memory	256 MB DDR3	256 MB DDR3
Flash	64 MB	64 MB
ACL	640	640
Spanning Tree Instances	16	16
Dimensions		
Height x Depth x Width (inches)	1.73 x 12.2 x 17.3	1.73 x 13.7 x 17.3
Height x Depth x Width (mm)	44 x 309 x 440	44 x 348 x 440
Weight	8.6 lbs (3.9 kg)	11.5 lbs (5.2 kg)
Environment		
Power Required	100–240V AC, 50/60 Hz	100–240V AC, 50/60 Hz
Power Supply	AC Built in	AC Built in
Redundant Power	No	No
Power Consumption* (Average / Maximum)	19.804 W / 22.137 W	389.742 W / 393.109 W
Heat Dissipation	67.574 BTU/h	78.82 BTU/h
Operating Temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Storage Temperature	-4°F to 158°F (-20°C to 70°C)	-4°F to 158°F (-20°C to 70°C)
Humidity	10% to 90% non-condensing	10% to 90% non-condensing
Air-Flow Direction	side-to-back	side-to-back
Noise Level	36.9 dBA	38.7 dBA
Certification and Compliance		
Warranty	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	
Fortinet Warranty	Limited lifetime** warranty on all models	

* POE models power consumption is similar to non-POE model if POE is not in use.

** Fortinet Warranty Policy: <https://www.fortinet.com/en/Products/Support/Warranty>



FortiSwitch 148E



FortiSwitch 148E-POE

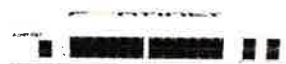


Specifications

	FORTISWITCH 124F	FORTISWITCH 124F-POE	FORTISWITCH 124F-FPOE
Hardware Specifications			
Total Network Interfaces	24x GE RJ45 and 4x 10GE SFP+	24x GE RJ45 and 4x 10GE SFP+	24x GE RJ45 and 4x 10GE SFP+
Dedicated Management 10/100 Port	0	0	0
RJ-45 Serial Console Port	1	1	1
Form Factor	1 RU Rack Mount	1 RU Rack Mount	1 RU Rack Mount
Power over Ethernet (PoE) Ports	0	12 (802.3af/at)	24 (802.3af/at)
PoE Power Budget	0	185 W	370 W
Mean Time Between Failures	> 10 years	> 10 years	> 10 years
System Specifications			
Switching Capacity (Duplex)	128 Gbps	128 Gbps	128 Gbps
Packets Per Second (Duplex)	190 Mpps	190 Mpps	190 Mpps
MAC Address Storage	32 K	32 K	32 K
Network Latency	< 1µs	< 1µs	< 1µs
VLANs Supported	4 K	4 K	4 K
Link Aggregation Group Size	8	8	8
Total Link Aggregation Groups	16	16	16
Packet Buffers	2 MB	2 MB	2 MB
Memory	512 MB DDR3	512 MB DDR3	512 MB DDR3
Flash	64 MB	64 MB	64 MB
ACL	768	768	768
Spanning Tree Instances	16	16	16
Dimensions			
Height x Depth x Width (inches)	1.73 x 9.06 x 12.99	1.73 x 10.24 x 17.32	1.73 x 10.24 x 17.32
Height x Depth x Width (mm)	44 x 230 x 330	44 x 260 x 440	44 x 260 x 440
Weight	4.48 lbs (2.03 kg)	7.85 lbs (3.56 kg)	8.42 lbs (3.82 kg)
Environment			
Power Required	100–240V AC, 50–60 Hz	100–240V AC, 50–60 Hz	100–240V AC, 50–60 Hz
Power Supply	AC built in	AC built in	AC built in
Redundant Power	No	No	No
Power Consumption* (Average / Maximum)	24.8 W / 26.3 W	235.9 W / 237.4 W	449.8 W / 451.3 W
Heat Dissipation	89.683 BTU/h	102.982 BTU/h	118.327 BTU/h
Operating Temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Storage Temperature	-4°F to 158°F (-20°C to 70°C)	-4°F to 158°F (-20°C to 70°C)	-4°F to 158°F (-20°C to 70°C)
Humidity	10% to 90% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing
Air-Flow Direction	side-to-back	side-to-back	side-to-back
Noise Level	Fanless	46.3 dBA	45.8 dBA
Certification and Compliance			
		FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	
Warranty			
Fortinet Warranty		Limited lifetime** warranty on all models	

