

## Oferta Técnica

De acuerdo a los artículos y equipos solicitados en la licitación JCE-CCC-CP-2023-0033 aquí les compartimos las especificaciones técnicas de los equipos ofertados.

#### SWITCHES FORTINET FS-124F-FULL POE

La marca ofertada para este caso es **FORTINET** modelo **FS-124F-FPOE** el cual es un switch de 24 puertos que cuenta con las siguientes características:

- 1- Interfaz de redes: 24x GE RJ45 and 4x 10GE SFP+
- 2- Puerto consola RJ45: 1
- 3- Factor de forma: 1RU Rack mount.
- 4- Power over ethernet: 24 (802.3af/at)
- 5- Salida de POE total: 370W.
- 6- Tiempo medio entre fallos: Mayor a 10 años.
- 7- Switching Capacity: 128 Gbps
- 8- Paquetes por segundo: 190 Mpps
- 9- Almacenamiento direcciones MAC: 32K
- 10- Latencia de red:  $< 1 \mu s$
- 11- VLANs Soportadas: 4K
- 12-Tamaño del grupo de agregación de enlaces: 8
- 13- Grupos totales de agregación de enlaces: 16
- 14- Bufer de paquetes: 2MB
- 15- DRAM: 512 MB DDR3
- **16- FLASH:** 64MB
- 17-ACL: 768
- 18-Spanning Tree Instances: 16
- 19- Requisitos de alimentación: 100-240V AC, 50-60 Hz
- 20- Consumo de energía: 449.8 W / 451.3 W







CISCO

Partner







#### FORTICARE SERVICES DESCRIPCION

## FortiCare Elite 24X7 por tres años.

Los servicios FortiCare Elite ofrecen servicios mejorados acuerdos de nivel de servicio (SLA) y resolución acelerada de problemas. Este la oferta de soporte avanzado proporciona acceso a un equipo de soporte dedicado. Manejo de boletos con un solo toque por parte del equipo técnico experto agiliza resolución. Esta opción también proporciona Soporte de fin de ingeniería extendido (E-EoES) de 18 meses para agregar flexibilidad y acceso a los nuevos Portal FortiCare Elite. Este portal intuitivo proporciona una única vista unificada del dispositivo y seguridad sanitaria.

#### FortiCare Service Offerings

	Per-device Service Options			
FortiCare Included Features	FortiCare ESSENTIAL	FortiCare PREMIUM	FortiCare ELITE	
RMA	Return and replace only	Advanced replacement (PRMA available)	Advanced replacement (PRMA available)	
Web Support	<b>✓</b>	✓	<b>✓</b>	
Telephone Support		•	✓	
Firmware Updates	<b>✓</b>	✓	•	
Asset Management Portal	~	•	✓	
Response Time (Critical Issue)	Next business day	1 hour	15 mins	
Response Time (Non-critical Issue)	Next business day	Next business day	2 business hours	
Extended End-of-Engineering-Support (E-EoES) for Long Term Supported Firmware (LTS) of 18 months*	_	_	<b>✓</b>	
Device Insights and Monitoring Portal (FortiCare Elite Portal)	=	=	~	

<sup>\*</sup> Currently available for FortiGate only

Condiciones de Pago: credito a 30 dias despues de entregada la mercancia.

Tiempo de entrega: 60 a 75 dias.

Garantia: 3 años.

Plazo de mantenimiento de la oferta: 60 dias.











## **FortiCare Services**

# **Technical Support, Advanced Support, and Professional Services**



#### Hit the ground running with new capabilities

Fast-track return on investment with streamlined migration and deployment



### Get expert help when you need it

Accelerate incident resolution and maximize efficacy with 24×7 assistance from technical experts



### Enhance your security with tailored guidance

Increase productivity and avoid incidents with operational reviews, account planning, and upgrade assistance

#### **Confidence in Your Investment**

Businesses are making huge investments in security and Fortinet Security Fabric technologies to provide essential services critical to securing their most valuable assets. Organizations often lack the in-house expertise or resources for initial deployment, product support, and ongoing operations. At Fortinet, we understand these challenges and provide FortiCare Services to thousands of organizations every year to address them.

We want organizations to feel confident that they are maximizing the value of their investments quickly and realizing efficiency and efficacy gains over time. Whether migrating to a Fortinet Next-Generation Firewall (NGFW), implementing software-defined wide-area networking (SD-WAN) to protect your branch locations, or automating security operations functions, we will work with you to match the proper services with your unique business needs. We are dedicated to your success and provide the expertise you need when you need it.

### **Services**

**FortiCare Support Services** is per-device support services, and it provides customers access to over 1,800 experts to ensure efficient and effective operations and maintenance of their Fortinet capabilities. Global technical support is offered 24×7 with flexible add-ons, including enhanced service level agreements (SLAs) and premium hardware replacement through 200+ in-country depots.

**Advanced Support** is account-based services, and provides high-touch account management and business guidance through designated resources to meet the needs of enterprises and service providers. Additionally, Enterprise Support Agreements (ESAs) are available to simplify consumption of the services.



### **Expertise at Your Service**

- 24×7 Global Support
- 1,800+ NSE and Industry
   Certified Global Resources
- 3 Regional Centers of Expertise
- 23 Support Centers
- 40 Regional Depots
- 200+ In-country Depots
- 4-hour Expedited Hardware Replacement Availability

# FortiCare Worldwide 24×7 Support

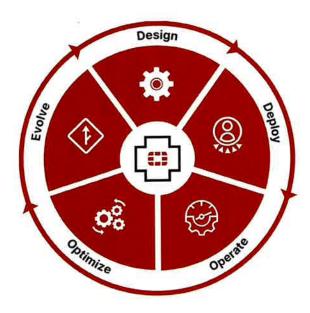
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Professional Services provides accelerated implementation and configuration optimization through QuickStart or custom engagements leveraging the services of highly skilled experts to promote first-time accuracy and avoid costly post-deployment issues.

### The Journey

Adopting new technologies is not a project with a start and a finish, Instead, it is a journey from design and implementation to operations, optimization, and ongoing management of the solution. Fortinet has you covered every step of the way, freeing up your resources to focus on your business.



## **Feature Highlights: Technical Support**

Organizations depend on Fortinet solutions to provide critical services. If any issues arise, they need to be addressed quickly to help ensure security and business continuity. Flexible support options help organizations maximize uptime, security, and performance according to the individual needs of each business.

Fortinet offers three different per-device support options to meet the needs of different devices, i.e., FortiCare Essential, FortiCare Premium, and FortiCare Elite. Organizations have the flexibility to buy different levels of service for different devices based on their needs.

#### **FortiCare Essential**

FortiCare Essential is the base-level service, and it is targeted toward devices that require a limited amount of support and can tolerate next-business-day, web-only response for critical as well as non-critical issues. This service is only offered to FortiGate models 8x and below and to low-end FortiWifi devices.

### FortiCare Premium

FortiCare Premium is targeted toward devices that require 24×7×365 with one-hour response for critical issues and the next business-day response for non-critical issues.

#### **FortiCare Elite**

FortiCare Elite services offers enhanced service-level agreements (SLAs) and accelerated issue resolution. This advanced support offering provides access to a dedicated support team. Single-touch ticket handling by the expert technical team streamlines resolution. This option also provides Extended End-of-Engineering-Support (E-EoES) of 18 months for added flexibility and access to the new FortiCare Elite Portal. This intuitive portal provides a single unified view of device and security health.





## **FortiCare Service Offerings**

	Per-device Service Options			
FortiCare Included Features	FortiCare ESSENTIAL	FortiCare PREMIUM	FortiCare ELITE	
RMA	Return and replace only	Advanced replacement (PRMA available)	Advanced replacement (PRMA available)	
Web Support	~	<b>~</b>	✓	
Telephone Support	Q <del></del>	<b>~</b>	✓	
Firmware Updates	<b>✓</b>	<b>~</b>	✓	
Asset Management Portal	<b>~</b>	<b>~</b>	~	
Response Time (Critical Issue)	Next business day	1 hour	15 mins	
Response Time (Non-critical Issue)	Next business day	Next business day	2 business hours	
Extended End-of-Engineering-Support (E-EoES) for Long Term Supported Firmware (LTS) of 18 months*	<del>a.</del>		<b>~</b>	
Device Insights and Monitoring Portal (FortiCare Elite Portal)		_	<b>~</b>	

<sup>\*</sup> Currently available for FortiGate only

FortiCare Services are provided by the support teams located across 20 regional Technical Assistance Centers (TACs) and three regional Centers of Excellence (COE).

