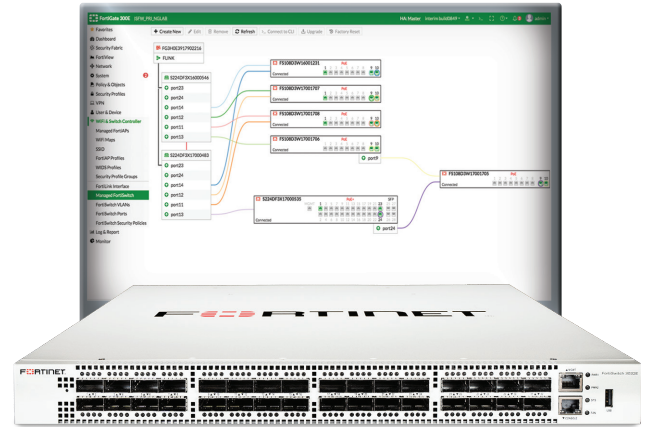


# FortiSwitch™ Data Center Series

**FortiSwitch Data Center switches deliver a Secure, Simple, Scalable Ethernet solution with outstanding throughput, resiliency and scalability.** Virtualization and cloud computing have created dense high-bandwidth Ethernet networking requirements. FortiSwitch Data Center switches meet these challenges by providing a high performance 10 GE, 40 GE or 100 GE capable switching platform, with a low Total Cost of Ownership. Ideal for Top of Rack server or firewall aggregation applications, as well as SD-Branch network core deployments, these switches are purpose-built to meet the needs of today's bandwidth intensive environments.



## Security Fabric Integration through FortiLink

The FortiSwitch Data Center Series supports FortiGate management through FortiLink, extending the Fortinet Security Fabric to the Ethernet port level. This allows the same policies configured and applied to FortiGate interfaces to be applied to the FortiSwitch Ethernet ports, reducing complexity and decreases management cost. With network security and access layer functions enabled and managed through a single console, centralized policy management, including role-based access and control, are easy to implement and manage. Users or devices can be authenticated against the same database and have the same security policy applied regardless of how or where they connect to the network.

## Product Offerings

FortiSwitch 1024D, 1048D, 1048E, 3032D and 3032E

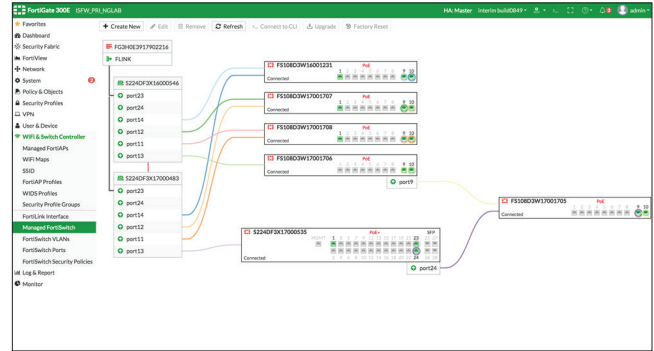
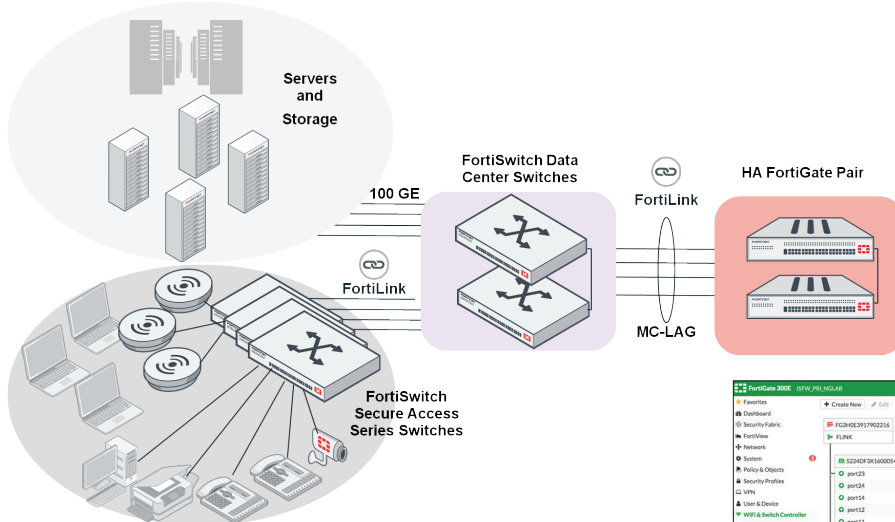
## Highlights