* POE models power consumption is similar to non-POE model if POE is not in use

** Fortinet Warranty Policy: http://www.fortinet.com/doc/legal/RCUL_A.pdf



FortiSwitch 124F



FortiSwitch 124F-POE



FortiSwitch 124F-FPOE

ORIGINAL



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Specifications

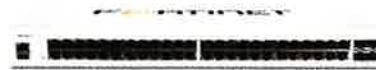
	FORTISWITCH 148F	FORTISWITCH 148F-POE	FORTISWITCH 148F-FPOE
Hardware Specifications			
Total Network Interfaces	48x GE RJ45 and 4x 10GE SFP+	48x GE RJ45 and 4x 10GE SFP+	48x GE RJ45 and 4x 10GE SFP+
Dedicated Management 10/100 Port	0	0	0
RJ-45 Serial Console Port	1	1	1
Form Factor	1 RU Rack Mount	1 RU Rack Mount	1 RU Rack Mount
Power over Ethernet (PoE) Ports	0	24 (802.3af/at)	48 (802.3af/at)
PoE Power Budget	0	370 W	740 W
Mean Time Between Failures	> 10 years	> 10 years	> 10 years
System Specifications			
Switching Capacity (Duplex)	176 Gbps	176 Gbps	176 Gbps
Packets Per Second (Duplex)	260 Mpps	260 Mpps	260 Mpps
MAC Address Storage	32 K	32 K	32 K
Network Latency	< 1µs	< 1µs	< 1µs
VLANs Supported	4 K	4 K	4 K
Link Aggregation Group Size	8	8	8
Total Link Aggregation Groups	16	16	16
Packet Buffers	2 MB	2 MB	2 MB
Memory	512 MB DDR3	512 MB DDR3	512 MB DDR3
Flash	64 MB	64 MB	64 MB
ACL	768	768	768
Spanning Tree Instances	16	16	16
Dimensions			
Height x Depth x Width (inches)	1.73 × 10.24 × 17.32	1.73 × 12.20 × 17.32	1.73 × 12.20 × 17.32
Height x Depth x Width (mm)	44 × 260 × 440	44 × 310 × 440	44 × 310 × 440
Weight	7.63 lbs (3.46 kg)	10.32 lbs (4.68 kg)	10.32 lbs (4.68 kg)
Environment			
Power Required	100–240V AC, 50–60 Hz	100–240V AC, 50–60 Hz	100–240V AC, 50–60 Hz
Power Supply	AC built in	AC built in	AC built in
Redundant Power	No	No	No
Power Consumption* (Average / Maximum)	55.8 W / 57 W	474.8 W / 476.3 W	893.5 W / 895.7 W
Heat Dissipation	194.37 BTU/h	195.73 BTU/h	198.46 BTU/h
Operating Temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Storage Temperature	-4°F to 158°F (-20°C to 70°C)	-4°F to 158°F (-20°C to 70°C)	-4°F to 158°F (-20°C to 70°C)
Humidity	10% to 90% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing
Air-Flow Direction	side-to-back	side-to-back	side-to-back
Noise Level	42.8 dBA	46.9 dBA	46.5 dBA
Certification and Compliance			
		FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	
Warranty			
Fortinet Warranty		Limited lifetime** warranty on all models	

* POE models power consumption is similar to non-POE model if POE is not in use

** Fortinet Warranty Policy: <https://www.fortinet.com/docs/legacy/forti-warranty>



FortiSwitch 148F



FortiSwitch 148F-POE



FortiSwitch 148F-FPOE

ORIGINAL

Specifications

	FORTISWITCH 224D-FPOE	FORTISWITCH 224E	FORTISWITCH 224E-POE
Hardware Specifications			
Total Network Interfaces	24x GE RJ45 ports and 4x GE SFP ports	24x GE RJ45 ports and 4x GE SFP ports	24x GE RJ45 ports and 4x GE SFP ports
Dedicated Management 10/100 Port	1	1	1
RJ-45 Serial Console Port	1	1	1
Form Factor	1 RU Rack Mount	1 RU Rack Mount	1 RU Rack Mount
Power over Ethernet (PoE) Ports	24 (802.3af/802.3at)	NA	12 (802.3af/802.3at)
PoE Power Budget	370 W	NA	180 W
Mean Time Between Failures	> 10 years	> 10 years	> 10 years
System Specifications			
Switching Capacity (Duplex)	56 Gbps	56 Gbps	56 Gbps
Packets Per Second (Duplex)	83 Mpps	83 Mpps	83 Mpps
MAC Address Storage	16 K	16 K	16 K
Network Latency	< 1µs	< 1µs	< 1µs
VLANs Supported	4 K	4 K	4 K
Link Aggregation Group Size	8	8	8
Total Link Aggregation Groups	Up to number of ports	Up to number of ports	Up to number of ports
Packet Buffers	1.5 MB	1.5 MB	1.5 MB
Memory	512 MB DDR3	512 MB DDR3	512 MB DDR3
Flash	128 MB	128 MB	128 MB
ACL	512	512	512
Spanning Tree Instances	16	16	16
Route Entries (IPv4)	64	64	64
Host Entries	512	512	512
Dimensions			
Height x Depth x Width (inches)	1.73 x 12.2 x 17.5	1.73 x 9 x 12.99	1.73 x 9 x 12.99
Height x Depth x Width (mm)	44 x 310 x 440	44 x 230 x 330	44 x 230 x 330
Weight	10.64 lbs (4.83 kg)	4.78 lbs (2.17 kg)	5.37 lbs (2.44 kg)
Environment			
Power Required	100–240V AC, 50/60 Hz	100–240V AC, 50/60 Hz	100–240V AC, 50/60 Hz
Power Supply	AC built in	AC built in	AC built in
Redundant Power	Optional FRPS-740	Redundant AC	Optional FRPS-740
Power Consumption* (Average / Maximum)	380 W / 397 W	17.2 W / 17.3 W	220.18 W / 223.57 W
Heat Dissipation	85 BTU/h	59.095 BTU/h	74.29554 BTU/h
Operating Temperature	32°F to 122°F (0°C to 50°C)	32°F to 122°F (0°C to 50°C)	32°F to 122°F (0°C to 50°C)
Storage Temperature	-4°F to 158°F (-20°C to 70°C)	-4°F to 158°F (-20°C to 70°C)	-4°F to 158°F (-20°C to 70°C)
Humidity	10% to 90% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing
Air-Flow Direction	side-to-back	side-to-back	side-to-back
Noise Level	42.7 dBA	Fanless	30.6 dBA
Certification and Compliance			
		FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	
Warranty			
Fortinet Warranty		Limited lifetime** warranty on all models	