## **Fortinet Technical Assistance Centers**





- Vancouver
- Sophia Antipolis
- Kuala Lumpur
- AMER Regional TAC:
  - Ottawa
- Sunrise
- Chicago
- Mexico City
- Sunnyvale Bogota
- Plano
- Uberlandia



- Prague Bangalore
- Dubai ■ Lisbon
- APAC Regional TAC:
  - Beijing
- Tokyo
- Sydney
- Manila Singapore





## **Self-service Resources**

For expedited answers, Fortinet maintains ample self-service resources to get you the answers you need, fast, All the answers to your questions are now in one place. The Fortinet community is a knowledge-sharing hub for customers, partners, Fortinet experts, and colleagues. The community is a place to collaborate, share insights and experiences, and get answers to questions.

## community.fortinet.com

## **Feature Highlights: Advanced Support**

For enhanced security and tailored guidance, FortiCare Advanced Support gives you direct assistance from technical experts who know your business and can help accelerate issue resolution. With designated account management and service delivery, you can focus on your business while we focus on your success.

## Entitlements vary by level but can include:

Designated Advanced Technical Support	for focused resolution of incoming technical support issues.
Service Relationship Management	annual service and performance review. Quarterly operational review to cover technical ticket statistics, quality issues, overall ongoing ticket analysis, product life cycle, ongoing activity, and 90-day project planning.
Root Cause Analysis	of critical incidents (Priority-1 and Priority-2) related to Fortinet appliances.
Upgrade Assistance	which may include software recommendation, upgrade testing, and planning assistance.
Advanced Service Points	for remote after-hours assistance, product upgrade assistance, and software recommendations.
Annual Training Package	including NSE 4 and NSE 5 training and certification vouchers.





## Fortinet Support offerings come in three levels to address customers' top-of-mind issues.

		CORE	PRO	PRO PLUS
	Techical Account Manager		1 Region	1 Region
Partnership •	Service Relationship Manager			1 Region
Onboarding	Guided Onboarding and Getting Started Program	•	•	•
	Number of Employee NSE Lab & Exam	6	10	14
Education	Knowledge Transfer		Custom Webinar	Custom Webinar & Workshop
	Success Plan			•
9	Software Upgrade Assistance		1	2
Discovery and Planning	Hardening Check <sup>1</sup>		•	•
•	Device Performance Healthcheck <sup>1</sup>			•
	Lifecycle Audit			•
	Periodic Ticket Review		•	•
Proactive Services	Quarterly & Annual Service Review		•	•
	Asset Management			•
	Technical Security Bulletin & Notfication		•	•
	Critical Incident Management			•
	4-Hour Workaround SLA (P1) <sup>2</sup>		•	•
Resolution and Troubleshooting	Designed Ticket Management	•	•	•
	Technical Escalation Management	•	•	•
	Root Cause Analysis (P1/P2)		•	•
	18-Month Software Troubleshooting		•	•
Flexible Consumption	Service Points³	6	16	30

GLOBAL		
PRO	PRO PLUS	
3 Regions	3 Regions	
	1 Head Quarters	
•	•	
10	14	
Custom Webinar	Custom Webinar & Workshop	
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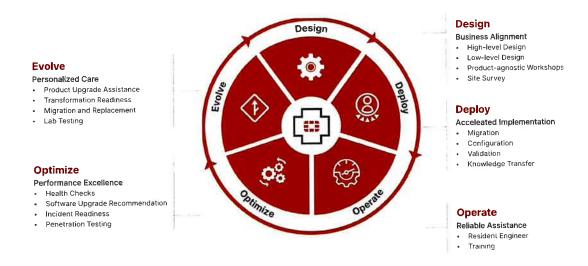
Covers FortiGate only.
 This option is only available to FortiCare ELITE customers. Security breach/software fault is not covered.
 Service Points can be used to consume various Fortinet Services.

In addition, Global PRO and Global PRO Plus are available to extend the geographical coverage of the service. These services provide a designated Technical Account Manager per manager covering EMEA, Americas, and Asia Pacific.

## **Feature Highlights: Professional Services**

As networks and threats rapidly evolve, it's critical to make sure security capabilities can keep up. Given the global cybersecurity skills shortage, today's organizations often lack the in-house expertise or enough staff to deploy, operate, and maintain the new technologies required to close security gaps. FortiCare Professional Services delivers expert help to ensure Fortinet deployments are optimized for each customer's unique needs.

Professional Services provides Design, Deploy, Operate, Optimize, and Evolve services. In addition, Professional Services also offers product-agnostic consulting services.



### **Key benefits to engaging Fortinet Professional Services:**

Faster Time-to-Value	Hit the ground running with new capabilities, achieve faster time-to-value with streamlined expert deployment of Fortinet products and solutions.
Increased Service Uptime	Achieve increased uptime by leveraging subject matter experts who can proactively review changes, performance, and policies for reliability and sustained security.
Access to Industry Expertise	Supplement in-house teams with dedicated resources that can bring industry expertise to perform upgrades or handle technical incidents.
Increased Productivity	Increase staff productivity by offloading redundant operational tasks including configurations to Fortinet domain experts who know your business





Cybersecurity Advisory and Consulting Services allow our experts to partner with business leaders, helping organizations be at their best through this ever-changing environment. Fortinet experts discover existing security posture elements through a vendor-agnostic approach; align findings to business goals, strategic objectives, and compliance requirements; and guide existing projects and future planning toward framework maturity.



#### Discover

**Business Goals** Security Posture Systems/Objectives



#### Align

Security Framework Compliance Requirements Strategic Objectives



#### Guide

Architectural Design Operational Practices Maturity Roadmap

## **FortiGuard Labs Consulting**

Consulting services are designed to help your organization address your specific threat landscapes and improve your organization's ability to use threat intelligence to meet that challenge. These services leverage the expertise and experience of the FortiGuard Labs team and provide the answers to the questions organizations are asking most:



#### **Threats**

What are the most important threats on which I should focus?



#### **Environment**

Is my environment as secure as it needs to be?



### **Operations**

Are my people properly trained to defend us against the threats we face?



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# FortiSwitch™ Secure Access



#### Highlights

- Designed for installations from desktops to wiring closets
- Ideal for SD-Branch deployments
- Centralized security and access management from FortiGate interfaces with FortiLink
- Optimal for converged network environments; enabling voice, data, and wireless traffic to be delivered across a single network
- Supports non-FortiLink deployments through onboard GUI, API, or command line configuration
- Up to 48 ports in a compact 1 RU form factor
- Stackable up to 300 switches per FortiGate, depending on model
- Supports wire-speed switching and store and forward forwarding mode

## Security, Performance, and Manageability

The FortiSwitch™ Secure Access Family delivers outstanding security, performance, and manageability. Secure, simple, and scalable, FortiSwitch is the right choice for threat-conscious businesses of all sizes.

Tightly integrated into the Fortinet Security Fabric via FortiLink, FortiSwitch can be managed directly from the familiar FortiGate interface. This single-pane-of-glass management provides complete visibility and control of users and devices on the network regardless of how they connect. This makes the FortiSwitch ideal for SD-Branch and campus deployments with applications that range from desktop to data center aggregation, enabling businesses to converge their security and network access.

PBS Dominicana

Available in

Integration

·····

**Appliance** 

## Security Fabric Integration through FortiLink

FortiLink is an innovative proprietary management protocol that allows our FortiGate Next-Generation Firewall to seamlessly manage any FortiSwitch. FortiLink enables the FortiSwitch to become a logical extension of the FortiGate, integrating it directly into the Fortinet Security Fabric. This management option reduces complexity and decreases management costs as network security and access layer functions are enabled and managed through a single console. FortiLink integration enables centralized policy management, including role-based access and control, making it easy to implement and manage.

