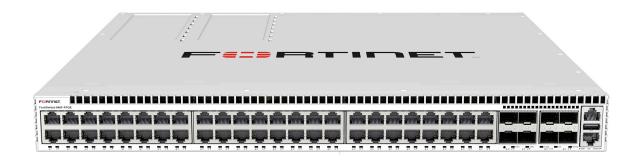


# FortiSwitch™ Secure Campus



#### Highlights

- Standalone or Integrated FortiLink deployment option
- On premise and cloudbased management options
- Zero-touch deployment
- Entry level network access control at no cost
- Role and device-based access control and policy enforcement
- Dynamic segmentation and Micro Segmentation
- Secure access service edge (SASE) support
- Up to 48 access ports in a compact 1 RU form factor
- Stacking up to 300 switches per FortiGate
- Wire-speed switching with up to 40GE uplinks

## Security, Performance, and Manageability

The FortiSwitch™ campus family offers an unparalleled combination of security, performance, and manageability, making it the ideal choice for the enterprise campus that prioritize safeguarding against threats.

As campus network design continues to adapt to emerging technologies and evolving business requirements, the FortiSwitch enterprise campus switching architecture empowers network administrators with enhanced visibility, control, and manageability. The platform's scalability, agility, and ease of management contribute to a highly secure environment, providing a robust foundation for any sized campus.

Available in



**Appliance** 

### **Secure Networking through FortiLink**

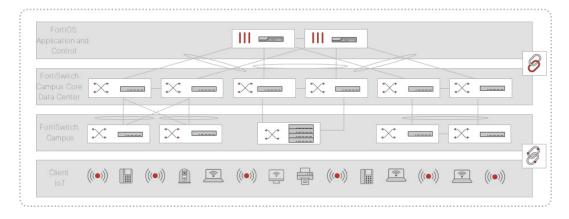
FortiLink is an innovative proprietary management protocol that enables seamless integration and management between a FortiGate Next-Generation Firewall and the FortiSwitch Ethernet switching platform. By using FortiLink, the FortiSwitch becomes a logical extension of the FortiGate, allowing for centralized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

### **Native Entry-Level Network Access Control at No Cost**

FortiLink integration enables basic Network Access Control (NAC) functionality to profile and securely onboard devices as they connect. FortiLink NAC offers visibility, automated segmentation, and microsegmentation of IoT devices, quarantine if compromised, and virtual patching to help protect against threats.

#### **Dynamic Segmentation and Policy Enforcement**

Implementing dynamic port-level security in a large campus Ethernet switching environment traditionally requires hands-on effort and ongoing maintenance. FortiSwitch campus switching architecture automates dynamic segmentation through FortiLink, empowering IT administrators to control traffic within segments, limiting the scope of threats. The automation of segmentation makes making policy enforcement easier and more efficient, while NGFW-level policies ensure granular control and zero-trust access for users and devices.



#### Role and Device-based Access Control and Policy Enforcement

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

#### 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), allowing you the flexibility to easily deploy the type and level of security you need at the edge of your network.



## **Operational Simplicity**

Deploying, managing, and optimizing an Ethernet switching infrastructure has traditionally been challenging and time-consuming.

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, automation and orchestration offer intuitive workflows and unified views to provision, manage, and optimize your campus. This is available through both FortiCloud and on-premises management.

Centralized management delivers a unified, single view of both the LAN and security. This 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.

FortiLink



Standalone



**FortiOS** 

FortiLAN Cloud

## **Scalable Flexible Campus**

FortiSwitch campus architecture scales to meet the need of today's next-generation campus 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**

Dedicated uplinks capable of speeds up to 25GE through SFP+ and SFP28 slots can support your choice of media utilizing through a wide variety of transceivers.