* POE models power consumption is similar to non-POE model if POE is not in use

** Fortinet Warranty Policy: <http://www.fortinet.com/docs/legals/EULA.pdf>



FortiSwitch 224D-FPOE



FortiSwitch 224E



FortiSwitch 224E-POE



Specifications

	FORTISWITCH 248D	FORTISWITCH 248E-POE	FORTISWITCH 248E-FPOE
Hardware Specifications			
Total Network Interfaces	48x GE RJ45 ports and 4x GE SFP ports	48x GE RJ45 ports and 4x GE SFP ports	48x GE RJ45 ports and 4x GE SFP ports
Dedicated Management 10/100 Port	1	1	1
RJ-45 Serial Console Port	1	1	1
Form Factor	1 RU Rack Mount	1 RU Rack Mount	1 RU Rack Mount
Power over Ethernet (PoE) Ports	—	24 (802.3af/802.3at)	48 (802.3af/802.3at)
PoE Power Budget	N/A	370 W	740 W
Mean Time Between Failures	> 10 years	> 10 years	> 10 years
System Specifications			
Switching Capacity (Duplex)	104 Gbps	104 Gbps	104 Gbps
Packets Per Second (Duplex)	155 Mpps	155 Mpps	155 Mpps
MAC Address Storage	16 K	16 K	16 K
Network Latency	< 1µs	< 1µs	< 1µs
VLANs Supported	4 K	4 K	4 K
Link Aggregation Group Size	8	8	8
Total Link Aggregation Groups	Up to number of ports	Up to number of ports	Up to number of ports
Packet Buffers	1.5 MB	1.5 MB	1.5 MB
Memory	512 MB DDR3	512 MB DDR3	512 MB DDR3
Flash	128 MB	128 MB	128 MB
ACL	512	512	512
Spanning Tree Instances	16	16	16
Route Entries (IPv4)	64	64	64
Host Entries	512	512	512
Dimensions			
Height x Depth x Width (inches)	1.73 x 9.68 x 17.3	1.73 x 16.1 x 17.3	1.73 x 16.1 x 17.3
Height x Depth x Width (mm)	44 x 246 x 440	44 x 410 x 440	44 x 410 x 440
Weight	7.81 lbs (3.54 kg)	12.12 lbs (5.5 kg)	13.44 lbs (6.1 kg)
Environment			
Power Required	100–240V AC, 50/60 Hz	100–240V AC, 50/60 Hz	100–240V AC, 50/60 Hz
Power Supply	AC built in	AC built in	AC built in
Redundant Power	—	Optional FRPS-740	Optional FRPS-740
Power Consumption* (Average / Maximum)	38.66 W / 39.19 W	457.46 W / 466.47 W	842 W / 855.02 W
Heat Dissipation	134 BTU/h	177.14268 BTU/h	162.87865 BTU/h
Operating Temperature	32°F to 122°F (0°C to 50°C)	32°F to 122°F (0°C to 50°C)	32°F to 122°F (0°C to 50°C)
Storage Temperature	-4°F to 158°F (-20°C to 70°C)	-4°F to 158°F (-20°C to 70°C)	-4°F to 158°F (-20°C to 70°C)
Humidity	10% to 90% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing
Air-Flow Direction	side-to-back	side-to-back	side-to-back
Noise Level	32.3 dBA	34.2 dBA	44.7 dBA
Certification and Compliance			
		FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	
Warranty			
Fortinet Warranty		Limited lifetime** warranty on all models	

