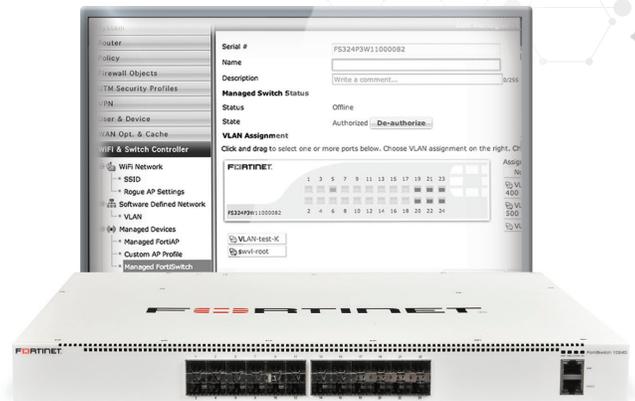


FortiSwitch™ Data Center Series

FortiSwitch Data Center switches deliver a **Secure, Simple, Scalable Ethernet solution with outstanding throughput, resiliency and scalability for organizations with high performance network requirements.** They are ideal for Top of Rack server or firewall aggregation applications, as well as enterprise network core or edge deployments, where high performance 10, 40 or 100 GE is required. Purpose-built to meet the needs of today's bandwidth intensive data centers and enterprise networks, FortiSwitch Data Center switches deliver high-performance with a low Total Cost of Ownership.



Security Fabric Integration

Reduces complexity and decreases management cost with network security functions managed through a single console via FortiGate.

This integration allows all users to be authenticated against the same user database, regardless of whether they connect to the wired or wireless network, including temporary guest users.

In addition, same security policy can apply to a user or device regardless of how or where they connect to the network.



Designed for Data Centers

Future-proofed 10 GE to satisfy the bandwidth requirements of intensive data center and network core applications and maximizes network availability with dual power supplies.

Product Offerings

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



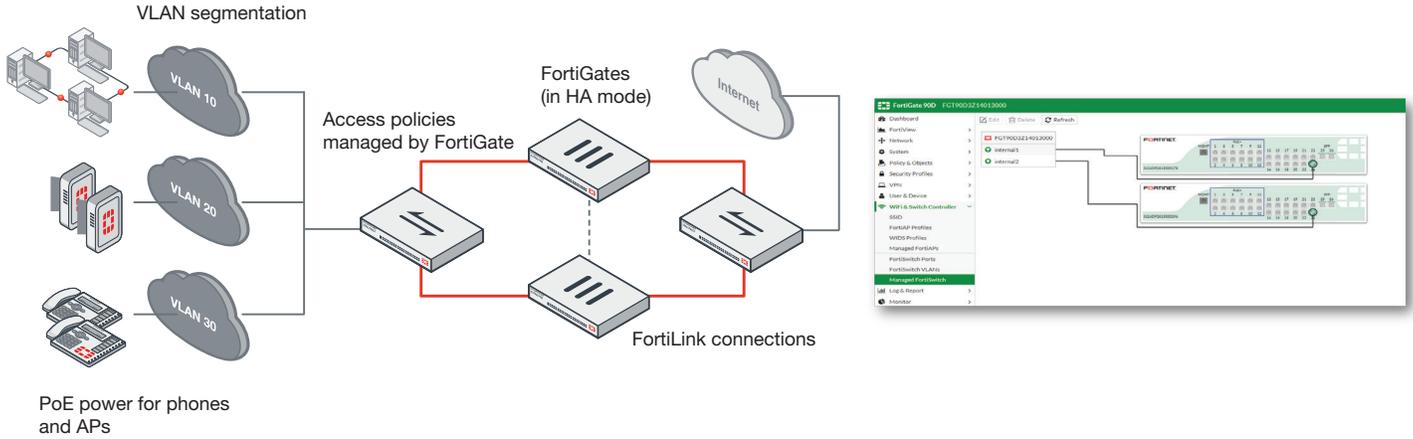
Highlights

- High capacity switch suitable for Top of Rack or enterprise network deployments
- Stackable up to 256 switches per FortiGate depending on model
- Maximum availability through dual hot swappable power supplies
- Simply management via a web-based or command line interface
- Switch security features protect vulnerable infrastructure without adding latency
- 1 GE or 10 GE access ports, in a compact 1 RU form factor
- 40 and 100 GE uplink capable