#### **Next Generation Power over Ethernet Support**

With PoE+ support in all models and next-generation 90W 802.3bt PoE support in specific models, FortiSwitch delivers and manages power where needed for devices such as cameras, sensors, and wireless access points



## **Product Offerings**

#### **Model Numbers**

400 Series: FS-424E-FIBER, FS-M426E-FPOE, FS-424E, FS-424E-POE, FS-424E-FPOE, FS-448E-POE, FS-448E-FPOE

500 Series: FS-524-D, FS-524D-FPOE, FS-548D, FS-548D-FPOE

600 Series: FS-624F, FS-624F-FPOE, FS-648F, FS-648F-FPOE

#### **Features**

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

FORTISWITCH FORTILINK MODE (WITH FORTIGATE)	
Management and Configuration	
Auto Discovery of Multiple Switches	
8 to 300 Managed Switches depending on FortiGate model	
FortiLink Stacking (Auto Inter-Switch Links)	
FortiLink Secure Fabric	
Software Upgrade of Switches	
Centralized VLAN Configuration	
Switch POE Control	
Link Aggregation Configuration	
Spanning Tree	
LLDP/MED	
IGMP Snooping	
L3 Routing and Services (FortiGate)	
Policy-Based Routing (FortiGate)	
Virtual Domain (FortiGate)	
Automated detection and recommendations	
Dynamic Port Profiles for FortiSwitch ports	
Provision firmware upon authorization	
Health Monitoring	
High Availability	
Support FortiLink FortiGate in HA Cluster	
LAG support for FortiLink Connection	
Active-Active Split LAG from FortiGate to FortiSwitches for Advanced Redundan	су

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
Integrated FortiGate Network Access Control (NAC) function
FortiGuard IoT identification
FortiSwitch recommendations in Security Rating
Switch Controller traffic collector
Port Statistics
Clients Monitoring
UTM Features
Firewall (FortiGate)
IPC, AV, Application Control, Botnet (FortiGate)



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

	FORTISWITCH
Layer 2	
Jumbo Frames	
Auto-negotiation fo	r Port Speed and Duplex
MDI/MDIX Auto-cro	ssover
IEEE 802.1D MAC B	ridging/STP
IEEE 802.1w Rapid S	Spanning Tree Protocol (RSTP)
IEEE 802.1s Multiple	e Spanning Tree Protocol (MSTP)
STP Root Guard	
STP BPDU Guard	
Edge Port / Port Fa:	st
IEEE 802.1Q VLAN 1	Tagging
Private VLAN	
IEEE 802.3ad Link A	Aggregation with LACP
	affic balance over trunking port c-dst-ip, src-dst-mac, src-ip, src-mac)
IEEE 802.1AX Link A	ggregation
Spanning Tree Insta	ances (MSTP/CST)
IEEE 802.3x Flow C	ontrol and Back-pressure
IEEE 802.3 10Base-	T
IEEE 802.3u 100Bas	se-TX
IEEE 802.3z 1000Ba	ase-SX/LX
IEEE 802.3ab 1000E	Base-T
IEEE 802.3ae 10 Gig	gabit Ethernet
IEEE 802.3az Energ	y Efficient Ethernet
IEEE 802.3bz Multi	Gigabit Ethernet
IEEE 802.3 CSMA/C	CD Access Method and Physical Layer Specifications
Storm Control	
MAC, IP, Ethertype-	-based VLANs
Virtual-Wire	
Split Port (QSFP+ b	reakout to 4×10G SFP+ or 4×1G SFP)
Time-Domain Refle	ctcometry (TDR) Support
LAG min/max bundl	e
Rapid PVST interop	eration
Ingress Pause Mete	ering
Loop Guard	
Per-port storm cont	trol
	Control (802.1Qbb)
IEEE 802.1ad QinQ	
VLAN Mapping	
	3bj, and 802.3bm 40 and 100 Gigabit Ethernet
Auto topology	-
Dynamically shared	packet buffers
Services	
IGMP proxy / querie	er
MLD Snooping	
MLD proxy / querier	
IGMP Snooping	
- 1- 3	