* POE models power consumption is similar to non-POE model if POE is not in use

** Fortinet Warranty Policy: <http://www.fortinet.com/docs/legal/EULA.pdf>



FortiSwitch 248D



FortiSwitch 248E-POE



FortiSwitch 248E-FPOE



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Ordering Information

Product	SKU	Description
FortiSwitch Models		
FortiSwitch 108F	FS-108F	Layer 2 FortiGate switch controller compatible switch with 8 x GE RJ45 ports, 2 x GE SFP, Fanless, 12W/3A power adapter of input voltage 100 – 240VAC, and PSE dual powered.
FortiSwitch 108F-POE	FS-108F-POE	Layer 2 FortiGate switch controller compatible PoE+ switch with 8 x GE RJ45 ports, 2 x GE SFP, Fanless with automatic Max 65W POE output limit.
FortiSwitch 108F-FPOE	FS-108F-FPOE	Layer 2 FortiGate switch controller compatible PoE+ switch with 8 x GE RJ45 ports, 2 x GE SFP, Fanless with automatic Max 130W POE output limit.
FortiSwitch 124E	FS-124E	Layer 2 FortiGate switch controller compatible switch with 24 GE RJ45 + 4 SFP ports. Fanless.
FortiSwitch 124E-POE	FS-124E-POE	Layer 2 FortiGate switch controller compatible PoE+ switch with 24 GE RJ45 + 4 SFP ports, 12 port PoE with maximum 185 W limit.
FortiSwitch 124E-F-POE	FS-124E-FPOE	Layer 2 FortiGate switch controller compatible PoE+ switch with 24 GE RJ45 + 4 SFP ports, 24 port PoE with maximum 370 W limit.
FortiSwitch 148E	FS-148E	Layer 2 FortiGate switch controller compatible switch with 48 GE RJ45 + 4 SFP ports.
FortiSwitch 148E-POE	FS-148E-POE	Layer 2 FortiGate switch controller compatible PoE+ switch with 48 GE RJ45 + 4 SFP ports, 24 port PoE with maximum 370 W limit.
FortiSwitch 124F	FS-124F	Layer 2 FortiGate switch controller compatible switch with 24 GE RJ45 + 4 10G SFP+ ports. Fanless.
FortiSwitch 124F-POE	FS-124F-POE	Layer 2 FortiGate switch controller compatible PoE+ switch with 24 GE RJ45 + 4 10G SFP+ ports, 12 port PoE with maximum 185 W limit.
FortiSwitch 124F-FPOE	FS-124F-FPOE	Layer 2 FortiGate switch controller compatible PoE+ switch with 24 GE RJ45 + 4 10G SFP+ ports, 24 port PoE with maximum 370 W limit.
FortiSwitch 148F	FS-148F	Layer 2 FortiGate switch controller compatible switch with 48 GE RJ45 + 4 10G SFP+ ports.
FortiSwitch 148F-POE	FS-148F-POE	Layer 2 FortiGate switch controller compatible PoE+ switch with 48 GE RJ45 + 4 10G SFP+ ports, 24 port PoE with maximum 370 W limit.
FortiSwitch 148F-FPOE	FS-148F-FPOE	Layer 2 FortiGate switch controller compatible PoE+ switch with 48 GE RJ45 + 4 10G SFP+ ports, 48 port PoE with maximum 740 W limit.
FortiSwitch 224D-FPOE	FS-224D-FPOE	Layer 2/3 FortiGate switch controller compatible PoE+ switch with 24 GE RJ45 + 4 SFP ports, 24 port PoE with maximum 370 W limit.
FortiSwitch 224E	FS-224E	Layer 2/3 FortiGate switch controller compatible switch with 24 GE RJ45 + 4 SFP ports. Fanless.
FortiSwitch 224E-POE	FS-224E-POE	Layer 2/3 FortiGate switch controller compatible PoE+ switch with 24 GE RJ45 + 4 SFP ports, 12 port PoE with maximum 180 W limit.
FortiSwitch 248D	FS-248D	Layer 2/3 FortiGate switch controller compatible switch with 48 GE RJ45 + 4 SFP ports.
FortiSwitch 248E-POE	FS-248E-POE	Layer 2/3 FortiGate switch controller compatible PoE+ switch with 48 GE RJ45 + 4 SFP ports, 24 port PoE with maximum 370 W limit.
FortiSwitch 248E-FPOE	FS-248E-FPOE	Layer 2/3 FortiGate switch controller compatible PoE+ switch with 48 GE RJ45 + 4 SFP ports, 48 port PoE with maximum 740 W limit.
Licenses		
FortiLAN Cloud Management License*	FC-10-FSW00-628-02-DD	FortiSwitch 100 Series (none-Rugged) FortiLAN Cloud Management SKU Including FortiCare 24x7. (Note, FortiCare only applicable when used with FortiLAN Cloud)
	FC-10-FSW10-628-02-DD	FortiSwitch 200-400 Series (incl all FSW Rugged Models) FortiLAN Cloud Management SKU Including FortiCare 24x7. (Note, FortiCare only applicable when used with FortiLAN Cloud)
FortiSwitch Manager Subscription License	FC1-10-SWMVM-258-01-DD	Subscription license for 10 FortiSwitch Units managed by FortiSwitchManager VM. 24x7 FortiCare support (for FSWM VM) included.
	FC2-10-SWMVM-258-01-DD	Subscription license for 100 FortiSwitch Units managed by FortiSwitchManager VM. 24x7 FortiCare support (for FSWM VM) included.
	FC3-10-SWMVM-258-01-DD	Subscription license for 1000 FortiSwitch Units managed by FortiSwitchManager VM. 24x7 FortiCare support (for FSWM VM) included.
FortiSwitch Advanced Features License	FS-SW-LIC-200	SW License for FS-200 Series Switches to activate Advanced Features.
Accessories		
External Redundant AC Power Supply	FRPS-740	Redundant AC power supply for up to two units: FS-224D-FPOE, FS-224E-POE, FS-248E-POE, FS-248E-FPOE.

* When managing a FortiSwitch with a FortiGate via FortiGate Cloud, no additional license is necessary.

For details of Transceiver modules, see the [Fortinet Transceivers datasheet](#).