DEPLOYMENT

FortiLink Mode

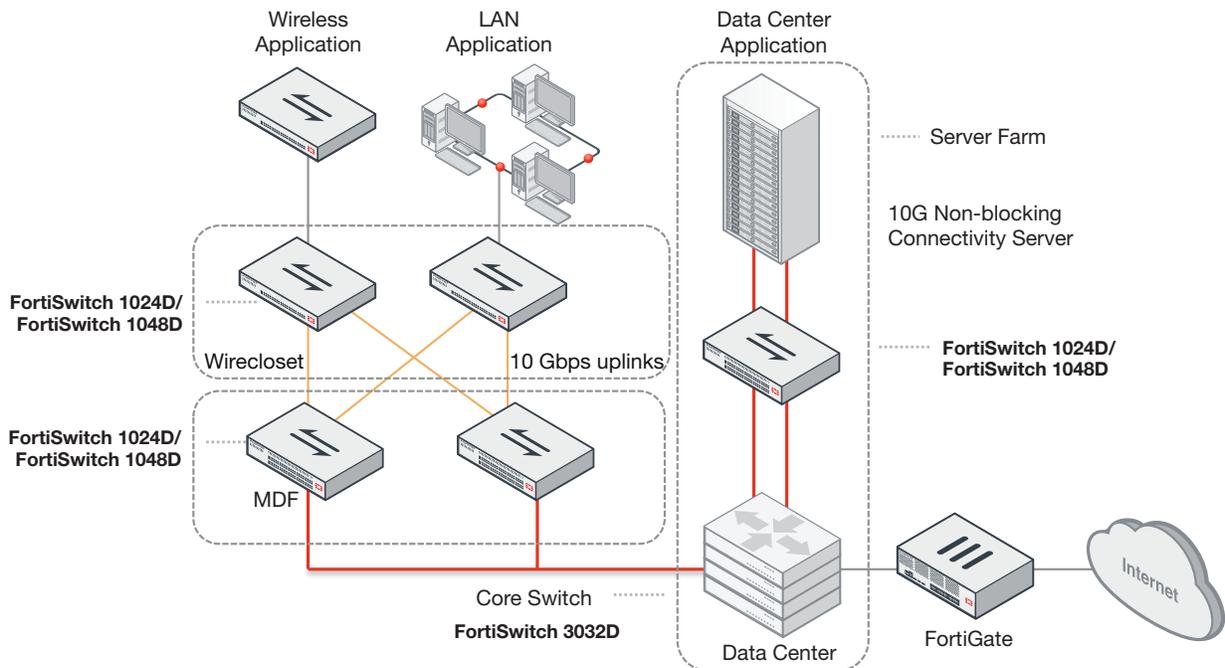
The FortiSwitch Secure Access Switch series integrates directly into the FortiGate* Connected UTM, with switch administration and access port security managed from the familiar FortiGate interface. Regardless of how users and devices connect to the network, you have complete visibility and control over your network security and access through this single pane of glass, perfectly suited to threatconscious organizations of any size.