FORTISWITCH
Layer 3
•
Static Routing (Hardware-based)
Dynamic Routing Protocols: OSPFv2, RIPv2, VRRP, BGP, ISIS *  Multicast Protocols: PIM-SSM *
ECMP
Bidirectional Forwarding Detection (BFD)
DHCP Relay
IP conflict detection and notification
DHCP server
Unicast Reverse Path Forwarding - uRPF
IPv6 route filtering
Filtering routemaps based on routing protocol
Security and Visibility
Port Mirroring
Admin Authentication Via RFC 2865 RADIUS
IEEE 802.1X Authentication Port-based
IEEE 802.1X Authentication MAC-based
IEEE 802.1X Guest and Fallback VLAN
IEEE 802.1X MAC Access Bypass (MAB)
IEEE 802.1X Dynamic VLAN Assignment
Radius CoA (Change of Authority)
Radius Accounting
MAC-IP Binding
sFlow
ACL
IEEE 802.1ab Link Layer Discovery Protocol (LLDP)
IEEE 802.1ab LLDP-MED
IEEE 802.1ae MAC Security (MAC Sec)
DHCP-Snooping
Dynamic ARP Inspection
Sticky MAC and MAC Limit
IEEE 802.1X open auth
IEEE 802.1X EAP pass-through
Flow Export (NetFlow and IPFIX)
ACL Multistage
ACL Multiple Ingress
ACL Schedule
IP source guard
IPv6 RA Guard
LLDP-MED ELIN support
Per-port and per-VLAN MAC learning limit
Assign VLANs via Radius attributes (RFC 4675)
Wake on LAN
**

\*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	
EEE 802.1p Based Priority Queuing	
P TOS/DSCP Based Priority Queuing	
EEE 1588 PTP (Transparent Clock)	
Explicit Congestion Notification	
Egress priority tagging	
Percentage Rate Control	

FORTISWITCH
Management
Pv4 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	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 IF	
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 Headers (DSCP)	
BGP	RFC 2893: Transition Mechanisms for IPv6 Hosts and Routers	
RFC 1771: A Border Gateway Protocol 4 (BGP-4)	RFC 4213: Basic Transition Mechanisms for IPv6 Hosts and Router	
RFC 1965: Autonomous System Confederations for BGP	RFC 4291: IP Version 6 Addressing Architecture	
RFC 1997: BGP Communities Attribute	RFC 4443: Internet Control Message Protocol (ICMPv6) for the Internet Protocol Versic	
RFC 2545: Use of BGP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing	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 AS_PATH Attribute	RFC 5308: Routing IPv6 with IS-IS	
RFC 8212: Default External BGP (EBGP) Route Propagation Behavior without Policies	MIB	
RFC 8654: Extended Message Support for BGP	RFC 1213: MIB II parts that apply to FortiSwitch 100 units	
DHCP	RFC 1354: IP Forwarding Table MIB	
RFC 2131: Dynamic Host Configuration Protocol	RFC 1493: Bridge MIB	
RFC 3046: DHCP Relay Agent Information Option	RFC 1573: SNMP MIB II	
RFC 7513: Source Address Validation Improvement (SAVI) Solution for DHCP	RFC 1643: Ethernet-like Interface MIB	
IP/IPv4	RFC 1724: RIPv2-MIB	
RFC 2697: A Single Rate Three Color Marker	RFC 1850: OSPF Version 2 Management Information Base	
RFC 3168: The Addition of Explicit Congestion Notification (ECN) to IP	RFC 2233: The Interfaces Group MIB using SMIv2	
RFC 5227: IPv4 Address Conflict Detection	RFC 2618: Radius-Auth-Client-MIB	
RFC 5517: Cisco Systems' Private VLANs: Scalable Security in a Multi-Client Environment	RFC 2620: Radius-Acc-Client-MIB	
RFC 7039: Source Address Validation Improvement (SAVI) Framework	RFC 2665: Definitions of Managed Objects for the Ethernet-like Interface Types	
P Multicast	RFC 2674: Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering and Virtual LAN extensions	
RFC 2362: Protocol Independent Multicast-Sparse Mode (PIM-SM): Protocol	RFC 2787: Definitions of Managed Objects for the Virtual Router Redundancy Protocol	
Specification (AUD) (AUD) (AUD) (AUD) (AUD)	RFC 2819: Remote Network Monitoring Management Information Base	
RFC 2710: Multicast Listener Discovery (MLD) for IPv6 (MLDv1)	RFC 2863: The Interfaces Group MIB	
RFC 4541: Considerations for Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) Snooping Switches	RFC 2932: IPv4 Multicast Routing MIB	
RFC 4605: Internet Group Management Protocol (IGMP)/Multicast Listener Discovery	RFC 2934: Protocol Independent Multicast MIB for IPv4	
(MLD)-Based Multicast Forwarding ("IGMP/MLD Proxying")	RFC 3289: Management Information Base for the Differentiated Services Architecture	
RFC 4607: 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> RFC and MIB supported by FortiSwitch Operating System. Check FortiSwitch Feature Matrix for model specific support.