## Collection

### **Entry 100 Series**

- · Entry level switch
- 8-48 GE ports, PoE+ capable
- · Desktop to wiring closet
- 2-4 GE SFP uplink ports
- 4× 10GE SFP+ uplink ports

#### Mid-Range 200 Series

- Mid-level switch
- 24-48 GE ports, PoE+ capable
- · Typical wiring closet switch
- 4 GE SFP uplink ports

#### **Premium 400 Series**

- Enterprise switch
- 24-48 GE and Multi-Gig port options,
   PoE+ and UPOE options
- Larger wiring closet or high throughput requirements
- 4× 10 GE SFP+ uplink ports

### **Aggregation 500 Series**

- · Aggregation switch
- 24-48 GE ports, PoE+ capable
- Larger wiring closet or high throughput requirements
- 4× 10 GE SFP+ and
   2× 40 GE QSFP+ uplink ports







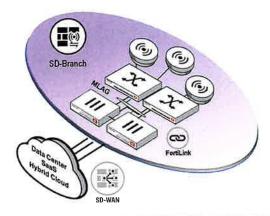


#### Overview

FortiSwitch is commonly managed and deployed through our FortiGate with FortiLink but can also be deployed and managed in non-FortiGate environments. Cloud management for both deployment options shown below is available through FortiCloud.

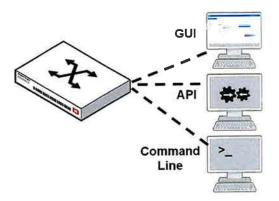
#### **FortiGate**

- Deployment and management via FortiLink
- · Security extended from NGFW
- Most common Fortinet deployment model



#### Non-FortiGate

- Standalone GUI or CLI
- · Manage at scale with FortiSwitch Manager
- Industry standard, no Fortinet Security Fabric integration







## **Product Offerings**

#### **Model Numbers**

FS-108E-POE, FS-108E-FPOE, FS-108F, FS-108F-POE, FS-108F-FPOE, FS-124E, FS-124E-POE, FS-124E-FPOE, FS-148E, FS-148E-POE, FS-124F, FS-124F-POE, FS-124F-FPOE, FS-148F-POE, FS-148F-POE, FS-224D-FPOE, FS-224E, FS-224E-POE, FS-248E-POE, FS-248E-POE, FS-424E-FIBER, FS-M426E-FPOE, FS-424E, FS-424E-POE, FS-424E-POE, FS-424E-POE, FS-424E-FPOE, FS-524D-FPOE, FS-548D-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)

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 (irmware 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/While Listing (FortiGate)

Policy Control of Users and Devices (FortiGate)

Block Intra-VLAN Traffic

Network Device Detection

Host Quarantine on Switch Port

Integraled FortiGale 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)





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

#### FORTISWITCH

#### Layer 2

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

Vırtual-Wire

Split Port (QSFP+ breakout to 4×10G SFP+ or 4×1G SFP)

Time-Domain Reflectcometry (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 lad QinQ

VLAN Mapping

IEEE 802,3ba, 802,3bj, and 802,3bm 40 and 100 Gigabit Ethernet

Auto topology

Dynamically shared packet buffers

Services

IGMP proxy / querier

MLD Snooping

MLD proxy / querier

IGMP Snooping

#### FORTISWITCH

#### Layer 3

Static Routing (Hardware-based)

Dynamic Routing Protocols: OSPFv2, RIPv2, VRRP, BGP, ISIS \*

Multicast Protocols: PIM-SSM \*

ECMD

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 8021X 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

\*Requires 'Advanced Features' License,





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

FORTISWITCH	
High Availability	Man
Multi-Chassis Link Aggregation (MCLAG)	IPv4
Quality of Service	Telne
IEEE 802.1p Based Priority Queuing	HTT
IP TOS/DSCP Based Priority Queuing	SNM
IEEE 1588 PTP (Transparent Clock)	SNTI
Explicit Congestion Notification	Stan
Egress priority lagging	Softv
Percentage Rate Control	Man
	Supp
	Dual
	RMC
	Dogle

FORTISWITCH	
Management	
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	





#### 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

REC 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 and 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

REC 8200: Internet Protocol, Version 6 (IPv6) Specification

REC 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 5308: 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 SMIv2

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

REC 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)



<sup>\*</sup> RFC and MIB supported by FortiSwitch Operating System. Check FortiSwitch Feature Matrix for model specific support.



#### 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: SNTP

RFC 3176: InMon Corporation's sFlow: A Method for Monitoring Traffic in Switched and

Rouled 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)

#### DID

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







Network Interfaces	8x GE RJ45 and 2x GE SFP 0 1 1 RU Rack Mount 8 (802 3af/at) 130 W
Casted Management 10/100 Port   0	0 1 1 RU Rack Mount 8 (802,3af/at)
5 Serial Console Port 1 RU Rack Mount 4 (802,3af/at) 5 over Ethernet (PoE) Ports 4 (802,3af/at) 5 over Budget 65 W 5 Time Between Fallures 7 10 years 6 m Specifications 6 ming Capacity (Duplex) 20 Gbps 6 test Per Second (Duplex) 30 Mpps 6 Address Storage 8 K 6 vork Latency 4 µs 6 N Supported 4 K 6 N M 6 N M M M M M M M M M M M M M M M M M M	1 1 RU Rack Mount 8 (802 <sub>.</sub> 3af/at)
Factor   1 RU Rack Mount   4 (802,3af/at)   65 W   7 (802,3af/at)   65 W   7 (802,3af/at)	1 RU Rack Mount 8 (802 3af/at)
re rower Ethernet (PoE) Ports  2 (802,3af/at)  Power Budget  5 5 W  1 Time Between Failures  2 10 Gbps  2 10 Mpps  2 10 Mpps  3 10 Mpps  3 10 Mpps  3 10 Mpps  3 10 Mpps  4 K	8 (802_3af/at)
Power Budget 65 W  10 years  20 Gbps  20 Gbps  20 Gbps  30 Mpps  Address Storage 8 K  20 K Latency 4μs  Ns Supported 4 K  Aggregation Group Size 8  Link Aggregation Groups 8  256 MB DDR3  31 MB  640  161 G40	
Time Between Failures   > 10 years	130 W
em Specifications ching Capacity (Duplex)  ets Per Second (Duplex)  Address Storage  8 K  rork Latency  4 µS  NS Supported  4 K  Aggregation Group Size  8 Link Aggregation Groups  8 B  Et Buffers  512 KB  M  256 MB DDR3  SH  640  Ining Tree Instances  Ining Tree I	100 11
20 Gbps   20 G	> 10 years
## Sets Per Second (Duplex)  Address Storage  Address Storage  ## Address Storage  ## Address Storage  ## Auric Latency  ## As Aggregation Group Size  ## Aggregation Group Size  ## Buffers  ## Aggregation Groups  ## Buffers	
Address Storage	20 Gbps
Author States of	30 Mpps
Aggregation Group Size	8 K
Aggregation Group Size 8  I Link Aggregation Groups 8  et Buffers 512 KB  M 256 MB DDR3  SH 32 MB  640  Inning Tree Instances 16  Inning Tree Instan	4µs
Link Aggregation Groups   8     et Buffers   512 KB     M	4 K
tet Buffers  512 KB  256 MB DDR3  32 MB  640  aning Tree Instances 16  ansions  th x Depth x Width (inches) 1.7 × 8.2 × 13 th x Depth x Width (mm) 44 × 209 × 330 th th x Depth x Width (mm) 45 × 15 × 15 × 15 × 15 th x Depth x Width (mm) 46 × 209 × 300 th th x Depth x Width (mm) 47 × 8.2 × 13 48 × 10 × 10 × 10 × 10 × 10 × 10 × 10 × 1	8
256 MB DDR3 SH 32 MB 640 nning Tree Instances 16 sensions ht x Depth x Width (inches) 1.7 × 8.2 × 13 ht x Depth x Width (mm) 44 × 209 × 330 tht 4 × 209 × 340 tht 4 × 209 × 34	8
## 32 MB 640  ining Tree Instances 16  insions  It x Depth x Width (inches) It x Depth x Width (mm) It	512 KB
640 Ining Tree Instances 16 Instances 17 × 8.2 × 13 Int x Depth x Width (inches) Int x Depth x Width (mm) Int x Depth x Width (inches)	256 MB DDR3
Ining Tree Instances In this Depth x Width (inches) Int x Depth x Width (i	32 MB
## sensions  ## tx Depth x Width (inches)  ## tx Depth x Width (mm)  ## tx Depth x Width (inches)  ## tx Depth x Width (inch	640
ht x Depth x Width (inches)  1.7 × 8.2 × 13  44 × 209 × 330  43 lbs (1.95 kg)  ronment  er Required  100–240V AC, 50/60 Hz  AC Built in  reduction of Consumption* (Average / Maximum)  70.19 W / 71.10 W	16
ht x Depth x Width (mm)  44 × 209 × 330  43 lbs (1.95 kg)  ronment  er Required  100-240V AC, 50/60 Hz  AC Built in  undant Power  er Consumption* (Average / Maximum)  70.19 W / 71.10 W	
that 4.3 lbs (1.95 kg)  ronment er Required 100–240V AC, 50/60 Hz er Supply AC Built in  undant Power er Consumption* (Average / Maximum) 70.19 W / 71.10 W	1.7 - 8.2 × 13
ronment er Required  100–240V AC, 50/60 Hz er Supply  AC Built in undant Power er Consumption* (Average / Maximum)  70.19 W / 71.10 W	44 × 209 × 330
er Required 100–240V AC, 50/60 Hz er Supply AC Built in undant Power er Consumption* (Average / Maximum) 70.19 W / 71.10 W	4.5 lbs (2.04 kg)
arr Supply  andant Power  arr Consumption* (Average / Maximum)  AC Built in  70.19 W / 71.10 W	
andant Power  er Consumption* (Average / Maximum)  70.19 W / 71.10 W	100-240V AC, 50/60 Hz
er Consumption* (Average / Maximum)  70.19 W / 71.10 W	AC Built in
the age / manufacture / manufa	
177 DT105	13519 W / 13610 W
Dissipation 17.7 BTU/h	17.7 BTU/h
rating Temperature 32°-113°F (0°-45°C)	32°-113°F (0°-45°C)
-40°-158°F (-40°-70°C)	-40°-158°F (-40°-70°C)
idity 10%–90% non-condensing	10%-90% non-condensing
Flow Direction side-to-back	side-to-back
e Level Fanless	Fanless