- High throughput Ethernet switch suitable for Top of Rack or large SD-Branch network deployments
- 1 GE, 10 GE, or 100 GE access ports, in a compact 1 RU form factor with 40 or 100 GE capable uplinks
- FortiGate management through FortiLink, enabling the Security Fabric
- Stackable up to 300 switches per FortiGate depending on model
- Dual hot swappable power supplies for redundancy
- Supports Wire-speed switching with both Store and Forward and Cut Through forwarding modes

# Deployment

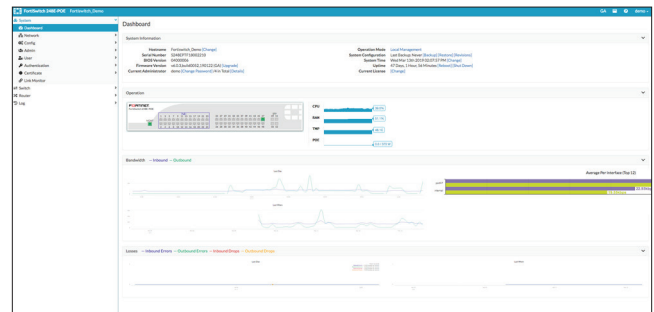
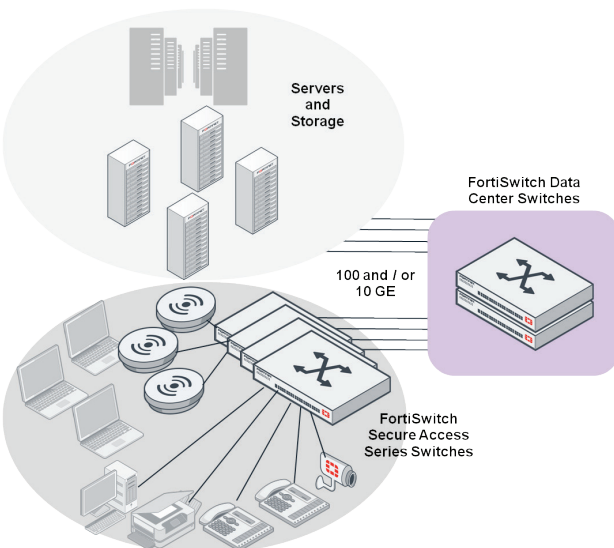
## FortiLink Mode

FortiLink is an innovative proprietary management protocol that allows our FortiGate Security Appliance to seamlessly manage any FortiSwitch. FortiLink enables the FortiSwitch to become a logical extension of the FortiGate integrating it directly into the Fortinet Security Fabric. This management option reduces complexity and decreases management cost as network security and access layer functions are enabled and managed through a single console.

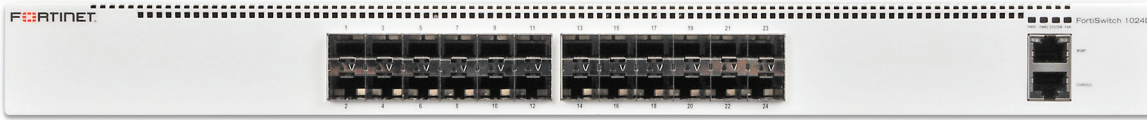


## Standalone Mode

The FortiSwitch has a native GUI and CLI interface. All configuration and switch administration can be accomplished through either of these interfaces. Available ReSTful API's offer additional configuration and management options.



