

# FortiSwitch™ Secure Access



#### Highlights

- Standalone or Integrated FortiLink deployment option
- · Zero-touch deployment
- On premise and cloudbased 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.

### Secure Networking Through FortiLink

Available in

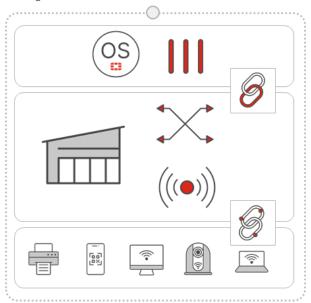


**Appliance** 

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.





**FortiOS** 

FortiEdge Cloud

#### 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 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.



## **Product Offerings**

#### **Model Numbers**

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

100G Series: FS-110G-FPOE, FS-124G, FS-124G-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
Automated detection and recommendations
Centralized VLAN Configuration
Dynamic Port Profiles for FortiSwitch ports
FortiLink Secure Fabric
FortiLink Stacking (Auto Inter-Switch Links)
FortiSwitch Management over VXLAN
Health Monitoring
IGMP Snooping
L3 Routing and Services (FortiGate)
Link Aggregation Configuration
LLDP/MED
Managed Switches 8 to 300 depending on FortiGate model
Policy-Based Routing (FortiGate)
Provision firmware upon authorization
Software Upgrade of Switches
Spanning Tree
Switch POE Control
Virtual Domain (FortiGate)
High Availability
Active-Active Split LAG from FortiGate to FortiSwitches for Advanced Redundancy
LAG support for FortiLink Connection
Support FortiLink FortiGate in HA Cluster

FORTISWITCH FORTILINK MODE (WITH FORTIGATE)
Security and Visibility
Authentication 802.1X (Port-based, MAC-based, MAB)
Block Intra-VLAN Traffic
Clients Monitoring
Device Detection
DHCP Snooping
DHCP/ARP Monitor
FortiGuard IoT identification
FortiSwitch recommendations in Security Rating
Host Quarantine on Switch Port
Integrated FortiGate Network Access Control (NAC) function
MAC Black/While Listing (FortiGate)
NAC Device Telemetry
Network Device Detection
Policy Control of Users and Devices (FortiGate)
Port Statistics
Security Fabric Automation
Switch Controller traffic collector
Syslog Collection
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
Auto-negotiation for Port Speed and Duplex
Auto topology
Dynamically shared packet buffers
Edge Port / Port Fast
IEEE 802.1ad QinQ
IEEE 802.1AX Link Aggregation
IEEE 802.1D MAC Bridging/STP
IEEE 802.1Q VLAN Tagging
IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
IEEE 802.3 10Base-T
IEEE 802.3ab 1000Base-T
IEEE 802.3ad Link Aggregation with LACP
IEEE 802.3ae 10 Gigabit Ethernet
IEEE 802.3az Energy Efficient Ethernet
IEEE 802.3ba, 802.3bj, and 802.3bm 40 and 100 Gigabit Ethernet
IEEE 802.3bz Multi Gigabit Ethernet
IEEE 802.3 CSMA/CD Access Method and Physical Layer Specifications
IEEE 802.3u 100Base-TX
IEEE 802.3x Flow Control and Back-pressure
IEEE 802.3z 1000Base-SX/LX
Ingress Pause Metering
Jumbo Frames
LAG min/max bundle
Loop Guard
MAC, IP, Ethertype-based VLANs
MDI/MDIX Auto-crossover
Per-port storm control
Priority-based Flow Control (802.1Qbb)
Private VLAN
Rapid PVST interoperation
Spanning Tree Instances (MSTP/CST)
Storm Control
STP BPDU Guard
STP Root Guard
Time-Domain Reflectcometry (TDR) Support
Unicast/Multicast traffic balance over trunking port (dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac)
Virtual-Wire
VLAN Mapping
Services
IGMP proxy / querier
IGMP Snooping
MLD proxy / querier
MLD Snooping

