

# Twoja Infrastruktura IT

## netf.pl

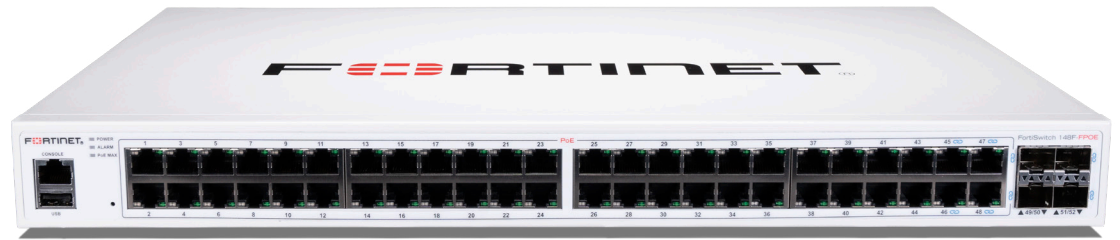
NETF, specjalizujemy się w sprzedaży zaawansowanej infrastruktury IT. Znajdą tu Państwo szeroki asortyment produktów od czołowych światowych producentów sprzętu i oprogramowania IT, w tym H3C, Huawei, Cisco, Juniper, Fortinet, a także Dell, IBM, CommVault i ESET. Dzięki współpracy z tymi renomowanymi partnerami, NETF zapewnia swoim klientom dostęp do najnowocześniejszych rozwiązań technologicznych.

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**Bezpieczeństwo,  
Efektywność,  
Optymalizacja**