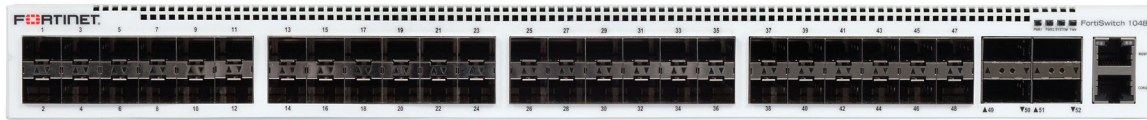
# Hardware



FortiSwitch 1024D – front



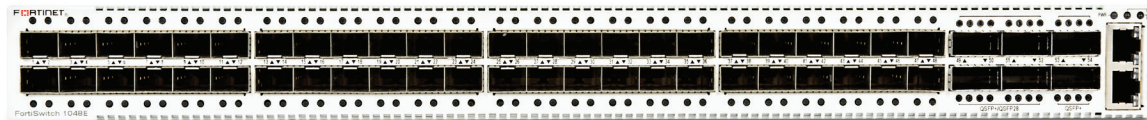
FortiSwitch 1024D – back



FortiSwitch 1048D – front



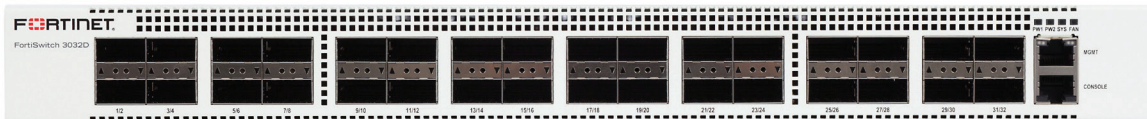
FortiSwitch 1048D – back



FortiSwitch 1048E – front



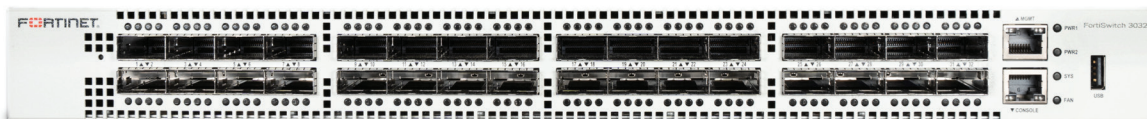
FortiSwitch 1048E – back



FortiSwitch 3032D – front



FortiSwitch 3032D – back



FortiSwitch 3032E – front



FortiSwitch 3032E – back

# Features

FORTISWITCH D-SERIES FORTILINK MODE (WITH FORTIGATE)					
<b>Management and Configuration</b>					
Auto Discovery of Multiple Switches	Yes				
Number of Managed Switches per FortiGate	8 to 300 Depending on FortiGate Model (Please refer to admin-guide)				
FortiLink Stacking (Auto Inter-Switch Links)	Yes				
Software Upgrade of Switches	Yes				
Centralized VLAN Configuration	Yes				
Switch POE Control	Yes				
Link Aggregation Configuration	Yes				
Spanning Tree	Yes				
LLDP/MED	Yes				
IGMP Snooping	Yes				
L3 Routing and Services	Yes (FortiGate)				
Policy-Based Routing	Yes (FortiGate)				
Virtual Domain	Yes (FortiGate)				
<b>Security and Visibility</b>					
802.1x Authentication (Port-based, MAC-Based, MAB)	Yes				
Syslog Collection	Yes				
DHCP Snooping	Yes				
Device Detection	Yes				
MAC Black/White Listing	Yes (FortiGate)				
Policy Control of Users and Devices	Yes (FortiGate)				
<b>UTM Features</b>					
Firewall	Yes (FortiGate)				
IPC, AV, Application Control, Botnet	Yes (FortiGate)				
<b>High Availability</b>					
Support FortiLink FortiGate in HA Cluster	Yes				
LAG support for FortiLink Connection	Yes				
Active-Active Split LAG from FortiGate to FortiSwitches for Advanced Redundancy	Yes				
	FORTISWITCH 1024D	FORTISWITCH 1048D	FORTISWITCH 1048E	FORTISWITCH 3032D	FORTISWITCH 3032E
<b>Layer 2</b>					
Jumbo Frames	Yes	Yes	Yes	Yes	Yes
Auto-negotiation for port speed and duplex	Yes	Yes	Yes	Yes	Yes
IEEE 802.1D MAC Bridging/STP	Yes	Yes	Yes	Yes	Yes
IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)	Yes	Yes	Yes	Yes	Yes
IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)	Yes	Yes	Yes	Yes	Yes
STP Root Guard	Yes	Yes	Yes	Yes	Yes
Edge Port / Port Fast	Yes	Yes	Yes	Yes	Yes
IEEE 802.1Q VLAN Tagging	Yes	Yes	Yes	Yes	Yes
Private VLAN	Yes	Yes	Yes	Yes	Yes
IEEE 802.3ad Link Aggregation with LACP	Yes	Yes	Yes	Yes	Yes
Unicast/Multicast traffic balance over trunking port (dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac)	Yes	Yes	Yes	Yes	Yes
IEEE 802.1AX Link Aggregation	Yes	Yes	Yes	Yes	Yes
Spanning Tree Instances (MSTP/CST)	15/1	15/1	15/1	15/1	15/1
IEEE 802.3x Flow Control and Back-pressure	Yes	Yes	Yes	Yes	Yes
IEEE 802.1Qbb Priority-based Flow Control	Yes	Yes	Yes	Yes	Yes
IEEE 802.3u 100Base-TX	Yes	Yes	No	No	Yes
IEEE 802.3z 1000Base-SX/LX	Yes	Yes	Yes	Yes	Yes
IEEE 802.3ab 1000Base-T	Yes	Yes	Yes	No	Yes
IEEE 802.3ae 10 Gigabit Ethernet	Yes	Yes	Yes	Yes	Yes
IEEE 802.3 CSMA/CD Access Method and Physical Layer Specifications	Yes	Yes	Yes	Yes	Yes
Storm Control	Yes	Yes	Yes	Yes	Yes
MAC, IP, Ethertype-based VLANs	Yes	Yes	Yes	Yes	Yes
Virtual-Wire	Yes	Yes	Yes	Yes	Yes
Split Port	Yes	No	No*	Yes	No*