RFC and MIB Support*	ALL FORTISWITCH MODELS
OSPF	
RFC 1583: OSPF version 2	
RFC 1765: OSPF Database	Overflow
REC 2328: OSPE version 2	Overnow
RFC 2370: The OSPF Opag	LIQ I SA Ontion
RFC 2740: OSPF for IPv6	uc ESA Option
	o-Stubby Area (NSSA) Option
RFC 3137: OSPF Stub Route	
RFC 3623: OSPF Graceful F	
RFC 5340: OSPF for IPv6 (0	
	SHA Cryptographic Authentication
RFC 6549: OSPFv2 Multi-In	
RFC 6845: OSPF Hybrid Bro	padcast and Point-to-Multipoint Interface Type
RFC 6860: Hiding Transit-C	
RFC 7474: Security Extension	on for OSPFv2 When Using Manual Key Management
RFC 7503: OSPF for IPv6	, ,
RFC 8042: CCITT Draft Rec	commendation T.4
RFC 8362: OSPFv3 Link Sta	ate Advertisement (LSA) Extensibility
OTHER	
RFC 2030: SNTP	
RFC 3176: InMon Corporation	on's sFlow: A Method for Monitoring Traffic in Switched and
RFC 3768: VRRP	
RFC 3954: Cisco Systems N	NetFlow Services Export Version 9
RFC 5101: Specification of t Exchange of Flow Informati	he IP Flow Information Export (IPFIX) Protocol for the on
RFC 5798: VRRPv3 (IPv4 ar	nd 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-424E-FIBER	FORTISWITCH-M426E-FPOE	
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	
Memory	1 GB DDR4	1 GB DDR4	
Flash	256 MB	256 MB	
ACL	1.5k	1k	
Spanning Tree Instances	16	16	
Route Entries (IPv4)	16k	1000	
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°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)	
Humidity	5% to 95% non-condensing	5% to 95% non-condensing	
Air-Flow Direction	side-to-back	side-to-back	
Noise Level	32.8 dBA	35 dBA	
Certification and Compliance			
	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2		
Warranty			
Fortinet Warranty	Limited lifetime** warranty on all models		

<sup>\*</sup> 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 M426E-FPOE



	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 SFF	24x GE RJ45 and 4×10 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
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	2 MB	2 MB	2 MB
Memory	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)	1000	1000	1000
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°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	-40°F to 158°F (-40°C to 70°C)	-4°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	32.3 dBA	31.8 dBA	30.9 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

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







FortiSwitch 424E FortiSwitch 424E-POE FortiSwitch 424E-POE



	FORTISWITCH 448E	FORTISWITCH 448E-POE	FORTISWITCH 448E-FPOE
Hardware Specifications			
Total Network Interfaces	48x GE RJ45 and 4× 10GE SFP+ ports Note: SFP+ ports are compatible with 1 GE SFP N	48x GE RJ45 and 4× 10GE SFP+ ports lote: SFP+ ports are compatible with 1 GE SFP	48x GE RJ45 and 4× 10GE SFP+ ports Note: SFP+ ports are compatible with 1 GE SFP
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)
PoE Power Budget	_	421 W	772 W
Mean Time Between Failures	> 10 years	> 10 years	> 10 years
System Specifications			
Switching Capacity (Duplex)	176 Gbps	176 Gbps	176 Gbps
Packets Per Second (Duplex)	262 Mpps	262 Mpps	262 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	Up to number of ports	Up to number of ports	Up to number of ports
Packet Buffers	4 MB	4 MB	4 MB
Memory	1GB DDR4	1GB DDR4	1GB DDR4
Flash	256 MB	256 MB	256 MB
ACL	1.5k	1.5k	1.5k
Spanning Tree Instances	16	16	16
Route Entries (IPv4)	16k	16k	16k
Host Entries	16k	16k	16k
Dimensions			
Height x Depth x Width (inches)	1.75 × 12.2 × 17.3	1.73 × 16.1 × 17.3	1.73 × 16.1 × 17.3
Height x Depth x Width (mm)	44 × 310 × 440	44 × 410 × 440	44 × 410 × 440
Weight	9.17 lbs (4.16 kg)	13.8 lbs (6.26 kg)	14.04 lbs (6.37 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)	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°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	35.5 dBA	38.3 dBA	50.7 dBA
Certification and Compliance			
	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2		
Warranty			
Fortinet Warranty	Limited lifetime** warranty on all models		