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

Warranty

Fortinet Warranty

Certification and Compliance

Limited lifetime\*\* warranty on all models

- $\boldsymbol{*}$  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/EULA.pdf



FortiSwitch 108E-POE

FortiSwitch 108E-FPOE





	FORTISWITCH 108F	FORTISWITCH 108F-POE	FORTISWITCH 108F-FPOE
lardware Specifications			
otal 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
edicated Management 10/100 Port	0	0	0
J-45 Serial Console Port	1	1	1
orm Factor	Desklop	Deskop / 19" rack bracket	Deskop / 19" rack bracket
ower over Ethernet (PoE) Ports	0	8 (802 3af/at)	8 (802 3af/at)
DE Power Budget	0	65 W	130 W
ean Time Between Failures	> 10 years	> 10 years	> 10 years
ystem Specifications			
witching Capacity (Duplex)	20 Gbps	20 Gbps	20 Gbps
ackets Per Second (Duplex)	30 Mpps	30 Mpps	30 Mpps
AC Address Storage	8 K	8 K	8 K
etwork Latency	4 µs	4 µs	4 μs
LANs Supported	4 K	4 K	4 K
nk Aggregation Group Size	8	8	8
otal Link Aggregation Groups	8	8	8
acket Buffers	512 KB	512 KB	512 KB
RAM	256 MB DDR3	256 MB DDR3	256 MB DDR3
_ASH	32 MB	32 MB	32 MB
CL	768	768	768
panning Tree Instances	16	16	16
imensions			
eight x Depth x Width (inches)	1.18 × 4.72 × 7.09	173 × 8 23 × 9 85	1.73 × 8.23 × 9.85
eight x Depth x Width (mm)	30 × 120 × 180	44 × 209 × 250	44 × 209 × 250
/eight	1,36 lbs (0.62 kg)	3.75 lbs (1.70 kg)	4.05 lbs (1.84 kg)
nvironment			
ower Required	100-240V AC, 50/60 Hz / PoE-PSE(af)	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz
ower Supply	12V/1A DC power adapter included, PoE-PD Built in	AC built in	AC built in
edundant Power	No	No	No
ower Consumption	6.2 W	74.4 W	139_2 W
eat Dissipation	21.142 BTU/h	34.12 BTU/h	34:56 BTU/h
perating Temperature	32°-113°F (0°-45°C)	32°-113°F (0°-45°C)	32°-113°F (0°-45°C)
torage Temperature	-49°-158°F (-40°-70°C)	-40°-158°F (-40°-70°C)	-40°-158°F (-40°-70°C)
umidity	5%-95% non-condensing	5%-95% non-condensing	5%–95% non-condensing
ir-Flow Direction	side to-back	side-to-back	side-to-back
oise Level	Fanless	Fanless	Fanless

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

Warranty Fortinet Warranty

Certification and Compliance

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



FortiSwitch 108F-POE







FortiSwitch 108F

	FORTISWITCH 124E	FORTISWITCH 124E-POE	FORTISWITCH 124E-FPOE
lardware Specifications			
otal Network Interfaces	24x GE RJ45 and 4x GE SFP	24x GE RJ45 and 4x GE SFP	24x GE RJ45 and 4x GE SFF
edicated Management 10/100 Port	0	0	0
J-45 Serial Console Port	1	1	1
orm 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)
oE Power Budget	0	185 W	370 W
lean Time Between Failures	> 10 years	> 10 years	> 10 years
ystem Specifications			
witching Capacity (Duplex)	56 Gbps	56 Gbps	56 Gbps
ackets Per Second (Duplex)	83 Mpps	83 Mpps	83 Mpps
//AC Address Storage	8 K	8 K	8 K
letwork Latency	4µs	4µs	4µs
LANs Supported	4 K	4 K	4 K
ink Aggregation Group Size	8	8	8
otal Link Aggregation Groups	8	8	8
acket Buffers	512 KB	512 KB	512 KB
PRAM	256 MB DDR3	256 MB DDR3	256 MB DDR3
LASH	32 MB	32 MB	32 MB
CL	640	640	640
panning Tree Instances	16	16	16
vimensions			
leight x Depth x Width (inches)	1.7 × 8.2 × 13	1.7 × 12.2 × 17.3	1.7 × 12.2 × 17.3
leight x Depth x Width (mm)	44 × 209 × 330	44 × 309 × 440	44 × 309 × 440
/eight	4.7 lbs (2.13 kg)	11.1 lbs (5.03 kg)	11.2 lbs (5.03 kg)
nvironment			
ower Required	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz
ower Supply	AC Built in	AC Built in	AC Built in
redundant Power	(me)	-	
ower Consumption* (Average / Maximum)	15.83 W /17.79 W	202.78 W / 205.45 W	387.78 W / 390.45 W
leat Dissipation	54 BTU/h	60.67 BTU/h	60 67 BTU/h
perating Temperature	32°-113°F (0°-45°C)	32°-113°F (0°-45°C)	32°-113°F (0°-45°C)
torage Temperature	-40°-158°F (-40°-70°C)	-40°-158°F (-40°-70°C)	-40°-158°F (-40°-70°C)
lumidity	10%-90% non-condensing	10%-90% non-condensing	10%-90% non-condensing
Air-Flow Direction	side-to-back	side-to-back	side-to-back
Noise Level	Fanless	39.3 dBA	42.5 dBA

FCC, CE, RCM, VCC1, BSMI, UL, CB, RoHS2

Warranty

Fortinet Warranty

 $\ensuremath{^{\bullet}}$  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/EULA.pdf

FortiSwitch 124E



Limited lifetime\*\* warranty on all models





FortiSwitch 124E-FPOE



	FORTISWITCH 148E	FORTISWITCH 148E-POE
Hardware Specifications	- TOKNOWIOTI 140L	
Total Network Interfaces	48x GF RJ45 and 4x GE SFP	48x GE RJ45 and 4x GE SFP
Dedicated Management 10/100 Port	0	o
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
DRAM	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 × 12.2 × 17.3	1.73 × 13.7 × 17.3
Height x Depth x Width (mm)	44 × 309 × 440	44 × 348 × 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°-113°F (0°-45°C)	32°-113°F (0°-45°C)
Storage Temperature	-4°-158°F (-20°-70°C)	-4°-158°F (-20°-70°C)
Humidity	10%-90% non-condensing	10%–90% non-condensing
Air-Flow Direction	side-to-back	side-to-back
Noise Level	36.9 dBA	38.7 dBA