\* Not supported in LPA NPI SW release.

# Features

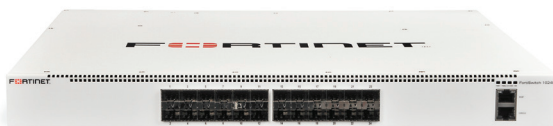
	FORTISWITCH 1024D	FORTISWITCH 1048D	FORTISWITCH 1048E	FORTISWITCH 3032D	FORTISWITCH 3032E
<b>Layer 3</b>					
Static Routing (Hardware-based)	Yes	Yes	Yes	Yes	Yes
Routing Entries	16K	16K	16K	16K	8K
L3 Host Entries	16K	16K	32K	16K	32K
Dynamic Routing Protocols*	OSPFv2, RIPv2, VRRP, BGP, ISIS	OSPFv2, RIPv2, VRRP, BGP, ISIS	OSPFv2, RIPv2, VRRP, BGP, ISIS	OSPFv2, RIPv2, VRRP, BGP, ISIS	OSPFv2, RIPv2, VRRP, BGP, ISIS
Multicast Protocols	PIM-SSM	PIM-SSM	PIM-SSM	PIM-SSM	PIM-SSM
ECMP	Yes	Yes	Yes	Yes	Yes
Bidirectional Forwarding Detection (BFD)	Yes	Yes	Yes	Yes	Yes
DHCP Relay	Yes	Yes	Yes	Yes	Yes
IGMP Snooping	Yes	Yes	Yes	Yes	Yes
<b>Security and Visibility</b>					
Port Mirroring	Yes	Yes	Yes	Yes	Yes
Admin Authentication Via RFC 2865 RADIUS	Yes	Yes	Yes	Yes	Yes
IEEE 802.1x authentication Port-based	Yes	Yes	Yes	Yes	Yes
IEEE 802.1x Authentication MAC-based	Yes	Yes	Yes	Yes	Yes
IEEE 802.1x Guest and Fallback VLAN	Yes	Yes	Yes	Yes	Yes
IEEE 802.1x MAC Access Bypass (MAB)	Yes	Yes	Yes	Yes	Yes
IEEE 802.1x Dynamic VLAN Assignment	Yes	Yes	Yes	Yes	Yes
MAC-IP Binding	Yes	Yes	Yes	Yes	Yes
sFlow	Yes	Yes	Yes	Yes	Yes
ACL	Yes, 2K entries	Yes, 2K entries	Yes, 8K entries	Yes, 2K entries	Yes, 6K entries
IEEE 802.1ab Link Layer Discovery Protocol (LLDP)	Yes	Yes	Yes	Yes	Yes
IEEE 802.1ab LLDP-MED	Yes	Yes	Yes	Yes	Yes
DHCP-Snooping	Yes	Yes	Yes	Yes	Yes
Dynamic ARP Inspection	Yes	Yes	Yes	Yes	Yes
Sticky MAC	Yes	Yes	Yes	Yes	Yes
<b>High Availability</b>					
Multi-Chassis Link Aggregation (MCLAG)	Yes	Yes	Yes	Yes	Yes
<b>Quality of Service</b>					
IEEE 802.1p Based Priority Queuing	Yes	Yes	Yes	Yes	Yes
IP TOS/DSCP Based Priority Queuing	Yes	Yes	Yes	Yes	Yes
<b>Management</b>					
IPv4 and IPv6 Management	Yes	Yes	Yes	Yes	Yes
Telnet / SSH	Yes	Yes	Yes	Yes	Yes
HTTP / HTTPS	Yes	Yes	Yes	Yes	Yes
SNMP v1/v2c/v3	Yes	Yes	Yes	Yes	Yes
SNTP	Yes	Yes	Yes	Yes	Yes
Standard CLI and web GUI interface	Yes	Yes	Yes	Yes	Yes
Software download/upload: TFTP/FTP/GUI	Yes	Yes	Yes	Yes	Yes
Managed from FortiGate	Yes	Yes	Yes	Yes	Yes
Support for HTTP REST APIs for Configuration and Monitoring	Yes	Yes	Yes	Yes	Yes
<b>Additional RFC and MIB Support</b>					
RFC 2571 Architecture for Describing SNMP Framework	Yes	Yes	Yes	Yes	Yes
DHCP Client	Yes	Yes	Yes	Yes	Yes
RFC 854 Telnet Server	Yes	Yes	Yes	Yes	Yes
RFC 2865 RADIUS	Yes	Yes	Yes	Yes	Yes
RFC 1643 Ethernet-like Interface MIB	Yes	Yes	Yes	Yes	Yes
RFC 1213 MIB-II	Yes	Yes	Yes	Yes	Yes
RFC 1354 IP Forwarding Table MIB	Yes	Yes	Yes	Yes	Yes
RFC 2572 SNMP Message Processing and Dispatching	Yes	Yes	Yes	Yes	Yes
RFC 1573 SNMP MIB II	Yes	Yes	Yes	Yes	Yes
RFC 1157 SNMPv1/v2c	Yes	Yes	Yes	Yes	Yes
RFC 2030 SNTP	Yes	Yes	Yes	Yes	Yes