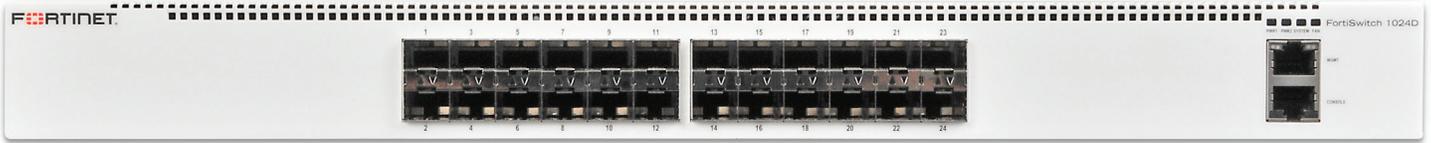
* Selected models only

Standalone Mode

Virtualization and cloud computing have created dense high-bandwidth Ethernet networking requirements in the data center, pushing the limits of existing data center switching. FortiSwitch Data Center switches meet these challenges by providing a high performance 10 or 40 GE capable switching platform, with a low Total Cost of Ownership. Ideal for Top of Rack server or firewall aggregation applications, as well as enterprise network core or distribution deployments, these switches are purpose-built to meet the needs of today's bandwidth intensive environments.



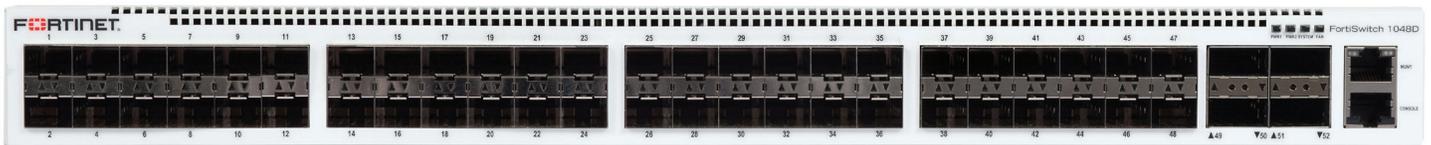
HARDWARE



FortiSwitch 1024D — front



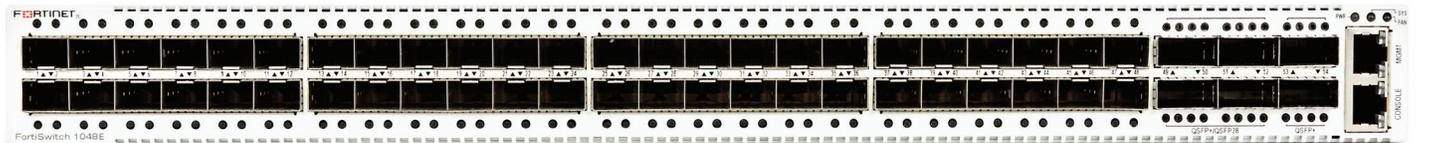
FortiSwitch 1024D — back



FortiSwitch 1048D — front



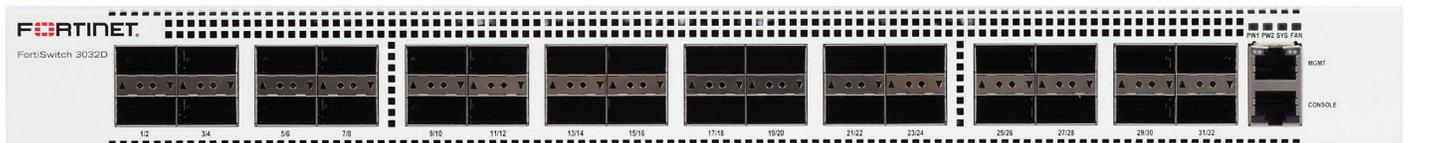
FortiSwitch 1048D — back



FortiSwitch 1048E — front



FortiSwitch 1048E — back



FortiSwitch 3032D — front



FortiSwitch 3032D — back

FEATURES

FORTISWITCH D-SERIES FORTILINK MODE (WITH FORTIGATE)				
Management and Configuration				
Auto Discovery of Multiple Switches	Yes			
Number of Managed Switches per FortiGate	8 to 256 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)			
Security and Visibility				
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)			
UTM Features				
Firewall	Yes (FortiGate)			
IPC, AV, Application Control, Botnet	Yes (FortiGate)			
High Availability				
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
Layer 2				
Jumbo Frames	Yes	Yes	Yes	Yes
Auto-negotiation for port speed and duplex	Yes	Yes	Yes	Yes
IEEE 802.1D MAC Bridging/STP	Yes	Yes	Yes	Yes
IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)	Yes	Yes	Yes	Yes
IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)	Yes	Yes	Yes	Yes
STP Root Guard	Yes	Yes	Yes	Yes
Edge Port / Port Fast	Yes	Yes	Yes	Yes
IEEE 802.1Q VLAN Tagging	Yes	Yes	Yes	Yes
Private VLAN	Yes	Yes	Yes	Yes
IEEE 802.3ad Link Aggregation with LACP	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
IEEE 802.1AX Link Aggregation	Yes	Yes	Yes	Yes
Spanning Tree Instances (MSTP/CST)	15/1	15/1	15/1	15/1
IEEE 802.3x Flow Control and Back-pressure	Yes	Yes	Yes	Yes
IEEE 802.1Qbb Priority-based Flow Control	Yes	Yes	Yes	Yes
IEEE 802.3u 100Base-TX	No	No	No	No
IEEE 802.3z 1000Base-SX/LX	Yes	Yes	Yes	Yes