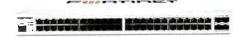
FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2

Warranty

Certification and Compliance

Fortinet Warranty Limited lifetime\*' warranty on all models

- $\boldsymbol{*}$  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/EULA.pdf





FortiSwitch 148E







	FORTISWITCH 124F	TISWITCH 124F FORTISWITCH 124F-POE	
Hardware Specifications			
otal Network Interfaces	24x GE RJ45 and 4× 10GE SFP+	24x GE RJ45 and 4× 10GE SFP+	24x GF RJ45 and 4× 10GE SFP
edicated Management 10/100 Port	0	0	0
J-45 Serial Console Port	1	1	1
orm Factor	1 RU Rack Mount	1 RU Rack Mount	1 RU Rack Mount
ower over Ethernet (PoE) Ports	0	12 (802.3af/at)	24 (802 3af/at)
oE Power Budget	0	185 W	370 W
lean Time Between Failures	> 10 years	> 10 years	> 10 years
ystem Specifications			
witching Capacity (Duplex)	128 Gbps	128 Gbps	128 Gbps
ackets Per Second (Duplex)	190 Mpps	190 Mpps	190 Mpps
IAC Address Storage	32 K	32 K	32 K
letwork Latency	< 1µs	< 1µs	< 1µs
/LANs Supported	4 K	4 K	4 K
ink Aggregation Group Size	8	8	8
otal Link Aggregation Groups	16	16	16
acket Buffers	2 MB	2 MB	2 MB
RAM	512 MB DDR3	512 MB DDR3	512 MB DDR3
LASH	64 MB	64 MB	64 MB
CL	768	768	768
panning Tree Instances	16	16	16
limensions			
leight x Depth x Width (inches)	1.73 × 9.06 × 12.99	1.73 × 10.24 × 17.32	1.73 × 10.24 × 17.32
leight x Depth x Width (mm)	44 × 230 × 330	44 × 260 × 440	44 × 260 × 440
Veight	4 48 lbs (2.03 kg)	7.85 lbs (3.56 kg)	8 42 lbs (3 82 kg)
invironment			
Power Required	100-240V AC, 50-60 Hz	100-240V AC, 50-60 Hz	100-240V AC, 50-60 Hz
ower Supply	AC built in	AC built in	AC built in
Redundant Power	No	No	No
ower Consumption* (Average / Maximum)	24.8 W / 26.3 W	235.9 W / 237.4 W	449.8 W / 451.3 W
leat Dissipation	89.683 BTU/h	102,982 BTU/h	118,327 BTU/h
perating Temperature	32°-113°F (0°-45°C)	32°-113°F (0°-45°C)	32°-113°F (0°-45°C)
torage Temperature	-4°-158°F (-20°-70°C)	-4°-158°F (-20°-70°C)	-4°-158°F (-20°-70°C)
lumidity	10%-90% non-condensing	10%-90% non-condensing	10%-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

Limited lifetime\*\* warranty on all models

Fortinet Warranty

\* 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/EULA.pdf







FortiSwitch 124F-POE





Warranty

	FORTISWITCH 148F	TISWITCH 148F FORTISWITCH 148F-POE		
lardware Specifications				
otal Network Interfaces	48x GE RJ45 and 4× 10GE SFP+	48x GE RJ45 and 4× 10GE SFP+	48x GE RJ45 and 4× 10GE SF	
edicated Management 10/100 Port	0	0	0	
J-45 Serial Console Port	1	1	1	
orm Factor	1 RU Rack Mount	1 RU Rack Mount	1 RU Rack Mount	
ower over Ethernet (PoE) Ports	0	24 (802 3af/at)	48 (802 3af/at)	
oE Power Budget	0	370 W	740 W	
lean Time Between Failures	> 10 years	> 10 years	> 10 years	
ystem Specifications				
witching Capacity (Duplex)	176 Gbps	176 Gbps	176 Gbps	
ackets Per Second (Duplex)	260 Mpps	260 Mpps	260 Mpps	
AC Address Storage	32 K	32 K	32 K	
etwork Latency	< 1µs	< 1µs	< 1µs	
LANs Supported	4 K	4 K	4 K	
nk Aggregation Group Size	8	8	8	
otal Link Aggregation Groups	16	16	16	
acket Buffers	2 MB	2 MB	2 MB	
RAM	512 MB DDR3	512 MB DDR3	512 MB DDR3	
ASH	64 MB	64 MB	64 MB	
CL	768	768	768	
panning Tree Instances	16	16	16	
imensions				
eight x Depth x Width (inches)	1.73 × 10.24 × 17.32	1,73 × 12,20 × 17,32	1,73 × 12,20 × 17.32	
eight x Depth x Width (mm)	44 × 260 × 440	44 × 310 × 440	44 × 310 × 440	
/eight	7,63 lbs (3,46 kg) 10,32 lbs (4,68 kg)		10.32 lbs (4.68 kg)	
nvironment				
ower Required	100-240V AC, 50-60 Hz	100-240V AC, 50-60 Hz	100-240V AC, 50-60 Hz	
ower Supply	AC built in	AC built in	AC built in	
edundant Power	No	No	No	
ower Consumption* (Average / Maximum)	55.8 W / 57 W	474.8 W / 476.3 W	893 5 W / 895 7 W	
eat Dissipation	194 37 BTU/n	195.73 BTU/h	198,46 BTU/h	
perating Temperature	32°-113°F (0°-45°C)	32°-113°F (0°-45°C)	32°-113°F (0°-45°C)	
orage Temperature	-4°-158°F (-20°-70°C)	-4°-158°F (-20°-70°C)	-4°-158°F (-20°-70°C)	
umidity	10%-90% non-condensing	10%-90% non-condensing	10%-90% non-condensing	
ir-Flow Direction	side-to-back	side-to-back	side-to-back	
oise Level	42.8 dBA	46.9 dBA	46.5 dBA	

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

Warranty

Fortinet Warranty

Limited lifetime\*\* warranty on all models

- $\ensuremath{^{\star}}$  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/EULA.pdf







FortiSwitch 148F

FortiSwitch 148F-POE

FortiSwitch 148F-FPOE





	FORTISWITCH 224D-FPOE	WITCH 224D-FPOE FORTISWITCH 224E	
Hardware Specifications			
Fotal Network Interfaces	24x GL RJ45 ports and 4x GE SFP ports	24x GE RJ45 ports and 4x GE SFP ports	24x GE RJ45 ports and 4x GE SFP p
Dedicated Management 10/100 Port	1 1		1
IJ-45 Serial Console Port	1	1	1
orm Factor	1 RU Rack Mount	1 RU Rack Mount	1 RU Rack Mount
ower over Ethernet (PoE) Ports	24 (802 3af/802 3at)	NA	12 (802_3af/802_3at)
oE Power Budget	370 W	NA	180 W
lean Time Between Failures	> 10 years	> 10 years	> 10 years
ystem Specifications			
witching Capacity (Duplex)	56 Gbps	56 Gbps	56 Gbps
ackets Per Second (Duplex)	83 Mpps	83 Mpps	83 Mpps
AC Address Storage	16 K	16 K	16 K
etwork Latency	< 1µs	< 1µs	< 1µs
LANs Supported	4 K	4 K	4 K
nk Aggregation Group Size	8	8	8
otal Link Aggregation Groups	Up to number of ports	Up to number of ports	Up to number of ports
acket Buffers	1.5 MB	1,5 MB	1.5 MB
RAM	512 MB DDR3	512 MB DDR3	512 MB DDR3
_ASH	128 MB	128 MB	128 MB
CL	512	512	512
panning Tree Instances	16	16	16
oute Entries (IPv4/IPv6)	64/32	64/32	64/32
ost Entries	512	512	512
imensions			
eight x Depth x Width (inches)	1.73 × 12.2 × 17.5	1,73 × 9 × 12,99	1.73 × 9 × 12.99
eight x Depth x Width (mm)	44 × 310 × 440	44 × 230 × 330	44 × 230 × 330
/eight	10.64 lbs (4.83 kg)	4.78 lbs (2.17 kg)	5.37 lbs (2.44 kg)
nvironment			
ower Required	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz
ower Supply	AC built in	AC built in	AC built in
edundant Power	Optional FRPS-740	Redundant AC	Optional FRPS-740
ower Consumption* (Average / Maximum)	380 W / 397 W	17.2 W / 17.3 W	220.18 W / 223.57 W
eat Dissipation	85 BTU/h	59.095 BTU/h	74.29554 BTU/h
perating Temperature	32°-122°F (0°-50°C)	32°-122°F (0°-50°C)	32°-122°F (0°-50°C)
torage Temperature	-4°-158°F (-20°-70°C)	-4°-158°F (-20°-70°C)	-4°-158°F (-20°-70°C)
lumidity	10%-90% non-condensing	10%-90% non-condensing	10%-90% non-condensing
ir-Flow Direction	side-to-back	side-to-back	side to back
loise Level	42.7 dBA	Fanless	30 6 dBA
Pertification and Compliance			