FORTISWITCH
Layer 3
Bidirectional Forwarding Detection (BFD)
DHCP Relay
DHCP server
Dynamic Routing Protocols: OSPFv2, RIPv2, VRRP, ISIS *
Filtering routemaps based on routing protocol
IP conflict detection and notification
IPv6 route filtering
Static Routing (Hardware-based)
Unicast Reverse Path Forwarding - uRPF
Security and Visibility
ACL
ACL Multiple Ingress
ACL Multistage
ACL Schedule
Admin Authentication Via RFC 2865 RADIUS
Assign VLANs via Radius attributes (RFC 4675)
DHCP-Snooping
Dynamic ARP Inspection
Flow Export (NetFlow and IPFIX)
IEEE 802.1ab Link Layer Discovery Protocol (LLDP)
IEEE 802.1ab LLDP-MED
IEEE 802.1ae MAC Security (MAC Sec)
IEEE 802.1X Authentication MAC-based
IEEE 802.1X Authentication Port-based
IEEE 802.1X Dynamic VLAN Assignment
IEEE 802.1X EAP pass-through
IEEE 802.1X Guest and Fallback VLAN
IEEE 802.1X MAC Access Bypass (MAB)
IEEE 802.1X open auth
IP source guard
IPv6 RA Guard
LLDP-MED ELIN support
MAC-IP Binding
Per-port and per-VLAN MAC learning limit
Port Mirroring
Radius Accounting
Radius CoA (Change of Authority)
sFlow
Sticky MAC and MAC Limit
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
Multi-Chassis Link Aggregation (MCLAG)
Quality of Service
Egress priority tagging
Explicit Congestion Notification
IEEE 1588 PTP (Transparent Clock)
IEEE 802.1p Based Priority Queuing
IP TOS/DSCP Based Priority Queuing
Percentage Rate Control

FORTISWITCH
Management
Automation Stitches
Display Average Bandwidth and Allow Sorting on Physical Port / Interface Traffic
Dual Firmware Support
HTTP / HTTPS
IPv4 and IPv6 Management
Link Monitor
Managed from FortiGate
Packet Capture
POE Control Modes
Provide warning if L2 table is getting full
RMON Group 1
SNMP v1/v2c/v3
SNMP v3 traps
SNTP
Software download/upload: TFTP/FTP/GUI
SPAN, RSPAN, and ERSPAN
Standard CLI and Web GUI Interface
Support for HTTP REST APIs for Configuration and Monitoring
Syslog UDP/TCP
System alias command
System Temperature and Alert
Telnet / SSH