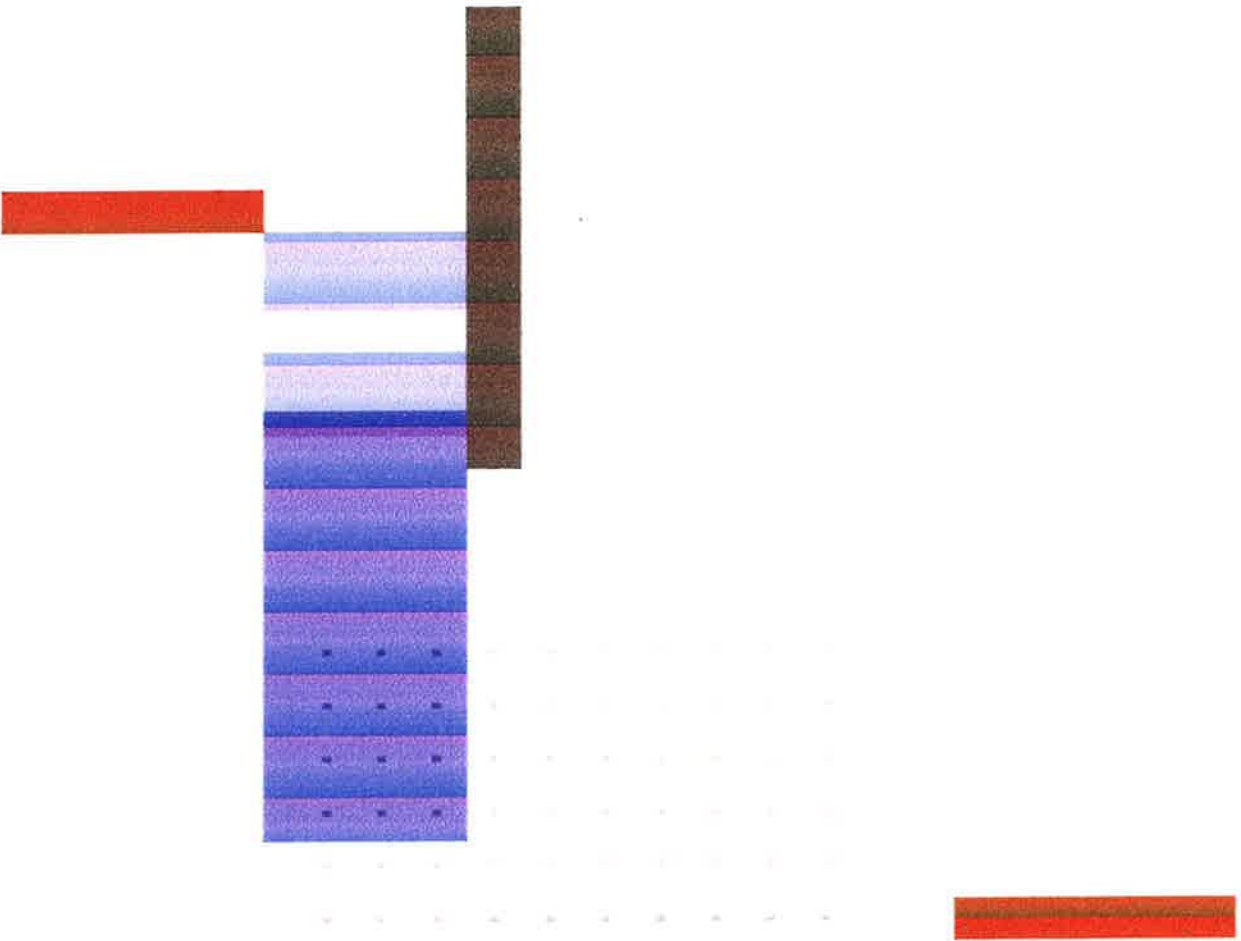
Note that all PoE FortiSwitches are Alternative-A.

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Fortinet CSR Policy

Fortinet is committed to driving progress and sustainability for all through cybersecurity, with respect for human rights and ethical business practices, making possible a digital world you can always trust. You represent and warrant to Fortinet that you will not use Fortinet's products and services to engage in, or support in any way, violations or abuses of human rights, including those involving illegal censorship, surveillance, detention, or excessive use of force. Users of Fortinet products are required to comply with the [Fortinet EULA](#) and report any suspected violations of the EULA via the procedures outlined in the [Fortinet Whistleblower Policy](#).



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FortiGate/FortiWiFi® 60F Series

FortiGate 60F, FortiGate 61F, FortiWiFi 60F, and FortiWiFi 61F

Secure SD-WAN
Next Generation Firewall



The FortiGate/FortiWiFi 60F series provides a fast and secure SD-WAN solution in a compact fanless desktop form factor for enterprise branch offices and mid-sized businesses. Protects against cyber threats with system-on-a-chip acceleration and industry-leading secure SD-WAN in a simple, affordable, and easy to deploy solution. Fortinet's Security-Driven Networking approach provides tight integration of the network to the new generation of security.

Security

- Identifies thousands of applications inside network traffic for deep inspection and granular policy enforcement
- Protects against malware, exploits, and malicious websites in both encrypted and non-encrypted traffic
- Prevents and detects against known attacks using continuous threat intelligence from AI-powered FortiGuard Labs security services
- Proactively blocks unknown sophisticated attacks in real-time with the Fortinet Security Fabric integrated AI-powered FortiSandbox

Performance

- Engineered for Innovation using Fortinet's purpose-built security processors (SPU) to deliver the industry's best threat protection performance and ultra-low latency
- Provides industry-leading performance and protection for SSL encrypted traffic including the first firewall vendor to provide TLS 1.3 deep inspection

Certification

- Independently tested and validated best security effectiveness and performance
- Received unparalleled third-party certifications from NSS Labs, ICSA, Virus Bulletin, and AV Comparatives

Networking

- Application aware routing with in-built SD-WAN capabilities to achieve consistent application performance and the best user experience
- Built-in advanced routing capabilities to deliver high performance with encrypted IPSEC tunnels at scale

Management

- Includes a management console that is effective and simple to use, which provides a comprehensive network of automation & visibility
- Provides Zero Touch Provisioning leveraging Single Pane of Glass Management powered by the Fabric Management Center
- Predefined compliance checklists analyze the deployment and highlight best practices to improve the overall security posture

Security Fabric

- Enables Fortinet and Fabric-ready partners' products to provide broader visibility, integrated end-to-end detection, threat intelligence sharing, and automated remediation
- Automatically builds Network Topology visualizations which discover IoT devices and provide complete visibility into Fortinet and Fabric-ready partner products

Firewall	IPS	NGFW	Threat Protection	Interfaces
10 Gbps	1.4 Gbps	1 Gbps	700 Mbps	Multiple GE RJ45 Variants with internal storage WiFi variants