# FortiSwitch™ Secure Access



## Highlights

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

## Security, Ease of Use, and Scalability

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

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

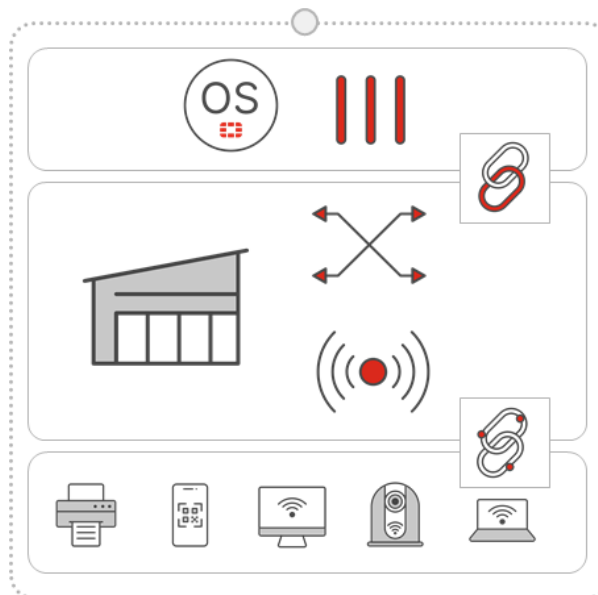
**Available in****Appliance**

## Secure Networking Through FortiLink

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

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

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



### Built-in Ethernet Port Security

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

### User- and Device-Based Access Control and Policy Enforcement

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

### Secure Access Service Edge (SASE)

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

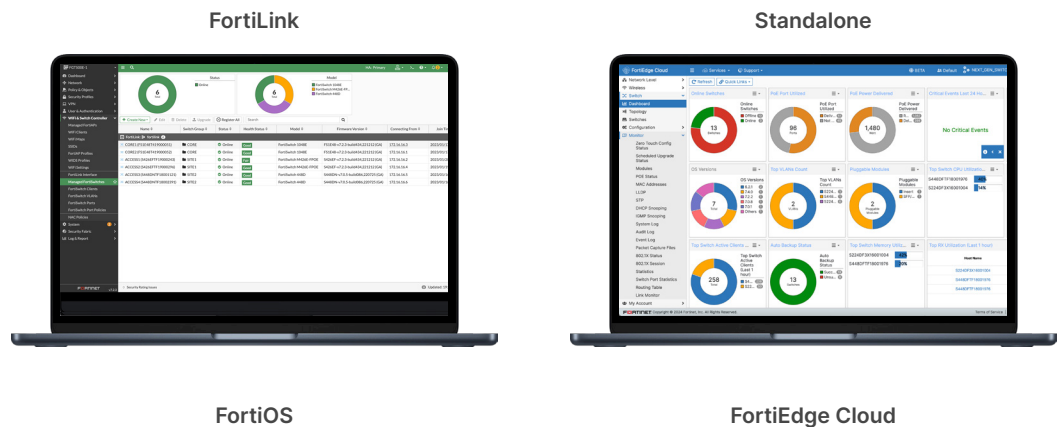


## Operational Simplicity

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

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

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



## Scalable and Flexible for Branches or Small Business

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

### Eliminate Bottlenecks

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

### Next-Generation Power Over Ethernet Support

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



## Product Offerings

### Model Numbers

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

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

100G Series: FS-110G-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)	FORTISWITCH FORTILINK MODE (WITH FORTIGATE)
<b>Management and Configuration</b>	<b>Security and Visibility</b>
Auto Discovery of Multiple Switches	Authentication 802.1X (Port-based, MAC-based, MAB)
Automated detection and recommendations	Block Intra-VLAN Traffic
Centralized VLAN Configuration	Clients Monitoring
Dynamic Port Profiles for FortiSwitch ports	Device Detection
FortiLink Secure Fabric	DHCP Snooping
FortiLink Stacking (Auto Inter-Switch Links)	DHCP/ARP Monitor
FortiSwitch Management over VXLAN	FortiGuard IoT identification
Health Monitoring	FortiSwitch recommendations in Security Rating
IGMP Snooping	Host Quarantine on Switch Port
L3 Routing and Services (FortiGate)	Integrated FortiGate Network Access Control (NAC) function
Link Aggregation Configuration	MAC Black/White Listing (FortiGate)
LLDP/MED	NAC Device Telemetry
Managed Switches 8 to 300 depending on FortiGate model	Network Device Detection
Policy-Based Routing (FortiGate)	Policy Control of Users and Devices (FortiGate)
Provision firmware upon authorization	Port Statistics
Software Upgrade of Switches	Security Fabric Automation
Spanning Tree	Switch Controller traffic collector
Switch POE Control	Syslog Collection
Virtual Domain (FortiGate)	<b>UTM Features</b>
<b>High Availability</b>	Firewall (FortiGate)
Active-Active Split LAG from FortiGate to FortiSwitches for Advanced Redundancy	IPC, AV, Application Control, Botnet (FortiGate)
LAG support for FortiLink Connection	
Support FortiLink FortiGate in HA Cluster	



## Features

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

FORTISWITCH
<b>Layer 2</b>
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 Reflectometry (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
<b>Services</b>
IGMP proxy / querier
IGMP Snooping
MLD proxy / querier
MLD Snooping

FORTISWITCH
<b>Layer 3</b>
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
<b>Security and Visibility</b>
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.



## Features

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

FORTISWITCH
<b>High Availability</b>
Multi-Chassis Link Aggregation (MCLAG)
<b>Quality of Service</b>
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
<b>Management</b>
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



## Features

ALL FORTISWITCH MODELS
<b>RFC and MIB Support*</b>
<b>BFD</b>
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)
<b>BGP</b>
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
<b>DHCP</b>
RFC 2131: Dynamic Host Configuration Protocol
RFC 3046: DHCP Relay Agent Information Option
RFC 7513: Source Address Validation Improvement (SAVI) Solution for DHCP
<b>IP/IPv4</b>
RFC 2697: A Single Rate Three Color Marker
RFC 3168: The Addition of Explicit Congestion Notification (ECN) to IP
RFC 5227: IPv4 Address Conflict Detection
RFC 5517: Cisco Systems' Private VLANs: Scalable Security in a Multi-Client Environment
RFC 7039: Source Address Validation Improvement (SAVI) Framework
<b>IP Multicast</b>
RFC 2710: Multicast Listener Discovery (MLD) for IPv6 (MLDv1)
RFC 3569: An Overview of Source-Specific Multicast (SSM)
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
<b>RFC and MIB Support*</b>
<b>IPv6</b>
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
RFC 8200: Internet Protocol, Version 6 (IPv6) Specification
RFC 8201: Path MTU Discovery for IP version 6
<b>IS-IS</b>
RFC 1195: Use of OSI IS-IS for Routing in TCP/IP and Dual Environments
RFC 5308: Routing IPv6 with IS-IS
<b>MIB</b>
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
RFC 2932: IPv4 Multicast Routing MIB
RFC 2934: Protocol Independent Multicast MIB for IPv4
RFC 3289: Management Information Base for the Differentiated Services Architecture
RFC 3433: Entity Sensor Management Information Base
RFC 3621: Power Ethernet MIB
RFC 6933: Entity MIB (Version 4)