ALL FORTISWITCH MODELS	ALL FORTISWITCH MODELS	
RFC and MIB Support*	RFC and MIB Support*	
BFD	IPv6	
RFC 5880: Bidirectional Forwarding Detection (BFD)	RFC 2464: Transmission of IPv6 Packets over Ethernet Networks: Transmission of IPv6	
RFC 5881: Bidirectional Forwarding Detection (BFD) for IPv4 and IPv6 (Single Hop)	Packets over Ethernet Networks	
RFC 5882: Generic Application of Bidirectional Forwarding Detection (BFD)	RFC 2474: Definition of the Differentiated Services Field (DS Field) in the and IPv6	
BGP	Headers (DSCP)	
RFC 1771: A Border Gateway Protocol 4 (BGP-4)	RFC 2893: Transition Mechanisms for IPv6 Hosts and Routers	
RFC 1965: Autonomous System Confederations for BGP	RFC 4213: Basic Transition Mechanisms for IPv6 Hosts and Router	
RFC 1997: BGP Communities Attribute	RFC 4291: IP Version 6 Addressing Architecture	
RFC 2545: Use of BGP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing	RFC 4443: Internet Control Message Protocol (ICMPv6) for the Internet Protocol Versic 6 (IPv6) Specification	
RFC 2796: BGP Route Reflection - An Alternative to Full Mesh IBGP	RFC 4861: Neighbor Discovery for IP version 6 (IPv6)	
RFC 2842: Capabilities Advertisement with BGP-4	RFC 4862: IPv6 Stateless Address Auto configuration	
RFC 2858: Multiprotocol Extensions for BGP-4	RFC 5095: Deprecation of Type 0 Routing Headers in IPv6	
RFC 4271: BGP-4	RFC 6724: Default Address Selection for Internet Protocol version 6 (IPv6)	
RFC 6286: Autonomous-System-Wide Unique BGP Identifier for BGP-4	RFC 7113: IPv6 RA Guard	
RFC 6608: Subcodes for BGP Finite State Machine Error	RFC 8200: Internet Protocol, Version 6 (IPv6) Specification	
RFC 6793: BGP Support for Four-Octet Autonomous System (AS) Number Space	RFC 8201: Path MTU Discovery for IP version 6	
RFC 7606: Revised Error Handling for BGP UPDATE Messages	IS-IS	
RFC 7607: Codification of AS 0 Processing	RFC 1195: Use of OSI IS-IS for Routing in TCP/IP and Dual Environments	
RFC 7705: Autonomous System Migration Mechanisms and Their Effects on the BGP	RFC 5308: Routing IPv6 with IS-IS	
AS_PATH Attribute	MIB	
RFC 8212: Default External BGP (EBGP) Route Propagation Behavior without Policies	RFC 1213: MIB II parts that apply to FortiSwitch 100 units	
RFC 8654: Extended Message Support for BGP	RFC 1354: IP Forwarding Table MIB	
DHCP	RFC 1493: Bridge MIB	
RFC 2131: Dynamic Host Configuration Protocol	RFC 1573: SNMP MIB II	
RFC 3046: DHCP Relay Agent Information Option	RFC 1643: Ethernet-like Interface MIB	
RFC 7513: Source Address Validation Improvement (SAVI) Solution for DHCP	RFC 1724: RIPv2-MIB	
IP/IPv4	RFC 1850: OSPF Version 2 Management Information Base	
RFC 2697: A Single Rate Three Color Marker	RFC 2233: The Interfaces Group MIB using SMIv2	
RFC 3168: The Addition of Explicit Congestion Notification (ECN) to IP	RFC 2618: Radius-Auth-Client-MIB	
RFC 5227: IPv4 Address Conflict Detection	RFC 2620: Radius-Acc-Client-MIB	
RFC 5517: Cisco Systems' Private VLANs: Scalable Security in a Multi-Client Environment	RFC 2665: Definitions of Managed Objects for the Ethernet-like Interface Types	
RFC 7039: Source Address Validation Improvement (SAVI) Framework	RFC 2674: Definitions of Managed Objects for the Enternace Internace Types	
IP Multicast	Filtering and Virtual LAN extensions	
RFC 2710: Multicast Listener Discovery (MLD) for IPv6 (MLDv1)	RFC 2787: Definitions of Managed Objects for the Virtual Router Redundancy Protocol	
RFC 3569: An Overview of Source-Specific Multicast (SSM)	RFC 2819: Remote Network Monitoring Management Information Base	
RFC 4541: Considerations for Internet Group Management Protocol (IGMP) and Multicast	RFC 2863: The Interfaces Group MIB	
Listener Discovery (MLD) Snooping Switches	RFC 2932: IPv4 Multicast Routing MIB	
RFC 4605: Internet Group Management Protocol (IGMP)/Multicast Listener Discovery (MLD)-Based Multicast Forwarding ("IGMP/MLD Proxying")	RFC 2934: Protocol Independent Multicast MIB for IPv4	
RFC 4607: Source-Specific Multicast for IP	RFC 3289: Management Information Base for the Differentiated Services Architecture	
N O 4007- Source-Specific Multicast for IP	RFC 3433: Entity Sensor Management Information Base	
	RFC 3621: Power Ethernet MIB	
	RFC 6933: Entity MIB (Version 4)	