\* Requires 'Advanced Features' License

# Specifications

	FORTISWITCH 1024D	FORTISWITCH 1048D	FORTISWITCH 1048E
<b>Hardware Specifications</b>			
Total Network Interfaces (Proposed)	24x GE/10 GE SFP+ ports	48x GE/10 GE SFP+ ports, 4x 40 GE QSFP+ ports	48x GE/10 GE SFP+ ports and 6x 40 GE QSFP+ ports or 4x 100 GE QSFP28 ports
10/100/1000 Service Ports	1	1	1
RJ-45 Serial Console Port	1	1	1
Form Factor	1 RU Rack-Mount Appliance	1 RU Rack-Mount Appliance	1 RU Rack Mount
<b>System Specifications</b>			
Switching Capacity (Duplex)	480 Gbps	1280 Gbps	1760 Gbps
Packets Per Second (Duplex)	714 Mpps	1920 Mpps	2620 Mpps
Mac Address Storage	128 K	128 K	144 K
Network Latency	< 800ns	< 800ns	< 800ns
VLANs Supported	4 K	4 K	4 K
IPv4/IPv6 Dual Stack Routing Ready Hardware	Yes	Yes	Yes
Link Aggregation Group Size	Up to 24	Up to 48	Up to 48
Total Link Aggregation Groups	Up to number of ports	Up to number of ports	Up to number of ports
Queues/Port	8	8	8
Packet Buffers	9 MB	9 MB	12 MB
DRAM	2 GB	2 GB	8 GB
NAND	128 MB	128 MB	128 GB
<b>Dimensions</b>			
Height x Depth x Width (inches)	1.71 x 18.11 x 17.26	1.71 x 18.11 x 17.26	1.69 x 18.11 x 17.26
Height x Depth x Width (mm)	43.5 x 460 x 438.5	43.5 x 460 x 438.5	43 x 460 x 438.5
Weight	17.62 lbs (8 kg)	19.40 lbs (8.8 kg)	18.96 lbs (8.6 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 Consumption (Maximum)	up to 140 W	up to 215.3 W	up to 181.7 W
Power Supply	Dual hot swappable AC	Dual hot swappable AC	Dual hot swappable AC
Heat Dissipation	369.87 BTU/h	551.06 BTU/h	620.4 BTU/h
Operating Temperature	32–104°F (0–40°C)	32–104°F (0–40°C)	32–113°F (0–45°C)
Storage Temperature	-13–158°F (-25–70°C)	-13–158°F (-25–70°C)	-4–158°F (-20–70°C)
Humidity	10–90% RH non-condensing	10–90% RH non-condensing	10–90% RH non-condensing
Mean Time Between Failures	> 10 years	> 10 years	> 10 years
<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 1024D