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



## Features

ALL FORTISWITCH MODELS
<b>RFC and MIB Support*</b>
<b>OSPF</b>
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
<b>OTHER</b>
RFC 2030: SNTP
RFC 3176: InMon Corporation's sFlow: A Method for Monitoring Traffic in Switched and Routed Networks
RFC 3768: VRRP
RFC 3954: Cisco Systems NetFlow Services Export Version 9
RFC 5101: Specification of the IP Flow Information Export (IPFIX) Protocol for the Exchange of Flow Information
RFC 5798: VRRPv3 (IPv4 and IPv6)

ALL FORTISWITCH MODELS
<b>RFC and MIB Support*</b>
<b>RADIUS</b>
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)
<b>RIP</b>
RFC 1058: Routing Information Protocol
RFC 2080: RIPng for IPv6
RFC 2082: RIP-2 MD5 Authentication
RFC 2453: RIPv2
RFC 4822: RIPv2 Cryptographic Authentication
<b>SNMP</b>
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

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



## Specifications

	FORTISWITCH 108F	FORTISWITCH 108F-POE	FORTISWITCH 108F-FPOE
<b>Hardware Specifications</b>			
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
<b>System Specifications</b>			
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
<b>Dimensions</b>			
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)
<b>Environment</b>			
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
<b>Certification and Compliance</b>			
FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2			
<b>Warranty</b>			
Fortinet Warranty	Limited lifetime* warranty on all models		

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



FortiSwitch 108F



FortiSwitch 108F-POE



FortiSwitch 108F-FPOE



## Specifications

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

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



FortiSwitch 110G-FPOE

## Specifications

	FORTISWITCH 124E-POE	FORTISWITCH 148E
<b>Hardware Specifications</b>		
Total Network Interfaces	24x GE RJ45 and 4x GE SFP	48x GE RJ45 and 4x GE SFP
Dedicated Management 10/100 Port	0	0
RJ-45 Serial Console Port	1	1
Form Factor	1 RU Rack Mount	1 RU Rack Mount
Power over Ethernet (PoE) Ports	12 (802.3af/at)	0
PoE Power Budget	185 W	0
Mean Time Between Failures	> 10 years	> 10 years
<b>System Specifications</b>		
Switching Capacity (Duplex)	56 Gbps	104 Gbps
Packets Per Second (Duplex)	83 Mpps	155 Mpps
MAC Address Storage	8 K	16 K
Network Latency	4µs	3860 ns
VLANs Supported	4 K	4 K
Link Aggregation Group Size	8	8
Total Link Aggregation Groups	8	16
Packet Buffers	512 KB	1.5 MB
Memory	256 MB DDR3	256 MB DDR3
Flash	32 MB	64 MB
ACL	640	640
Spanning Tree Instances	32	32
<b>Dimensions</b>		
Height x Depth x Width (inches)	1.7 × 12.2 × 17.3	1.73 × 12.2 × 17.3
Height x Depth x Width (mm)	44 × 309 × 440	44 × 309 × 440
Weight	11.1 lbs (5.03 kg)	8.6 lbs (3.9 kg)
<b>Environment</b>		
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
Power Consumption* (Average / Maximum)	202.78 W / 205.45 W	19.804 W / 22.137 W
Heat Dissipation	60.67 BTU/h	67.574 BTU/h
Operating Temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)	-4°F to 158°F (-20°C to 70°C)
Humidity	10% to 90% non-condensing	10% to 90% non-condensing
Air-Flow Direction	side-to-back	side-to-back
Noise Level	39.3 dBA	36.9 dBA
<b>Certification and Compliance</b>		
	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	
<b>Warranty</b>		
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 124E-POE