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

	ALL FORTISWITCH MODELS
RFC and N	/IIB Support*
OSPF	
RFC 158	3: OSPF version 2
RFC 176	5: OSPF Database Overflow
RFC 232	28: OSPF version 2
RFC 237	70: The OSPF Opaque LSA Option
RFC 274	IO: OSPF for IPv6
RFC 310	11: The OSPF Not-So-Stubby Area (NSSA) Option
RFC 313	7: OSPF Stub Router Advertisement
RFC 362	23: OSPF Graceful Restart
RFC 534	10: OSPF for IPv6 (OSPFv3)
RFC 570	9: OSPFv2 HMAC-SHA Cryptographic Authentication
RFC 654	19: OSPFv2 Multi-Instance Extensions
RFC 684	15: OSPF Hybrid Broadcast and Point-to-Multipoint Interface Type
RFC 686	60: Hiding Transit-Only Networks in OSPF
RFC 747	4: Security Extension for OSPFv2 When Using Manual Key Management
RFC 750	3: OSPF for IPv6
RFC 804	42: CCITT Draft Recommendation T.4
RFC 836	62: OSPFv3 Link State Advertisement (LSA) Extensibility
OTHER	
RFC 203	80: SNTP
	6: InMon Corporation's sFlow: A Method for Monitoring Traffic in Switched and Networks
RFC 376	S8: VRRP
RFC 395	54: Cisco Systems NetFlow Services Export Version 9
	11: Specification of the IP Flow Information Export (IPFIX) Protocol for the ge of Flow Information
RFC 579	98: 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



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

	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	640	640	640
Spanning Tree Instances	32	32	32
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			

Warranty

Fortinet Warranty

Limited lifetime\* warranty on all models

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



FortiSwitch 108F





FortiSwitch 108F-POE FortiSwitch 108F-FPOE



	FORTISWITCH 110G-FPOE	FORTISWITCH 124G	FORTISWITCH 124G-FPOE
Hardware Specifications			
Total Network Interfaces	2× 5G/2.5G/1G/100M	24× 2.5G/1G/100M/10M	24× 2.5G/1G/100M/10M
	8× 2.5G/1G/100M/10M RJ45	6× 10G/1G SFP+/SFP	6× 10G/1G SFP+/SFP
	4× 10G/1G/100 SFP+/SFP		
Dedicated Management 10/100 Port	1	_	_
RJ-45 Serial Console Port	1	1	1
Form Factor	Desktop	1 RU Rack Mount	1 RU Rack Mount
Power over Ethernet (PoE) Ports	2× 5G with PoE bt 8× 2.5G with PoE af/at	_	8x PoE bt 16x PoE af/at
PoE Power Budget	200 W	_	780W
Mean Time Between Failures	> 10 years	> 10 years	> 10 years
System Specifications			
Switching Capacity (Duplex)	140 Gbps	240Gbps	240Gbps
Packets Per Second (Duplex)	208 Mpps	355Mpps	355Mpps
MAC Address Storage	32k	32k	32k
Network Latency	< 1µs	< 1µs	< 1µs
VLANs Supported	4k	4k	4k
Link Aggregation Group Size	10	8	8
Total Link Aggregation Groups	12	16	16
Packet Buffers	2MB	2MB	2MB
Memory	1GB DDR4	1GB DDR4	1GB DDR4
Flash	8MB NOR	256MB NAND	256MB NAND
ACL	640	640	640
Spanning Tree Instances	32	32	32
Dimensions			
Height x Depth x Width (inches)	1.71 × 10.63 × 8.97	1.71 × 12.2 × 17.3	1.71 × 12.2 × 17.3
Height x Depth x Width (mm)	44 × 270 × 228	44 × 310 × 440	44 × 310 × 440
Weight	4.05 lbs (1.84 kg)	8.75 lbs (3.97 kg)	10.72 lbs (4.86 kg)
Environment			
Power Required	100-240V AC, 50-60 Hz	100-240V AC, 50-60 Hz	100-240V AC, 50-60 Hz
Power Supply	100V-240VAC/54V DC power adapter included	AC built in	AC built in
Redundant Power	No	No	No
Power Consumption	250W	43.5W	880W
Heat Dissipation	102.36 BTU/h	148.4 BTU/h	194.8 BTU/h
Operating Temperature	32°F to 113°F (0°C to 45°C)	23°F to 113°F (-5°C to 45°C)	23°F to 113°F (-5°C to 45°C)
Storage Temperature	-49°F to 158°F (-40°C to 70°C)	-49°F to 158°F (-40°C to 70°C)	-49°F to 158°F (-40°C to 70°C)
Humidity	5% to 95% RH non-condensing	5% to 95% RH non-condensing	5% to 95% RH non-condensing
Air-Flow Direction	side to back/top	side-to-back	side-to-back
Noise Level	Fanless	Fanless	pending
Certification and Compliance	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	FCC, ICES, CE, UKCA, RCM, VCCI, BSMI, UL, CB, RoHS2	FCC, ICES, CE, UKCA, RCM, VCCI, BSMI, UL, CB, RoHS2
Ingress Protection	IP30	IP30	IP20
Warranty			
Fortinet Warranty		Limited lifetime* warranty on all models	