IEEE 802.3ab 1000Base-T	Yes	Yes	Yes	No
IEEE 802.3ae 10 Gigabit Ethernet	Yes	Yes	Yes	Yes
IEEE 802.3 CSMA/CD Access Method and Physical Layer Specifications	Yes	Yes	Yes	Yes
Storm Control	Yes	Yes	Yes	Yes
MAC, IP, Ethertype-based VLANs	Yes	Yes	Yes	Yes
Virtual-Wire	Yes	Yes	Yes	Yes
Split Port (QSFP+ breakout to 4xSFP+)	Yes	No	No*	Yes

* Not supported in LPA NPI SW release.

FEATURES

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

* Requires 'Advanced Features' License

SPECIFICATIONS

	FORTISWITCH 1024D	FORTISWITCH 1048D	FORTISWITCH 1048E	FORTISWITCH 3032D
Hardware Specifications				
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	32x 40 GE QSFP+ ports
10/100/1000 Service Ports	1	1	1	1
RJ-45 Serial Console Port	1	1	1	1
Form Factor	1 RU Rack-Mount Appliance	1 RU Rack-Mount Appliance	1 RU Rack Mount	1 RU Rack-Mount Appliance
System Specifications				
Switch Capacity	480 Gbps	1280 Gbps	1760 Gbps	2560 Gbps
Packets Per Second	357 Mpps	952 Mpps	1310 Mpps	1905 Mpps
Mac Address Storage	128 K	128 K	144 K	288 K
Network Latency	< 800ns	< 800ns	< 800ns	< 800ns
VLANs Supported	4 K	4 K	4 K	4 K
IPv4/IPv6 Dual Stack Routing Ready Hardware	Yes	Yes	Yes	Yes
Link Aggregation Group Size	Up to 24	Up to 48	Up to 48	Up to 24
Total Link Aggregation Groups	Up to number of ports	Up to number of ports	Up to number of ports	Up to number of ports
Queues/Port	8	8	8	8
Packet Buffers	9 MB	9 MB	12 MB	12 MB
DRAM	2 GB	2 GB	8 GB	2 GB
NAND	128 MB	128 MB	128 GB	128 MB
Dimensions				
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	1.71 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	43.5 x 460 x 438.5
Weight	17.62 lbs (8 kg)	19.40 lbs (8.8 kg)	18.96 lbs (8.6 kg)	19.40 lbs (8.8 kg)
Environment				
Power Required	100–240V AC, 50–60 Hz	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	up to 387 W
Power Supply	Dual hot swappable AC	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	656.83 BTU/h
Operating Temperature	32–104°F (0–40°C)	32–104°F (0–40°C)	32–113°F (0–45°C)	32–104°F (0–40°C)
Storage Temperature	-13–158°F (-25–70°C)	-13–158°F (-25–70°C)	-4–158°F (-20–70°C)	-13–158°F (-25–70°C)
Humidity	10–90% RH non-condensing	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	> 10 years
Certification and Compliance				
	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2			
Warranty				
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