<sup>\*</sup> 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 448E FortiSwitch 448E-POE FortiSwitch 448E-FPOE



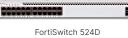
	FORTISWITCH 524D	FORTISWITCH 524D-FPOE
Hardware Specifications		
Total Network Interfaces	24 GE/RJ45 ports, 4× 10 GE SFP+ ports and 2× 40 GE QSFP+ Note: SFP+ ports are compatible with 1G SFP	24 GE/RJ45 ports, 4× 10 GE SFP+ ports and 2× 40 GE QSFP+ Note: SFP+ ports are compatible with 1G SFP
Dedicated 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
Memory	2 GB DDR3	2 GB DDR3
Flash	128 MB	128 MB
ACL	1k	1k
Spanning Tree Instances	32	32
Route Entries (IPv4)	16k	16k
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°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Humidity	5% to 95% non-condensing	5% to 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		
Fortinet Warranty	Limited lifetime*** warranty on all models	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









 $<sup>\</sup>ensuremath{^{**}}$  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	+ 48x GE/RJ45 ports, 4× 10 GE SFP+ ports and 2× 40 GE QSF 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	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	
/LANs Supported	4 K	4 K	
ink 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	
Memory	2 GB DDR3	2 GB DDR3	
lash	128 MB	128 MB	
ACL	1k	1k	
Spanning Tree Instances	32	32	
Route Entries (IPv4)	16k	16k	
Multicast Route Entries	8k	8k	
lost 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	
Veight	14.1 lbs (6.4 kg)	15.74 lbs (7.14 kg)	
Invironment			
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 FS-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°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	
Storage Temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	
lumidity	5% to 95% non-condensing	5% to 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			
Fortinet Warranty	Limited lifetime*** warranty on all models	Limited lifetime*** warranty on all models	

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

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





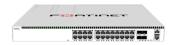
FortiSwitch 548D-FPOE



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

	FORTISWITCH 624F	FORTISWITCH 624F-FPOE	
Hardware Specifications			
otal Network Interfaces	24× 1GE/2.5GE/5GE RJ45 ports and	24× 1GE/2.5GE/5GE RJ45 ports and	
	4× 10GE/25GE SFP+/SFP28 ports	4× 10GE/25GE SFP+/SFP28 ports	
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	_	24 (802.3 af/at/bt type 4)	
PoE Power Budget	_	1440 W	
Mean Time Between Failures	> 10 years	> 10 years	
System Specifications			
Switching Capacity (Duplex)	440 Gbps	440 Gbps	
Packets Per Second (Duplex)	654 Mpps	654 Mpps	
MAC Address Storage	64 k	64 k	
Network Latency	<1µs	<1µs	
/LANs Supported	4 k	4 k	
ink Aggregation Group Size	28	28	
Fotal Link Aggregation Groups	Up to number of ports	Up to number of ports	
Packet Buffers	8 MB	8 MB	
Memory	4GB DDR4	4GB DDR4	
Flash	32 MB	32 MB	
Prive	32G SSD	32G SSD	
ACL	36k	36k	
Spanning Tree Instances	32	32	
Route Entries (IPv4)	16 k	16 k	
Host Entries (IPv4)	192 k	192 k	
Aulticast route entries	12 k	12 k	
Dimensions			
Height x Depth x Width (inches)	1.75 × 17.4 × 17.3	1.75 × 17.4 × 17.3	
Height x Depth x Width (mm)	44 × 442 × 440	44 × 442 × 440	
Veight (kg)	6.925	7.407	
Environment			
Power Required	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz	
Power Consumption (Maximum)	240W	1680W	
Power Supply	2× 350W	2× 1200W	
Redundant Power	Dual hot swappable AC	Dual hot swappable AC	
Heat Dissipation	423 BTU/h	969 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)	-40°F to 158°F (-40°C to 70°C)	
Humidity	5% to 95% RH non-condensing	5% to 95% RH non-condensing	
Air-Flow Direction	front-to-back	front-to-back	
Noise Level	54.88 dBA	54.88 dBA	
Certification and Compliance			
	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	
Warranty	. 55, 52, 1531, 1551, 551, 151, 161, 162	. 55, 52, 151, 1551, 5511, 52, 55, 10152	
Fortinet Warranty	Limited lifetime**	arranty on all models	