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











	FORTISWITCH 124F	FORTISWITCH 124F-POE	FORTISWITCH 124F-FPOE
Hardware Specifications			
Total Network Interfaces	24x GE RJ45 and 4× 10GE SFP+	24x GE RJ45 and 4× 10GE SFP+	24x GE RJ45 and 4× 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			
witching Capacity (Duplex)	128 Gbps	128 Gbps	128 Gbps
ackets Per Second (Duplex)	190 Mpps	190 Mpps	190 Mpps
AC 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
Packet Buffers	2 MB	2 MB	2 MB
Memory	512 MB DDR3	512 MB DDR3	512 MB DDR3
lash	64 MB	64 MB	64 MB
ACL	640	640	640
panning Tree Instances	32	32	32
Dimensions			
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)
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)	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°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)
torage 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)
lumidity	10% to 90% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing
ir-Flow Direction	side-to-back	side-to-back	side-to-back
loise Level	Fanless	46.3 dBA	45.8 dBA
Certification and Compliance			
		FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	
<b>N</b> arranty			
Fortinet Warranty		Limited lifetime** warranty on all models	

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

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







FortiSwitch 124F

FortiSwitch 124F-POE

FortiSwitch 124F-FPOE



	FORTISWITCH 148F	FORTISWITCH 148F-POE	FORTISWITCH 148F-FPOE
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 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	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
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
lemory	512 MB DDR3	512 MB DDR3	512 MB DDR3
lash	64 MB	64 MB	64 MB
CL	640	640	640
panning Tree Instances	32	32	32
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
leight x Depth x Width (mm)	44 × 260 × 440	44 × 310 × 440	44 × 310 × 440
Veight	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
leat Dissipation	194.37 BTU/h	195.73 BTU/h	198.46 BTU/h
perating 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)
torage 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)
lumidity	10% to 90% non-condensing	10% to 90% non-condensing	10% to 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
ertification and Compliance			
	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2		
Varranty			
ortinet Warranty	Limited lifetime** warranty on all models		

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

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







FortiSwitch 148F

FortiSwitch 148F-POE

FortiSwitch 148F-FPOE



	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	32	32	32
Route Entries (IPv4/IPv6)	64/64	64/64	64/64
Host Entries (IPv4/IPv6)	512/512	512/512	512/512
Dimensions			
Height x Depth x Width (inches)	1.73 × 12.2 × 17.5	1.73 × 9 × 12.99	1.73 × 9 × 12.99
Height x Depth x Width (mm)	44 × 310 × 440	44 × 230 × 330	44 × 230 × 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		