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

Limited lifetime\*\* warranty on all models

Warranty

Fortinet Warranty

 $\ensuremath{^{*}}\xspace$  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/EULA\_pdf













	FORTISWITCH 248D FORTISWITCH 248E-POE		FORTISWITCH 248E-FPOE
ardware Specifications			
otal 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
edicated Management 10/100 Port	1		1
J-45 Serial Console Port	1	1	1
orm Factor	1 RU Rack Mount	1 RU Rack Mount	1 RU Rack Mount
ower over Ethernet (PoE) Ports		24 (802.3af/802.3at)	48 (802 3af/802 3at)
oE Power Budget	N/A	370 W	740 W
lean Time Between Failures	> 10 years	> 10 years	> 10 years
ystem Specifications			
witching Capacity (Duplex)	104 Gbps	104 Gbps	104 Gbps
ackets Per Second (Duplex)	155 Mpps	155 Mpps	155 Mpps
1AC Address Storage	16 K	16 K	16 K
etwork Latency	< 1µs	< 1µs	< 1µs
LANs Supported	4 K	4 K	4 K
ink Aggregation Group Size	8	8	8
otal Link Aggregation Groups	Up to number of ports	Up to number of ports	Up to number of ports
acket Buffers	1,5 MB	1,5 MB	1.5 MB
RAM	512 MB DDR3	512 MB DDR3	512 MB DDR3
LASH	128 MB	128 MB	128 MB
CL	512	512	512
panning Tree Instances	16	16	
oute Entries (IPv4/IPv6)	64/32	64/32	64/32
ost Entries	512	512	512
imensions			
eight x Depth x Width (inches)	1.73 × 9.68 × 17.3	1.73 × 161 × 17.3	1 73 × 16.1 × 17.3
eight x Depth x Width (mm)	44 × 246 × 440	44 × 410 × 440	44 × 410 × 440
/eight	7.81 lbs (3.54 kg)	12.12 lbs (5,5 kg)	13 44 lbs (61 kg)
nvironment			
ower Required	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz
ower Supply	AC built in	AC built in	AC built in
edundant Power	-	Optional FRPS-740	Optional FRPS-740
ower Consumption* (Average / Maximum)	38 66 W / 39 19 W	457.46 W / 466.47 W	842 W / 855.02 W
eat Dissipation	134 BTU/h	177.14268 BTU/h	162.87865 BTU/h
perating Temperature	32°-122°F (0°-50°C)	32°-122°F (0°-50°C)	32°-122°F (0°-50°C)
torage Temperature	-4°-158°F (-20°-70°C)	-4°-158°F (-20°-70°C)	-4°-158°F (-20°-70°C)
lumidity	10%-90% non-condensing	10%-90% non-condensing	10%-90% non-condensing
air-Flow Direction	side-to-back	side-to-back	side-to-back
	32.3 dBA	34.2 dBA	44.7 dBA

FCC, CF, RCM, VCCI, BSM1, UL, CB, RoHS2

Limited lifetime\*\* warranty on all models

Warranty Fortinet Warranty

- \* 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/EULA.pdf



FortiSwitch 248D









	FORTISWITCH-424E-FIBER	FORTISWITCH-M426E-FP0E
Hardware Specifications		
Total Network Interfaces	24x GE SFP and 4× 10GE SFP+ ports Note: SFP+ ports are compatible with 1 GE SFP	16x GE RJ45, 8× 2.5 GE RJ45 ports, 2× 5 GE RJ45, and 4× 10 GE SFP+ ports Note: SFP+ ports are compatible with 1 GE SFP
Dedicated Management 10/100 Port	1	1
RJ-45 Serial Console Port	1	1
Form Factor	1 RU Rack Mount	1 RU Rack Mount
Power over Ethernet (PoE) Ports	N/A	24 [16× 802.3af/at, 8× 802.3af/at/UPOE (60W)]
PoE Power Budget	N/A	420 W
Mean Time Between Failures	> 10 years	> 10 years
System Specifications		
Switching Capacity (Duplex)	128 Gbps	172 Gbps
Packets Per Second (Duplex)	204 Mpps	255 Mpps
MAC Address Storage	32 K	16 K
Network Latency	< 1µs	< 1µs
VLANs Supported	4 K	4 K
Link Aggregation Group Size	8	8
Total Link Aggregation Groups	Up to number of ports	Up to number of ports
Packet Buffers	4 MB	2 MB
DRAM	1 GB DDR4	1 GB DDR4
FLASH	256 MB	256 MB
ACL	1.5k	1k
Spanning Tree Instances	16	16
Route Entries (IPv4/IPv6)	16k/8k	1000/500
Host Entries	16k	5k
Dimensions		
Height x Depth x Width (inches)	1.75 × 7.87 × 17.3	1.73 × 16.14 × 17.3
Height x Depth x Width (mm)	44 × 200 × 440	44 × 410 × 440
Weight	5,62 lbs (2,55 kg)	13.00 lbs (5.9 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	Redundant AC	Redundant AC
Power Consumption* (Average / Maximum)	36 W / 38 W	441 W / 442 W
Heat Dissipation	132.5 BTU/h	132,734 BTU/h
Operating Temperature	32°-122°F (0°-50°C)	32°-122°F (0°-50°C)
Storage Temperature	-4°-158°F (-20°+70°C)	-4°-158°F (-20°-70°C)
Humidity	5%–95% non-condensing	5%–95% non-condensing
Air-Flow Direction	side-lo-back	side-lo-back
Noise Level	32.8 dBA	35 dBA
Certification and Compliance		
en anacea, 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/EULA.pdf





	FORTISWITCH 424E	FORTISWITCH 424E-POE	FORTISWITCH 424E-FPOE
Hardware Specifications	_		
Total Network Interfaces	24x GE RJ45 and 4×10 GE SFP+ ports Note: SFP+ ports are compatible with 1 GE SFP	$24x$ GE RJ45 and $4\times10$ GE SFP+ ports Note: SFP+ ports are compatible with 1 GE SFP	24x GE RJ45 and 4×10 GE SFP+ ports Note: SFP+ ports are compatible with 1 GE SF
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/at)	24 (802 3af/at)
PoE Power Budget	N/A	250 W	421 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)	204 Mpps	204 Mpps	204 Mpps
MAC Address Storage	16 K	16 K	16 K
Network Latency	< 1µs	< 1µs	< 1µs
/LANs Supported	4 K	4 K	4 K
ink 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	2 MB	2 MB	2 MB
DRAM	1 GB DDR4	1 GB DDR4	1 GB DDR4
FLASH	256 MB	256 MB	256 MB
ACL	1k	1k	1k
Spanning Tree Instances	16	16	16
Route Entries (IPv4/IPv6)	1000/500	1000/500	1000/500
Host Entries	5k	5k	5k
Dimensions			
Height x Depth x Width (inches)	1.75 × 10.23 × 17.3	1.75 × 16.14 × 17.3	1,75 × 16,14 × 17,3
Height x Depth x Width (mm)	44 × 260 × 440	44 × 410 × 440	44 × 410 × 440
Weight	6.83 lbs (3.1 kg)	11,57 lbs (5,25 kg)	12.72 lbs (5.77 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	Redundant AC	Redundant AC	Redundant AC
Power Consumption* (Average / Maximum)	22.3 W / 23.6 W	281,3 W / 283,5 W	431.2 W / 433.7 W
Heat Dissipation	76.04 BTU/h	102,64 BTU/h	117.2 BTU/h
Operating Temperature	32°-122°F (0°-50°C)	32°-122°F (0°-50°C)	32°-122°F (0°-50°C)
Storage Temperature	-40°-158°F (-40°-70°C)	-4°-158°F (-40°-70°C)	-40°-158°F (-40°-70°C)
Humidity	5%-95% non-condensing	5%-95% non-condensing	5%-95% non-condensing
Air-Flow Direction	side-lo-back	side to-back	side-to-back
Noise Level	32,3 dBA	31.8 dBA	30.9 dBA
1000 2040			