FortiSwitch 148E

## Specifications

	FORTISWITCH 124F	FORTISWITCH 124F-POE	FORTISWITCH 124F-FPOE
<b>Hardware Specifications</b>			
Total Network Interfaces	24x GE RJ45 and 4x 10GE SFP+	24x GE RJ45 and 4x 10GE SFP+	24x GE RJ45 and 4x 10GE SFP+
Dedicated Management 10/100 Port	0	0	0
RJ-45 Serial Console Port	1	1	1
Form Factor	1 RU Rack Mount	1 RU Rack Mount	1 RU Rack Mount
Power over Ethernet (PoE) Ports	0	12 (802.3af/at)	24 (802.3af/at)
PoE Power Budget	0	185 W	370 W
Mean Time Between Failures	> 10 years	> 10 years	> 10 years
<b>System Specifications</b>			
Switching Capacity (Duplex)	128 Gbps	128 Gbps	128 Gbps
Packets Per Second (Duplex)	190 Mpps	190 Mpps	190 Mpps
MAC Address Storage	32 K	32 K	32 K
Network Latency	< 1µs	< 1µs	< 1µs
VLANs Supported	4 K	4 K	4 K
Link Aggregation Group Size	8	8	8
Total Link Aggregation Groups	16	16	16
Packet Buffers	2 MB	2 MB	2 MB
Memory	512 MB DDR3	512 MB DDR3	512 MB DDR3
Flash	64 MB	64 MB	64 MB
ACL	640	640	640
Spanning Tree Instances	32	32	32
<b>Dimensions</b>			
Height x Depth x Width (inches)	1.73 × 9.06 × 12.99	1.73 × 10.24 × 17.32	1.73 × 10.24 × 17.32
Height x Depth x Width (mm)	44 × 230 × 330	44 × 260 × 440	44 × 260 × 440
Weight	4.48 lbs (2.03 kg)	7.85 lbs (3.56 kg)	8.42 lbs (3.82 kg)
<b>Environment</b>			
Power Required	100–240V AC, 50–60 Hz	100–240V AC, 50–60 Hz	100–240V AC, 50–60 Hz
Power Supply	AC built in	AC built in	AC built in
Redundant Power	No	No	No
Power Consumption* (Average / Maximum)	24.8 W / 26.3 W	235.9 W / 237.4 W	449.8 W / 451.3 W
Heat Dissipation	89.683 BTU/h	102.982 BTU/h	118.327 BTU/h
Operating Temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Storage Temperature	-4°F to 158°F (-20°C to 70°C)	-4°F to 158°F (-20°C to 70°C)	-4°F to 158°F (-20°C to 70°C)
Humidity	10% to 90% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing
Air-Flow Direction	side-to-back	side-to-back	side-to-back
Noise Level	Fanless	46.3 dBA	45.8 dBA
<b>Certification and Compliance</b>			
	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2		
<b>Warranty</b>			
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 124F



FortiSwitch 124F-POE



FortiSwitch 124F-FPOE



## Specifications

	FORTISWITCH 148F	FORTISWITCH 148F-POE	FORTISWITCH 148F-FPOE
<b>Hardware Specifications</b>			
Total Network Interfaces	48x GE RJ45 and 4x 10GE SFP+	48x GE RJ45 and 4x 10GE SFP+	48x GE RJ45 and 4x 10GE SFP+
Dedicated Management 10/100 Port	0	0	0
RJ-45 Serial Console Port	1	1	1
Form Factor	1 RU Rack Mount	1 RU Rack Mount	1 RU Rack Mount
Power over Ethernet (PoE) Ports	0	24 (802.3af/at)	48 (802.3af/at)
PoE Power Budget	0	370 W	740 W
Mean Time Between Failures	> 10 years	> 10 years	> 10 years
<b>System Specifications</b>			
Switching Capacity (Duplex)	176 Gbps	176 Gbps	176 Gbps
Packets Per Second (Duplex)	260 Mpps	260 Mpps	260 Mpps
MAC Address Storage	32 K	32 K	32 K
Network Latency	< 1µs	< 1µs	< 1µs
VLANs Supported	4 K	4 K	4 K
Link Aggregation Group Size	8	8	8
Total Link Aggregation Groups	16	16	16
Packet Buffers	2 MB	2 MB	2 MB
Memory	512 MB DDR3	512 MB DDR3	512 MB DDR3
Flash	64 MB	64 MB	64 MB
ACL	640	640	640
Spanning Tree Instances	32	32	32
<b>Dimensions</b>			
Height x Depth x Width (inches)	1.73 × 10.24 × 17.32	1.73 × 12.20 × 17.32	1.73 × 12.20 × 17.32
Height x Depth x Width (mm)	44 × 260 × 440	44 × 310 × 440	44 × 310 × 440
Weight	7.63 lbs (3.46 kg)	10.32 lbs (4.68 kg)	10.32 lbs (4.68 kg)
<b>Environment</b>			
Power Required	100–240V AC, 50–60 Hz	100–240V AC, 50–60 Hz	100–240V AC, 50–60 Hz
Power Supply	AC built in	AC built in	AC built in
Redundant Power	No	No	No
Power Consumption* (Average / Maximum)	55.8 W / 57 W	474.8 W / 476.3 W	893.5 W / 895.7 W
Heat Dissipation	194.37 BTU/h	195.73 BTU/h	198.46 BTU/h
Operating Temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Storage Temperature	-4°F to 158°F (-20°C to 70°C)	-4°F to 158°F (-20°C to 70°C)	-4°F to 158°F (-20°C to 70°C)
Humidity	10% to 90% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing
Air-Flow Direction	side-to-back	side-to-back	side-to-back
Noise Level	42.8 dBA	46.9 dBA	46.5 dBA
<b>Certification and Compliance</b>			
	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2		
<b>Warranty</b>			
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 148F