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







FortiSwitch 224D-FPOE FortiSwitch 224E FortiSwitch 224E-POE



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

	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
/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	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	32	32	32
Route Entries (IPv4/ipv6)	64/64	64/64	64/64
Host Entries (IPv4/IPv6)	512/512	512/512	512/512
Dimensions			
Height x Depth x Width (inches)	1.73 × 9.68 × 17.3	1.73 × 16.1 × 17.3	1.73 × 16.1 × 17.3
Height x Depth x Width (mm)	44 × 246 × 440	44 × 410 × 440	44 × 410 × 440
Veight	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

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







FortiSwitch 248E-POE FortiSwitch 248E-FPOE



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

## **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, 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 65W POE output limit.
FortiSwitch 108F-FPOE	FS-108F-FPOE	Layer 2 FortiGate switch controller compatible PoE+ switch with 8 x GE RJ45 ports, $2 \times GE$ SFP, Fanless with automatic Max 130W POE output limit.
FortiSwitch 110G-FPOE	FS-110G-FPOE	Layer 2 FortiGate switch controller compatible PoE+ switch with 2× 5 GE ports with PoE 802.3bt, 8× 1GE RJ45 ports with PoE 802.3af/at, $4\times$ 10 GE SFP+, Fanless with maximum 200W PoE output 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-FP0E	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 124G	FS-124G	Layer 2 FortiGate switch controller compatible switch with 24× $2.5G/1G/100M/10M$ RJ45 and 6× $10G/1G$ SFP+/ SFP ports, and $1x$ RJ45 console port. Fanless.
FortiSwitch 124G-FPOE	FS-124G-FPOE	Layer 2 FortiGate switch controller compatible PoE switch with 24× 2.5G/1G/100M/10M RJ45 ports - 8× 802.3bt (90W) PoE and 16× 802.3af/at (30W) PoE - and 6× 10G/1G SFP+/SFP ports, and 1x RJ45 console port. Max 780W PoE output limit with smart fan/temperature control.
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		
FortiEdge Cloud Management License*	FC-10-FSW00-628-02-DD	FortiSwitch 100 Series (No FSW Rugged Models) FortiEdge Cloud Management SKU Including FortiCare Premium (Note, FortiCare only applicable when used with FortiEdge Cloud).
	FC-10-FSW10-628-02-DD	FortiSwitch 200-400 Series (incl all FSW Rugged Models) FortiEdge Cloud Management SKU Including FortiCare Premium (Note, FortiCare only applicable when used with FortiEdge 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.
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.

<sup>\*</sup> When managing a FortiSwitch with a FortiGate via FortiGate Cloud, no additional license is necessary. For details of Transceiver modules, see the <u>Fortinet Transceivers datasheet.</u>

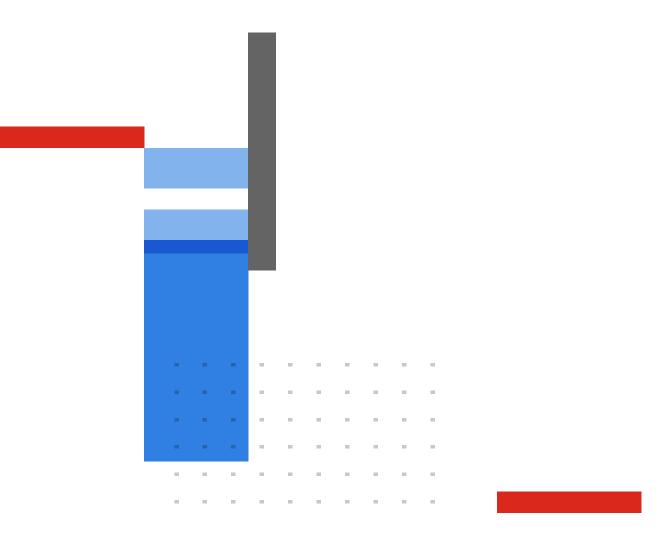
Note that all PoE FortiSwitches are Alternative-A.

Visit <a href="https://www.fortinet.com/resources/ordering-guides">https://www.fortinet.com/resources/ordering-guides</a> for related ordering guides.



#### **Fortinet Corporate Social Responsibility Policy**

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