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

Limited lifetime\* \* warranty on all models

Fortinet Warranty

 $\ensuremath{^{*}}$  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/EULA.pdf





Certification and Compliance

Warranty



	FORTISWITCH 448E	FORTISWITCH 448E-POE	FORTISWITCH 448E-FPOE
Hardware Specifications			
Total Network Interfaces	48x GE RJ45 and 4× 10GE SFP+ ports 48x GE RJ45 and 4× 10GE SFP+ ports Note: SFP+ ports are compatible with 1 GE SFP Note: SFP+ ports are compatible with 1 GE SFF		48x GE RJ45 and 4× 10GE SFP- ports Note: SFP+ ports are compatible with 1 GE SFR
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		48 (802,3af/at)	48 (802.3af/at)
oE Power Budget	-	421 W	772 W
Nean Time Between Failures	> 10 years	> 10 years	> 10 years
System Specifications			
witching Capacity (Duplex)	176 Gbps	176 Gbps	176 Gbps
Packets Per Second (Duplex)	262 Mpps	262 Mpps	262 Mpps
AAC Address Storage	32 K	32 K	32 K
letwork Latency	<1µs	<1µs	<1µs
/LANs Supported	4 K	4 K	4 K
ink Aggregation Group Size	8	8	8
otal Link Aggregation Groups	Up to number of ports	Up to number of ports	Up to number of ports
acket Buffers	4 MB	4 MB	4 MB
RAM	1GB DDR4	1GB DDR4	1GB DDR4
LASH	256 MB	256 MB	256 MB
CL	1.5k	1.5k	1.5k
panning Tree Instances	16	16	16
oute Entries (IPv4/IPv6)	16k/8k	16k/8k	16k/8k
ost Entries	16k	16k	16k
imensions			
łeight x Depth x Width (inches)	1.75 × 12.2 × 17.3	1.73 × 16.1 × 17.3	1.73 × 16.1 × 17.3
leight x Depth x Width (mm)	44 × 310 × 440	44 × 410 × 440	44 × 410 × 440
Veight	9,17 lbs (4,16 kg)	13.8 lbs (6.26 kg)	14.04 lbs (6.37 kg)
nvironment			
Power Required	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz
ower Supply	AC built in	AC built in	AC built in
ledundant Power	Redundant AC	Redundant AC	Redundant AC
ower Consumption* Average / Maximum)	46,5 W / 47.81 W	440.12 W / 442.234 W	921.4 W / 923.6 W
Heat Dissipation	163.032 BTU/h	163.066 BTU/h	163.1 BTU/h
Operating Temperature	32°-122°F (0°-50°C)	32°-122°F (0°-50°C)	32°-122°F (0°-50°C)
Storage Temperature	-4°-158°F (-20°-70°C)	-4°-158°F (-20°-70°C)	-4°-158°F (-20°-70°C)
Humidity	10%–90% non condensing	10%-90% non condensing	10%-90% non condensing
Air-Flow Direction	side-to-back	side-to-back	side-lo-back
Noise Level	35.5 dBA	38 3 dBA	50,7 dBA
Certification and Compliance	Logo ob.		
zer unication and compliance			

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

Limited lifetime\*\* warranty on all models

Fortinet Warranty









Warranty

 $<sup>\</sup>dot{\,}$  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/EULA.pdf

	FORTISWITCH 524D	FORTISWITCH 524D-FP0E
Hardware Specifications		
Total Network Interfaces	24 GE/RJ45 ports, 4× 10 GE SFP+ ports and 2× 40 GE QSFP+ Note: SFP+ ports are compatible with 1G SFP	24 GE/RJ45 ports, 4× 10 GE SFP+ ports and 2× 40 GE QSFP Note: SFP+ ports are compatible with 1G SFP
Dedicated Management 10/100/1000 Ports	1	1
RJ-45 Serial Console Port	1	1
Form Factor	1 RU Rack Mount	1 RU Rack Mount
Power over Ethernet (PoE) Ports	N/A	24 (802,3af/at)
PoE Power Budget (single/dual PSU)	N/A	400 W / 720 W
Mean Time Between Failures	> 10 years	> 10 years
System Specifications		
Switching Capacity (Duplex)	288 Gbps	288 Gbps
Packets Per Second (Duplex)	428 Mpps	428 Mpps
MAC Address Storage	36 K	36 K
Network Latency	< 2µs	< 2µs
VLANs Supported	4 K	4 K
Link Aggregation Group Size	24	24
Total Link Aggregation Groups	Up to number of ports	Up to number of ports
Packet Buffers	4 MB	4 MB
DRAM	2 GB DDR3	2 GB DDR3
FLASH	128 MB	128 MB
ACL	1k	1k
Spanning Tree Instances	32	32
Route Entries (IPv4/IPv6)	16k/8k	16k/8k
Multicast Route Entries	8k	8k
Host Entries	16k	16k
Dimensions		
Height x Depth x Width (inches)	1.75 × 13.8 × 17.3	1.75 × 13.8 × 17.3
Height x Depth x Width (mm)	44 × 350 × 439	44 × 350 × 439
Weight	13.6 lbs (6.2 kg)	15.74 lbs (7.14 kg)
Environment		
Power Required	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz
Power Supply	150 W AC PSU*	600 W AC PSU*
Redundant Power	Optional FS-PSU-150*	Optional FS-PSU-600*
Power Consumption** (Average / Maximum)	73 W / 75 W	570 W / 579 W (full PoE load for single power supply)
Heat Dissipation	247 BTU/h	296 BTU/h (full PoE load for single power supply)
Operating Temperature	32°-113°F (0°-45°C)	32°-113°F (0°-45°C)
Storage Temperature	-40°-158°F (-40°-70°C)	-40°-158°F (-40°-70°C)
Humidity	5%-95% non-condensing	5%-95% поn-condensing
Air-Flow Direction	front-to-back	front-to-back
Noise Level	57,3 dBA	57.3 dBA
Certification and Compliance		
	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2
Warranty		
	the in a bi-size exert measure on all module	Limited lifetime : warranty on all models

<sup>\*</sup>FS-524D, FS-524D-FPOE, FS-548D, FS-548D-FPOE Power Supply Units are Hot-Swappable.

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



Limited lifetime\*\*\* warranty on all models



Limited lifetime\*\*\* warranty on all models



Fortinet Warranty

<sup>\*\*</sup> POE models power consumption is similar to non-POE model if POE is not in use

	FORTISWITCH 548D	FORTISWITCH 548D-FPOE
Hardware Specifications		
Total Network Interfaces	48x GE/RJ45 ports, 4× 10 GE SFP+ ports and 2× 40 GE QSFP- Note: SFP+ ports are compatible with 1G SFP	<ul> <li>48x CE/RJ45 ports, 4× 10 GE SFP+ ports and 2× 40 GE QSFF Note: SFP+ ports are compatible with 1G SFP</li> </ul>
Dedicated Management 10/100/1000 Ports	1	1
RJ-45 Serial Console Port	1	1
Form Factor	1 RU Rack Mount	1 RU Rack Mount
Power over Ethernet (PoE) Ports	N/A	48 (802_3af/at)
PoE Power Budget (single/dual PSU)	N/A	750 W / 1440 W
Mean Time Between Failures	> 10 years	> 10 years
System Specifications		
Switching Capacity (Duplex)	336 Gbps	336 Gbps
Packets Per Second (Duplex)	512 Mpps	512 Mpps
MAC Address Storage	36 K	36 K
Network Latency	< 2µs	< 2µs
VLANs Supported	4 K	4 K
Link Aggregation Group Size	48	48
Total Link Aggregation Groups	Up to number of ports	Up to number of ports
Packet Buffers	4 MB	4 MB
DRAM	2 GB DDR3	2 GB DDR3
FLASH	128 MB	128 MB
ACL	1k	1k
Spanning Tree Instances	32	32
Route Entries (IPv4/IPv6)	16k/8k	16k/8k
Multicast Route Entries	8k	8k
Host Entries	16k	16k
Dimensions		
Height x Depth x Width (inches)	175 × 13.8 × 17.3	1.75 × 13.8 × 17.3
Height x Depth x Width (mm)	44 × 350 × 439	44 × 350 × 439
Weight	14.1 lbs (6.4 kg)	15.74 lbs (7.14 kg)
Environment		
Power Required	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz
Power Supply	150 W AC PSU*	920 W AC PSU*
Redundant Power	Optional I S-PSU-150*	Optional FS-PSU-920*
Power Consumption** (Average / Maximum)	74 W / 77 W	925 W / 961 W (full PoE load for single power supply)
Heat Dissipation	252 BTU/h	318 BTU/h (full PoE load for single power supply)
Operating Temperature	32°-113°F (0°-45°C)	32°-113°F (0°-45°C)
Storage Temperature	-40°-158°F (-40°-70°C)	-40°-158°F (-40°-70°C)
Humidity	5%-95% non-condensing	5%-95% non-condensing
Air-Flow Direction	front-to-back	front-to-back
Noise Level	57.3 dBA	57.3 dBA
Certification and Compliance		
	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2
Warranty		
	Limited lifetimes 18 warrantu on all modals	Limited lifetime: " warranty on all models