FortiSwitch 1048D



FortiSwitch 1048E

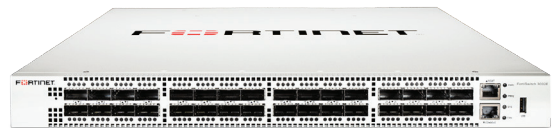
# Specifications

	FORTISWITCH 3032D	FORTISWITCH 3032E
<b>Hardware Specifications</b>		
Total Network Interfaces (Proposed)	32x 40 GE QSFP+ ports	32x 40 GE / 100 GE QSFP+ / QSFP28 ports
10/100/1000 Service Ports	1	1
RJ-45 Serial Console Port	1	1
Form Factor	1 RU Rack-Mount Appliance	1 RU Rack Mount
<b>System Specifications</b>		
Switching Capacity (Duplex)	2560 Gbps	6400 Gbps
Packets Per Second (Duplex)	3840 Mpps	9520 Mpps
Mac Address Storage	288 K	40 K
Network Latency	< 800ns	< 1 us
VLANs Supported	4 K	4 K
IPv4/IPv6 Dual Stack Routing Ready Hardware	Yes	Yes
Link Aggregation Group Size	Up to 24	Up to 48
Total Link Aggregation Groups	Up to number of ports	48
Queues/Port	8	8
Packet Buffers	12 MB	16 MB
DRAM	2 GB	8 GB
NAND	128 MB	128 GB
<b>Dimensions</b>		
Height x Depth x Width (inches)	1.71 x 18.11 x 17.26	1.69 x 18.11 x 17.26
Height x Depth x Width (mm)	43.5 x 460 x 438.5	43 x 460 x 438.5
Weight	19.40 lbs (8.8 kg)	19.34 lbs (8.77 kg)
<b>Environment</b>		
Power Required	100–240V AC, 50–60 Hz	100–240V AC, 50–60 Hz
Power Consumption (Maximum)	up to 387 W	up to 463.8 W
Power Supply	Dual hot swappable AC	Dual hot swappable AC
Heat Dissipation	656.83 BTU/h	1582.5 BTU/h
Operating Temperature	32–104°F (0–40°C)	32–104°F (0–40°C)
Storage Temperature	-13–158°F (-25–70°C)	-4–158°F (-20–70°C)
Humidity	10–90% RH non-condensing	10–90% RH non-condensing
Mean Time Between Failures	> 10 years	> 10 years
<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 3032D



FortiSwitch 3032E

## Order Information

Product	SKU	Description
FortiSwitch 1024D	FS-1024D	Layer 2/3 FortiGate switch controller compatible switch with 24x GE/10 GE SFP/SFP+ slots. Dual AC power supplies.
FortiSwitch 1048D	FS-1048D	Layer 2/3 FortiGate switch controller compatible switch with 48x GE/10 GE SFP/SFP+ slots and 4x 40 GE QSFP+. Dual AC power supplies.
FortiSwitch 1048E	FS-1048E	Layer 2/3 FortiGate switch controller compatible switch with 48x GE/10 GE SFP/SFP+ slots and 6x 40 GE QSFP+ or 4x 100 GE QSFP28. Dual AC power supplies.
FortiSwitch 3032D	FS-3032D	Layer 2/3 FortiGate switch controller compatible switch with 32x 40 GE QSFP+ slots. Dual AC power supplies.
FortiSwitch-3032E	FS-3032E	Layer 2/3 FortiGate switch controller compatible switch with 32x 100 GE QSFP28, Dual AC power supplies.
FortiSwitch Cloud Management License*	FC-10-WMSC1-190-02-DD	FortiSwitch Cloud Management License subscription 1 Year Contract.
FortiGate Cloud Management*	FC-10-0030E-131-02-DD	FortiGate Cloud Management, Analysis and 1 Year Log Retention.
<b>Accessories</b>		
FortiSwitch Advanced Features License	FS-SW-LIC-1000	SW License for FS-1000 Series Switches to activate Advanced Features.
	FS-SW-LIC-3000	SW License for FS-3000 Series Switches to activate Advanced Features.

\* 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](#).



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