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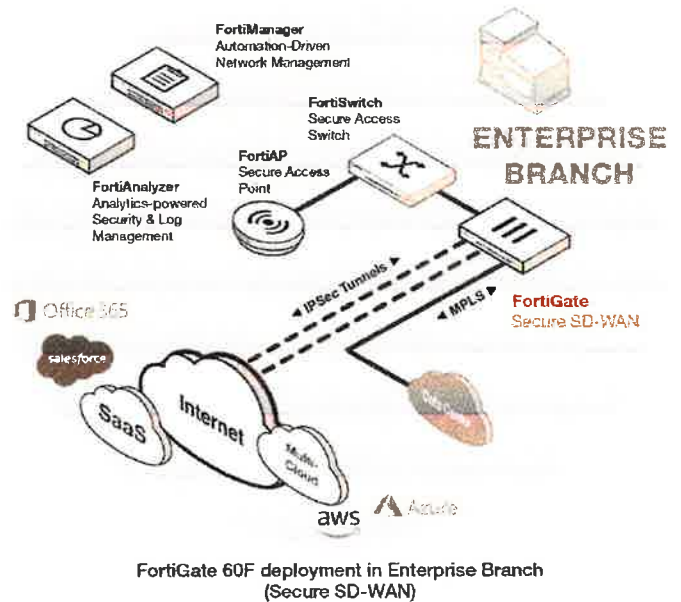
Deployment

Next Generation Firewall (NGFW)

- Reduce the complexity and maximize your ROI by integrating threat protection security capabilities into a single high-performance network security appliance, powered by Fortinet's Security Processing Unit (SPU)
- Full visibility into users, devices, applications across the entire attack surface and consistent security policy enforcement irrespective of asset location
- Protect against network exploitable vulnerabilities with industry-validated IPS that offers low latency and optimized network performance
- Automatically block threats on decrypted traffic using the Industry's highest SSL inspection performance, including the latest TLS 1.3 standard with mandated ciphers
- Proactively block newly discovered sophisticated attacks in real-time with AI-powered FortiGuard Labs and advanced threat protection services included in the Fortinet Security Fabric

Secure SD-WAN

- Consistent business application performance with accurate detection, dynamic WAN path steering and optimization
- Multi-cloud access for faster SaaS adoption with end-to-end optimization
- Simplification with zero touch deployment and centralized management with auto-provisioning, analytics and reporting
- Strong security posture with next generation firewall and real-time threat protection

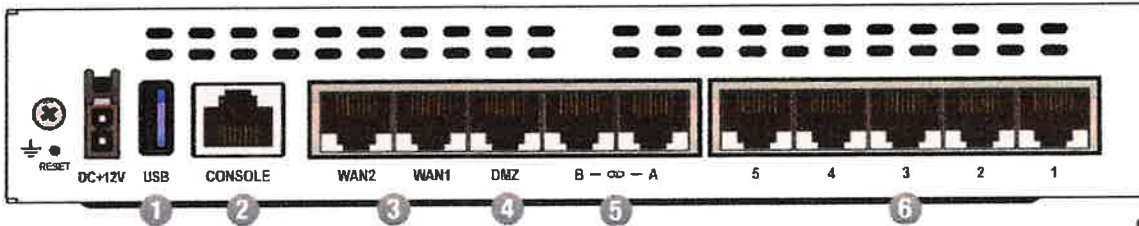
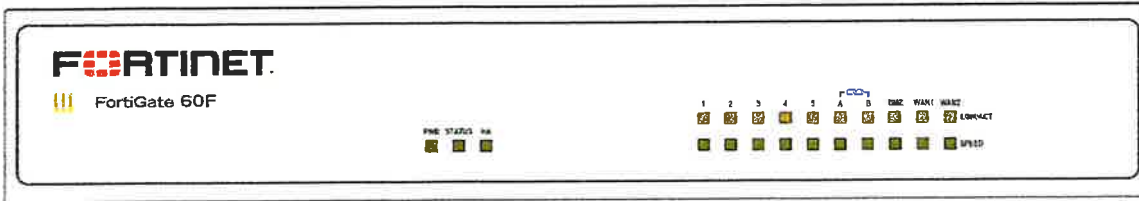


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Hardware

FortiGate/FortiWiFi 60F/61F



Interfaces

- | | |
|-------------------------|-------------------------------|
| 1. USB Port | 4. 1x GE RJ45 DMZ Port |
| 2. Console Port | 5. 2x GE RJ45 FortiLink Ports |
| 3. 2x GE RJ45 WAN Ports | 6. 5x GE RJ45 Internal Ports |

Powered by Purpose-built Secure SD-WAN ASIC SOC4



- Combines a RISC-based CPU with Fortinet's proprietary Security Processing Unit (SPU) content and network processors for unmatched performance
- Delivers industry's fastest application identification and steering for efficient business operations
- Accelerates IPsec VPN performance for best user experience on direct internet access
- Enables best of breed NGFW Security and Deep SSL Inspection with high performance
- Extends security to access layer to enable SD-Branch transformation with accelerated and integrated switch and access point connectivity

3G/4G WAN Connectivity

The FortiGate 60F Series includes a USB port that allows you to plug in a compatible third-party 3G/4G USB modem, providing additional WAN connectivity or a redundant link for maximum reliability.

Compact and Reliable Form Factor

Designed for small environments, you can place it on a desktop or wall-mount it. It is small, lightweight yet highly reliable with superior MTBF (Mean Time Between Failure), minimizing the chance of a network disruption.