FortiSwitch 148F-POE



FortiSwitch 148F-FPOE



## Specifications

	FORTISWITCH 224D-FPOE	FORTISWITCH 224E	FORTISWITCH 224E-POE
<b>Hardware Specifications</b>			
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
<b>System Specifications</b>			
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
<b>Dimensions</b>			
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)
<b>Environment</b>			
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
<b>Certification and Compliance</b>			
FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2			
<b>Warranty</b>			
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 224D-FPOE



FortiSwitch 224E



FortiSwitch 224E-POE



## Specifications

	FORTISWITCH 248D	FORTISWITCH 248E-POE	FORTISWITCH 248E-FPOE
<b>Hardware Specifications</b>			
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
<b>System Specifications</b>			
Switching Capacity (Duplex)	104 Gbps	104 Gbps	104 Gbps
Packets Per Second (Duplex)	155 Mpps	155 Mpps	155 Mpps
MAC Address Storage	16 K	16 K	16 K
Network Latency	< 1µs	< 1µs	< 1µs
VLANs Supported	4 K	4 K	4 K
Link Aggregation Group Size	8	8	8
Total Link Aggregation Groups	Up to number of ports	Up to number of ports	Up to number of ports
Packet Buffers	1.5 MB	1.5 MB	1.5 MB
Memory	512 MB DDR3	512 MB DDR3	512 MB DDR3
Flash	128 MB	128 MB	128 MB
ACL	512	512	512
Spanning Tree Instances	32	32	32
Route Entries (IPv4/ipv6)	64/64	64/64	64/64
Host Entries (IPv4/IPv6)	512/512	512/512	512/512
<b>Dimensions</b>			
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
Weight	7.81 lbs (3.54 kg)	12.12 lbs (5.5 kg)	13.44 lbs (6.1 kg)
<b>Environment</b>			
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	17714268 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
<b>Certification and Compliance</b>			
FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2			
<b>Warranty</b>			
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 248D



FortiSwitch 248E-POE



FortiSwitch 248E-FPOE



## Ordering Information

Product	SKU	Description
<b>FortiSwitch Models</b>		
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 x 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 2x 5 GE ports with PoE 802.3bt, 8x 1GE RJ45 ports with PoE 802.3af/at, 4x 10 GE SFP+, Fanless with maximum 200W PoE output limit.
FortiSwitch 124E-POE	FS-124E-POE	Layer 2 FortiGate switch controller compatible PoE+ switch with 24 GE RJ45 + 4 SFP ports, 12 port PoE with maximum 185 W limit.
FortiSwitch 148E	FS-148E	Layer 2 FortiGate switch controller compatible switch with 48 GE RJ45 + 4 SFP ports.
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.
<b>Licenses</b>		
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. 24x7 FortiCare support (for FSWM VM) included.
	FC2-10-SWMVM-258-01-DD	Subscription license for 100 FortiSwitch Units managed by FortiSwitchManager VM. 24x7 FortiCare support (for FSWM VM) included.
	FC3-10-SWMVM-258-01-DD	Subscription license for 1000 FortiSwitch Units managed by FortiSwitchManager VM. 24x7 FortiCare support (for FSWM VM) included.
FortiSwitch Advanced Features License	FS-SW-LIC-200	SW License for FS-200 Series Switches to activate Advanced Features.
<b>Accessories</b>		
External Redundant AC Power Supply	FRPS-740	Redundant AC power supply for up to two units: FS-224D-FPOE, FS-224E-POE, FS-248E-POE, FS-248E-FPOE.