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







	FORTISWITCH 648F	FORTISWITCH 648F-FPOE	
lardware Specifications			
otal Network Interfaces	32× 1GE/2.5GE, 16× 1GE/2.5GE/5GE RJ45 ports and	32× 1GE/2.5GE, 16× 1GE/2.5GE/5GE RJ45 ports and	
	8× 10GE/25GE SFP+/SFP28 ports	8× 10GE/25GE SFP+/SFP28 ports	
edicated Management 10/100/1000 Ports	1	1	
J-45 Serial Console Port	1	1	
orm Factor	1 RU Rack Mount	1 RU Rack Mount	
ower over Ethernet (PoE) Ports	_	48 (802.3 af/at/bt type 4)	
oE Power Budget	_	1800 W	
Mean Time Between Failures	> 10 years	> 10 years	
ystem Specifications			
witching Capacity (Duplex)	720 Gbps	720 Gbps	
ackets Per Second (Duplex)	1071 Mpps	1071 Mpps	
MAC Address Storage	64 k	64 k	
letwork Latency	<1µs	<1µs	
LANs Supported	4 k	4 k	
ink Aggregation Group Size	56	56	
otal Link Aggregation Groups	Up to number of ports	Up to number of ports	
Packet Buffers	8 MB	8 MB	
Nemory	4GB DDR4	4GB DDR4	
lash	32 MB	32 MB	
rive	32G SSD	32G SSD	
CL	36k	36k	
panning Tree Instances	32	32	
oute Entries (IPv4)	16 k	16 k	
ost Entries (IPv4)	192 k	192 k	
fulticast route entries	12 k	12 k	
vimensions			
leight x Depth x Width (inches)	1.75 × 17.4 × 17.3	1.75 × 17.4 × 17.3	
leight x Depth x Width (mm)	44 × 442 × 440	44 × 442 × 440	
Veight (kg)	7.149	7.834	
invironment			
ower Required	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz	
ower Consumption (Maximum)	300W	2100W	
ower Supply	2× 350W	2× 1200W	
Redundant Power	Dual hot swappable AC	Dual hot swappable AC	
leat Dissipation	590 BTU/h	1272 BTU/h	
Operating Temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	
torage Temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	
lumidity	5% to 95% RH non-condensing	5% to 95% RH non-condensing	
ir-Flow Direction	front-to-back	front-to-back	
loise Level	57.97 dBA	57.97 dBA	
Certification and Compliance			
	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	
Varranty	, ,		
ortinet Warranty	Limited lifetime** wa	rranty on all models	