Extends Security to Access Layer with FortiLink Ports

FortiLink protocol enables you to converge security and the network access by integrating the FortiSwitch into the FortiGate as a logical extension of the NGFW. These FortiLink enabled ports can be reconfigured as regular ports as needed.

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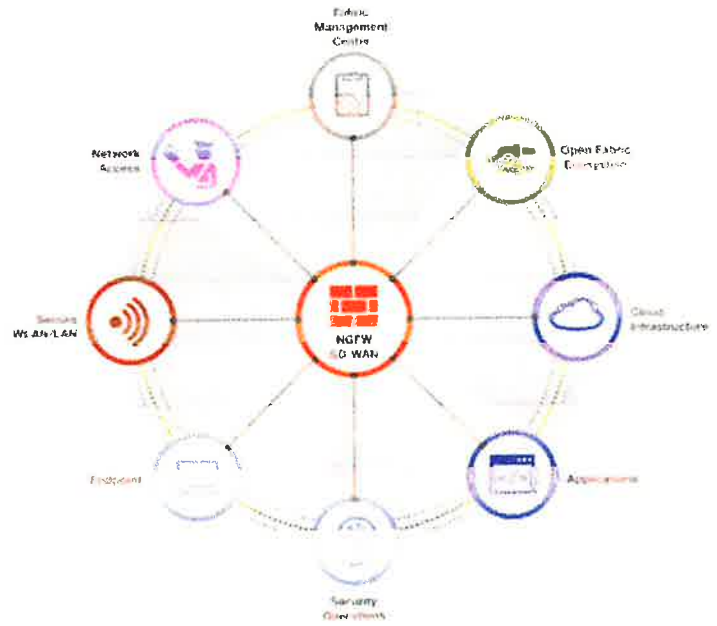
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Fortinet Security Fabric

Security Fabric

The Security Fabric is the cybersecurity platform that enables digital innovations. It delivers broad visibility of the entire attack surface to better manage risk. Its unified and integrated solution reduces the complexity of supporting multiple-point products, while automated workflows increase operational speeds and reduce response times across the Fortinet deployment ecosystem. The Fortinet Security Fabric covers the following key areas under a single management center:

- **Security-Driven Networking** that secures, accelerates, and unifies the network and user experience
- **Zero Trust Network Access** that identifies and secures users and devices in real-time, on and off of the network
- **Dynamic Cloud Security** that protects and controls cloud infrastructures and applications
- **AI-Driven Security Operations** that automatically prevents, detects, isolates, and responds to cyber threats



FortiOS

FortiGate is the foundation of the Fortinet Security Fabric—the core is FortiOS. All security and networking capabilities across the entire FortiGate platform are controlled with one intuitive operating system. FortiOS reduces complexity, costs, and response times by truly consolidating next-generation security products and services into one platform.

- A truly consolidated platform with a single OS and pane-of-glass for across the entire digital attack surface.
- Industry-leading protection: NSS Labs Recommended, VB100, AV Comparatives, and ICSA validated security and performance.
- Leverage the latest technologies such as deception-based security.

- Control thousands of applications, block the latest exploits, and filter web traffic based on millions of real time URL ratings in addition to true TLS 1.3 support.
- Automatically prevent, detect, and mitigate advanced attacks within minutes with an integrated AI-driven security and advanced threat protection.
- Improve and unify the user experience with innovative SD-WAN capabilities with the ability to detect, contain, and isolate threats with automated segmentation.
- Utilize SPU hardware acceleration to boost network security performance.

Services



FortiGuard Labs offer real-time intelligence on the threat landscape, delivering comprehensive security updates across the full range of Fortinet's solutions. Comprised of security threat researchers, engineers, and forensic specialists, the team collaborates with the world's leading threat monitoring organizations and other network and security vendors, as well as law enforcement agencies.



Our FortiCare customer support team provides global technical support for all Fortinet products. With support staff in the Americas, Europe, Middle East, and Asia, FortiCare offers services to meet the needs of enterprises of all sizes.

For more information, please refer to forti.net/fortiguard and forti.net/forticare