<sup>\*</sup>FS-524D, FS-524D-FPOE, FS-548D, FS-548D-FPOE Power Supply Units are Hot-Swappable.

 $<sup>\</sup>cdots \ \, \text{Fortinet Warranty Policy: http://www.fortinet.com/doc/legal/EULA.pdf}$ 



Limited lifetime\*\*\* warranty on all models





Limited lifetime\*\*\* warranty on all models



Fortinet Warranty

 $<sup>\</sup>ensuremath{^{\circ \bullet}}$  POE models power consumption is similar to non-POE model if POE is not in use

## **Ordering Information**

Product	SKU	Description
FortiSwitch Models		2011 Defending to the Defendance of Difference of Ports A port Defenith
FortiSwitch 108E-POE	FS-108F-POE	Layer 2 FortiGate switch controller compatible PoE+ switch with 8 GE RJ45 + 2 SFP ports, 4 port PoE with maximum 65 W PoE limit, Fanless.
FortiSwitch 108E-FPOE	FS-108E-FPOE	Layer 2 FortiGate switch controller compatible PoE+ switch with 8 GE RJ45 + 2 SFP ports, 8 port PoE with maximum 130 W PoE limit, Fanless.
FortiSwitch 108F	FS-108F	Layer 2 FortiGate switch controller compatible switch with 8 x GE RJ45 ports, 2 x GE SFP, Fanless, 12V/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 6SW POE output limit.
FortiSwitch 108F-FP0E	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-POÉ	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.
FortiSwitch 424E-Fiber	FS-424E-Fiber	Layer 2/3 FortiGate switch controller compatible switch with 24x GE SFP and 4× 10 GE SFP+ Uplinks
FortiSwitch M426E-FPOE	FS-M426E-FPOE	Layer 2/3 FortiGate switch controller compatible switch with 16x GE RJ45 PoE 802.3af/at, 8× 2,5 RJ45 PoE 802.3af/at/UPOE (60W), 2× 5 GE RJ45 and 4× 10 GE SFP+, with maximum 420 W PoE limit.
FortiSwitch 424E	FS-424E	Layer 2/3 FortiGate switch controller compatible switch with 24 GE RJ45, 4× 10 GE SFP + ports.
FortiSwitch 424E-POE	FS-424E-POE	Layer 2/3 FortiGate switch controller compatible switch with 24 GE RJ45, 4× 10 GE SFP + ports, 24 port PoE+ with maximum 283.5 W limit.
FortiSwitch 424E-FPOE	FS-424E-FPOE	Layer 2/3 FortiGate switch controller compatible switch with 24 GE RJ45, $4 \times 10$ GE SFP + ports, 24 port PoE+ with maximum 433.7 W limit.
FortiSwitch 448E	FS-448E	Layer 2/3 FortiGate switch controller compatible switch with 48 GE RJ45, 4× 10 GE SFP + ports
FortiSwitch 448E-POE	FS-448E-POE	Layer 2/3 FortiGate switch controller compatible switch with 48 GE RJ45, 4× 10 GE SFP + ports, 48 port PoE+ with maximum 421 W limit
FortiSwitch 448E-FPOE	FS-448E-FPOE	Layer 2/3 FortiGate switch controller compatible switch with 48 GE RJ45, 4× 10 GE SFP + ports, 48 port PoE+ with maximum 772 W limit.





## **Ordering Information**

	OVAL	Description
Product	SKU	Description
FortiSwitch Models FortiSwitch 524D	FS-524D	Layer 2/3 FortiGate switch controller compatible switch with 24 GE RJ45, 4× 10 GE SFP+ and 2× 40 GF QSFP+ ports
FortiSwitch 524D-FPOE	FS-524D-FPOE	Layer 2/3 FortiGate switch controller compatible PoE+ switch with 24 GE RJ45, 4× 10 GE SFP+, 2× 40 GE QSFP+ ports, 24 port PoE with maximum 400 W limit.
FortiSwitch 548D	FS-548D	Layer 2/3 FortiGate switch controller compatible switch with 48 GE RJ45, $4 \times 10$ GE SFP+ and $2 \times 40$ GE OSFP+ ports.
FortiSwitch 548D-FPOE	FS-548D-FPOE	Layer 2/3 FortiGate switch controller compatible PoE+ switch with 48 GE RJ45, $4\times$ 10 GE SFP+ and $2\times$ 40 GE QSFP+ ports, 48 port PoE with maximum 750 W limit.
Licenses		
FortiLAN Cloud Management License*	FC-10-FSW00-628-02-DD	FortiSwilch 100 Series (none-Rugged) FortiLAN Cloud Management SKU Including Forticare 24-7. (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 24×7. (Note, FortiCare only applicable when used with FortiLAN Cloud)
	FC-10-FSW20-628-02-DD	FortiSwitch 500-900 Series FortiLAN Cloud Management SKU Including Forticare 24×7. (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 24×7 FortiCare support (for FSWM VM) included.
	FC2-10-SWMVM-258-01-DD	Subscription license for 100 FortiSwitch Units managed by FortiSwitchManager VM, 24×7 FortiCare support (for FSWM VM) included
	FC3-10-SWMVM-258-01-DD	Subscription license for 1000 FortiSwitch Units managed by FortiSwitchManager VM. 24×7 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
	FS-SW-LIC-400	SW License for FS-400 Series Switches to activate Advanced Features
	FS-SW-LIC-500	SW License for FS-500 Series Switches to activate Advanced Features
Accessories		
External Redundant AC Power Supply	FRPS-740	Redundant AC power supply for up to 2 units: FS-224D-FPOE, FS-224E-POE, FS-248E-POE, FS-248E-FPOE
Redundant AC Power Supply	FS-PSU-150	AC power supply for FS-548D and FS-524D <sub>c</sub>
	FS-PSU-600	AC power supply for FS-524D-FPOE
	FS-PSU-920	AC power supply for FS-548D-FPOE **

<sup>\*</sup> 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.

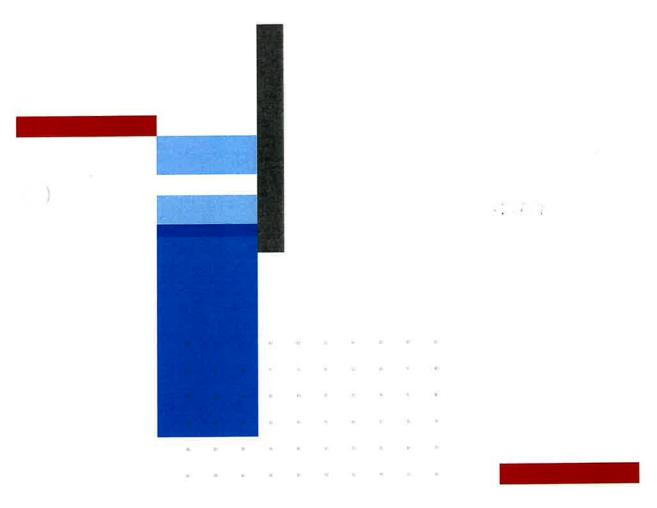
### **Fortinet CSR Policy**

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.





<sup>\*\*</sup> Provides additional PoE capacity.





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