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







# **Ordering Information**

Product	SKU	Description
FortiSwitch Models		
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, $8\times 2.5$ RJ45 PoE 802.3af/at/UPOE (60W), $2\times 5$ GE RJ45 and $4\times 10$ GE SFP+, with maximum 420 W PoE limit.
FortiSwitch 424E	FS-424E	Layer 2/3 FortiGate switch controller compatible switch with 24 GE RJ45, $4 \times 10$ GE SFP + ports.
FortiSwitch 424E-POE	FS-424E-POE	Layer 2/3 FortiGate switch controller compatible switch with 24 GE RJ45, $4\times$ 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, $4 \times 10$ 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, $4 \times 10$ GE SFP + ports, 48 port PoE+ with maximum 772 W limit.
FortiSwitch 524D	FS-524D	Layer 2/3 FortiGate switch controller compatible switch with 24 GE RJ45, 4× 10 GE SFP+ and 2× 40 GE QSFP+ ports.
FortiSwitch 524D-FPOE	FS-524D-FPOE	Layer 2/3 FortiGate switch controller compatible PoE+ switch with 24 GE RJ45, $4 \times 10$ GE SFP+, $2 \times 40$ 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 QSFP+ 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.
FortiSwitch 624F	FS-624F	Layer 2/3 FortiGate switch controller compatible switch with 24× 5G RJ45 ports, 4× 25G SFP28 and MACSec
FortiSwitch 624F-FPOE	FS-624F-FPOE	Layer 2/3 FortiGate switch controller compatible PoE 802.3bt switch with 24× 5G RJ45 ports, $4\times$ 25G SFP28 and MACSec. Max 1400W POE output limit
FortiSwitch 648F	FS-648F	Layer 2/3 FortiGate switch controller compatible switch with 32× 2.5G RJ45 + 16× 5G RJ45 ports, 8× 25G SFP28 and MACSec
FortiSwitch 648F-FPOE	FS-648F-FPOE	Layer 2/3 FortiGate switch controller compatible PoE 802.3bt switch with 32× 2.5G RJ45 + 16× 5G RJ45 ports, 8× 25G SFP28 and MACSec. Max 1800W POE output limit



## **Ordering Information**

Dundrick	SKU	Description
Product	SKU	Description
Licenses		
FortiLAN Cloud Management License*	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	$For tiSwitch 500-900 \ Series For tiLAN \ Cloud \ Management \ SKU \ Including \ For ticare \ 24\times7. \ (Note, For tiCare \ only applicable \ when \ used \ with \ For tiLAN \ Cloud)$
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-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.
	FS-SW-LIC-600	SW License for FS-600 Series Switches to activate Advanced Features.
Accessories		
Redundant AC Power Supply	FS-PSU-150	AC power supply for FS-548D and FS-524D.
	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.

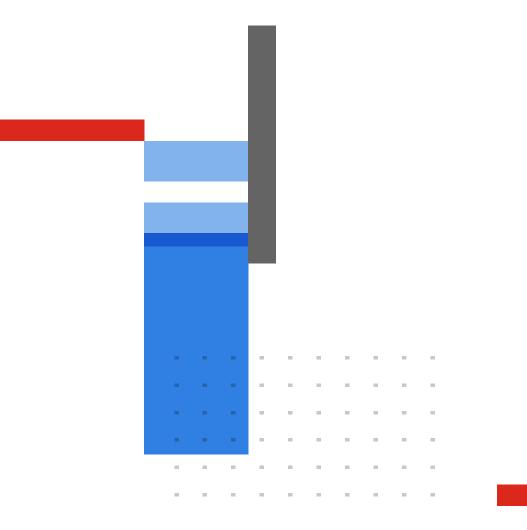
Note that all PoE FortiSwitches are Alternative-A.

#### **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.





www.fortinet.com

Copyright © 2024 Fortinet, Inc. All rights reserved. Fortinet\*, FortiGate\*, FortiGate\*, FortiGate\*, and FortiGate\*, and certain other marks are registered trademarks of Fortinet, Inc., and other Fortinet names herein may also be registered and/or common law trademarks of Fortinet. All other product or company names may be trademarks of their respective owners. Performance and other metrics contained herein were attained in internal lab tests under ideal conditions, and actual performance and other results may vary. Network variables, different network environments and other conditions may affect performance results. Nothing herein represents any binding commitment by Fortinet, and fortinet disclaims all warranties, whether express or implied, except to the extent Fortinet enters a binding written contract, signed by Fortinetis Chief Legal Officer, with a purchaser that expressly warrants that the identified product will perform according to certain expressly-identified performance metrics expressly identified in such binding written contract shall be binding on Fortinet. For absolute clarity, any such warranty will be limited to performance in the same ideal conditions as in Fortinet's internal lab tests. Fortinet disclaims in full any covenants, representations, and guarantees pursuant hereto, whether express or implied. Fortinet reserves the right to change, modify, transfer, or otherwise revise this publication without notice, and the most current version of the publication shall be applicable.