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Specifications

	FORTIGATE 60F	FORTIGATE 61F	FORTIWI-FI 60F	FORTIWI-FI 61F
Hardware Specifications				
GE RJ45 WAN / DMZ Ports	2 / 1	2 / 1	2 / 1	2 / 1
GE RJ45 Internal Ports	7	7	7	7
GE RJ45 FortiLink Ports	2	2	2	2
Wireless Interface	—	—	Single Radio (2.4GHz/5GHz), 802.11 a/b/g/n/ac-W2	Single Radio (2.4GHz/5GHz), 802.11 a/b/g/n/ac-W2
USB Ports	1	1	1	1
Console (RJ45)	1	1	1	1
Internal Storage	—	1 x 128 GB SSD	—	1 x 128 GB SSD
System Performance — Enterprise Traffic Mix				
IPS Throughput ²			1.4 Gbps	
NGFW Throughput ^{2,4}			1 Gbps	
Threat Protection Throughput ^{2,5}			700 Mbps	
System Performance				
Firewall Throughput (1518 / 512 / 64 byte UDP packets)			10/10/6 Gbps	
Firewall Latency (64 byte UDP packets)			4 µs	
Firewall Throughput (Packets Per Second)			9 Mpps	
Concurrent Sessions (TCP)			700,000	
New Sessions/Second (TCP)			35,000	
Firewall Policies			5,000	
IPsec VPN Throughput (512 byte) ¹			6.5 Gbps	
Gateway-to-Gateway IPsec VPN Tunnels			200	
Client-to-Gateway IPsec VPN Tunnels			500	
SSL-VPN Throughput			900 Mbps	
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)			200	
SSL Inspection Throughput (IPS, avg. HTTPS) ³			800 Mbps	
SSL Inspection CPS (IPS, avg. HTTPS) ³			400	
SSL Inspection Concurrent Session (IPS, avg. HTTPS) ³			55,000	
Application Control Throughput (HTTP 64K) ²			1.8 Gbps	
CAPWAP Throughput (HTTP 64K)			8 Gbps	
Virtual Domains (Default / Maximum)			10 / 10	
Maximum Number of FortiSwitches Supported			16	
Maximum Number of FortiAPs (Total / Tunnel Mode)			64 / 32	
Maximum Number of FortiTokens			500	
High Availability Configurations			Active / Active, Active / Passive Clustering	
Dimensions				
Height x Width x Length (inches)			1.5 x 8.5 x 6.2	
Height x Width x Length (mm)			38.5 x 216 x 160 mm	
Weight			2.23 lbs (1.01 kg)	
Form Factor			Desktop	
Radio Specifications				
Multiple User (MU) MIMO	—	—	3x3	
Maximum Wi-Fi Speeds	—	—	1300 Mbps @ 5 GHz, 450 Mbps @ 2.4 GHz	
Maximum Tx Power	—	—	20 dBm	
Antenna Gain	—	—	3.5 dBi @ 5 GHz, 5 dBi @ 2.4 GHz	

Note: All performance values are 'up to' and vary depending on system configuration.

1. IPsec VPN performance test uses AES256-GHA256.

2. IPS (Enterprise Mix), 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.

5. Threat Protection performance is measured with Firewall, IPS, Application Control, and Malware Protection enabled.

Specifications

	FORTIGATE 60F	FORTIGATE 61F	FORTIWIFI 60F	FORTIWIFI 61F
Operating Environment and Certifications				
Power Rating	12Vdc 3A			
Power Required	Powered by External DC Power Adapter, 100-240V AC, 50-60 Hz			
Maximum Current	115V AC / 0.2A, 230V AC / 0.1A			
Power Consumption (Average / Maximum)	17.0W / 18.5W	17.2W / 18.70W	17.2W / 18.7W	16.5W / 19.0W
Heat Dissipation	63.1 BTU/hr	63.8 BTU/hr	63.8 BTU/hr	64.8 BTU/hr
Operating Temperature	32-104°F (0-40°C)			
Storage Temperature	-31-158°F (-35-70°C)			
Humidity	Humidity 10-90% non-condensing			
Noise Level	Fanless 0 dBA			
Operating Altitude	Up to 7,400 ft (2,250 m)			
Compliance	FCC, ICES, CE, RoHS, VCCI, ESMU, UL/cUL, CB			
Certifications	ICSA Labs: Firewall, IPSec, Antivirus, SSL-VPN			

Order Information

Product	SKU	Description
FortiGate 60F	FG-60F	10x GE RJ45 ports (including 7x Internal ports, 2x WAN ports, 1x DMZ port)
FortiGate 61F	FG-61F	10x GE RJ45 ports (including 7x Internal ports, 2x WAN ports, 1x DMZ port), 128 GB SSD onboard storage
FortiWiFi 60F	FWF-60F	10 x GE RJ45 ports (including 7x Internal Ports, 2x WAN Ports, 1x DMZ Port), Wireless (802.11 a/b/g/n/ac-W2)
FortiWiFi 61F	FWF-61F	10 x GE RJ45 ports (including 7x Internal Ports, 2x WAN Ports, 1x DMZ Port), Wireless (802.11 a/b/g/n/ac-W2), 128GB SSD onboard storage
Optional Accessories		
Rack Mount Tray	SP-RACKTRAY-02	Rack mount tray for all FortiGate E series and F series desktop models are backwards compatible with SP-RackTray-01. For list of compatible FortiGate products, visit our Documentation website: docs.fortinet.com
AC Power Adaptor	SP-FG60E-PDC-5	Pack of 5 AC power adaptors for FG/PWF 60E/61E, 60F/61F, and 60E/61E
Wall Mount Kit	SP-FG60F-MOUNT-20	Pack of 20 wall mount kits for FG/PWF-60F and FG/PWF-60F series

Bundles



FortiGuard Bundle

FortiGuard Labs delivers a number of security intelligence services to augment the FortiGate firewall platform. You can easily optimize the protection capabilities of your FortiGate with one of these FortiGuard Bundles.

Bundles	360 Protection ASE ¹	Enterprise Protection 24x7	Unified Threat Protection 24x7	Threat Protection 24x7
FortiCare	•	•	•	•
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 Filtering Service	•	•	•	•
FortiGuard Antispam Service	•	•	•	•
FortiGuard Security Rating Service	•	•	•	•
FortiGuard Industrial Service	•	•	•	•
FortiGuard IoT Detection Service ²	•	•	•	•
FortiConverter Service	•	•	•	•
IPAM Cloud ²	•	•	•	•
SD-WAN Orchestrator Entitlement ²	•	•	•	•
SD-WAN Cloud Assisted Monitoring	•	•	•	•
SD-WAN Overlay Controller VPN Service	•	•	•	•
FortiAnalyzer Cloud	•	•	•	•
FortiManager Cloud	•	•	•	•

1. 24x7 per Advanced Services Ticket Handling 2. Available when running FortiOS 6.4



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