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

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

Note that all PoE FortiSwitches are Alternative-A.

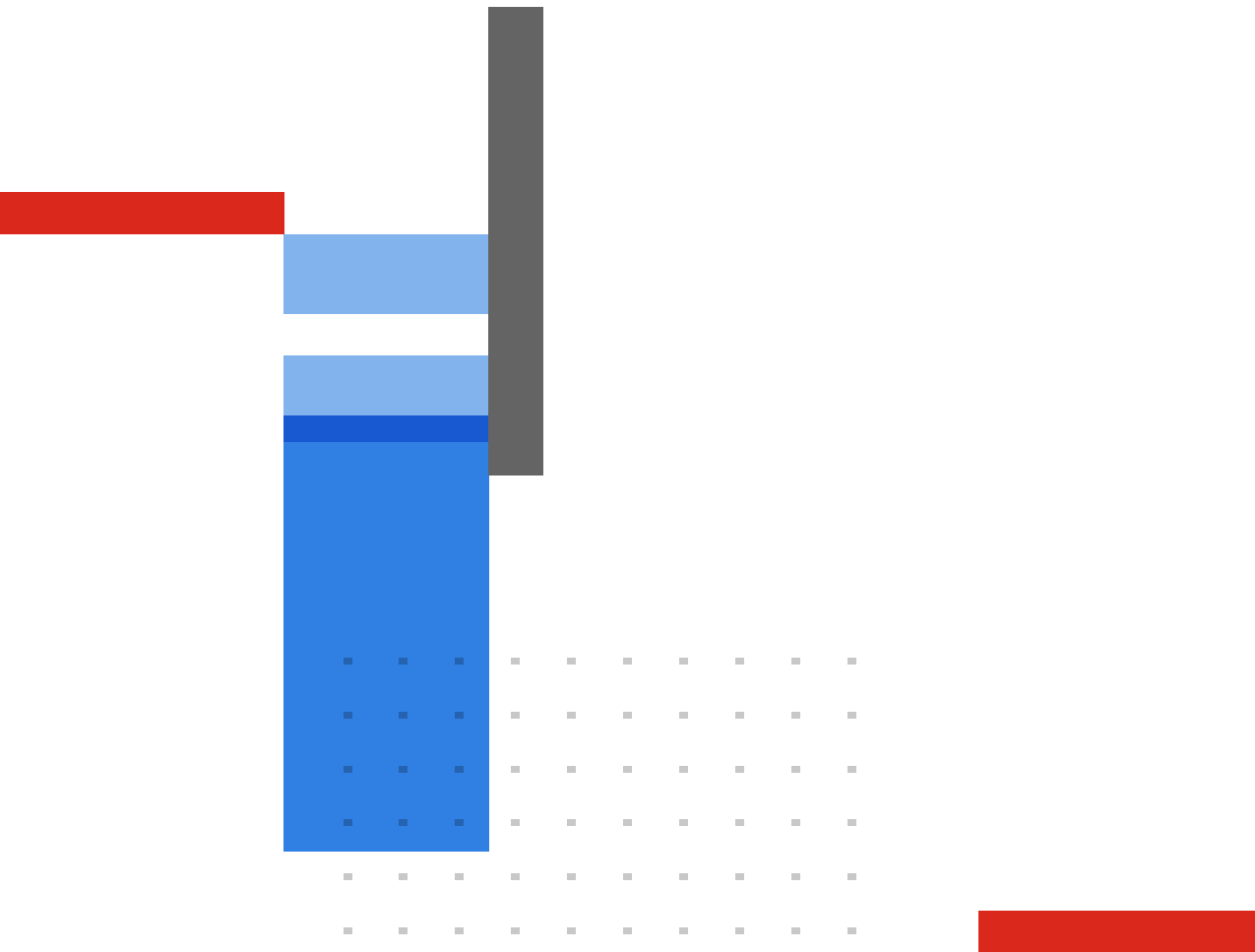
Visit <https://www.fortinet.com/resources/ordering-guides> for related ordering guides.



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