FortiSwitch 3032D

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.
Accessories		
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.
1 GE SFP LX Transceiver Module	FG-TRAN-LX	1 GE SFP LX transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP RJ45 Transceiver Module	FG-TRAN-GC	1 GE SFP RJ45 transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP SX Transceiver Module	FG-TRAN-SX	1 GE SFP SX transceiver module for all systems with SFP and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, Short Range	FG-TRAN-SFP+SR	10 GE SFP+ transceiver module, short range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, Long Range	FG-TRAN-SFP+LR	10 GE SFP+ transceiver module, long range for all systems with SFP+ and SFP/SFP+ slots.
40 GE QSFP+ Transceivers, Short Range	FG-TRAN-QSFP+SR	40 GE QSFP+ transceivers, short range for all systems with QSFP+ slots.
40 GE QSFP+ Transceivers, Long Range	FG-TRAN-QSFP+LR	40 GE QSFP+ transceivers, long range for all systems with QSFP+ slots.
10 GE SFP+ Active Direct Attach Cable, 10m/32.8 ft	SP-CABLE-ADASFP+	10 GE SFP+ active direct attach cable, 10m/32.8 ft for all systems with SFP+ and SFP/SFP+ slots.
1 GE SFP RJ45 Transceiver Module	FS-TRAN-GC	1 GE SFP RJ45 transceiver module for systems with SFP/SFP+ slots.
10 GE Copper SFP+ Transceiver Module, up to 30m	FS-TRAN-SFP+GC	10 GE copper SFP+ RJ45 transceiver. Up to 30m.
10 GE SFP+ Transceiver Module, Short Range	FS-TRAN-SFP+SR	10 GE SFP+ transceiver module, short range for FortiSwitch with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceivers, Extended Range	FS-TRAN-SFP+EX	10 GE SFP+ transceiver module, extended range for Fortinet systems with SFP+ slots.
10 GE SFP+ Transceivers, Long Range Multimode	FS-TRAN-SFP+LRM	10 GE SFP+ transceiver module, long range multimode for Fortinet systems with SFP+ slots.
40 GE QSFP+ to 4x 10 GE SFP+ Optical Breakout, 1m	FG-TRAN-QSFP-4XSFP	40 GE QSFP+ parallel breakout MPO to 4x LC connectors, 1m reach, transceivers not included.
40 GE QSFP+ to 4x 10 GE SFP+ Optical Breakout, 5m	FG-TRAN-QSFP-4SFP-5	40 GE QSFP+ parallel breakout MPO to 4x LC connectors, 5m reach, transceivers not included.
10 GE SFP+ Passive Direct Attach Cable	SP-CABLE-FS-SFP+1	10 GE SFP+ passive direct attach cable, 1m for systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Passive Direct Attach Cable	SP-CABLE-FS-SFP+3	10 GE SFP+ passive direct attach cable, 3m for systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Passive Direct Attach Cable	SP-CABLE-FS-SFP+5	10 GE SFP+ passive direct attach cable, 5m for systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Passive Direct Attach Cable	SP-CABLE-FS-SFP+7	10 GE SFP+ passive direct attach cable, 7m for systems with SFP+ and SFP/SFP+ slots.
40 GE QSFP+ Passive Direct Attach Cable	SP-CABLE-FS-QSFP+1	40 GE QSFP+ passive direct attach cable, 1m for systems with QSFP+ slots.
40 GE QSFP+ Passive Direct Attach Cable	SP-CABLE-FS-QSFP+3	40 GE QSFP+ passive direct attach cable, 3m for systems with QSFP+ slots.
40 GE QSFP+ Passive Direct Attach Cable	SP-CABLE-FS-QSFP+5	40 GE QSFP+ passive direct attach cable, 5m for systems with QSFP+ slots.
100 GE QSFP28 Transceivers, Short Range	FG-TRAN-QSFP28-SR4	100 GE QSFP28 transceivers, 4 channel parallel fiber, short range for all systems with QSFP28 slots.
100 GE QSFP28 Transceivers, Long Range	FG-TRAN-QSFP28-LR4	100 GE QSFP28 transceivers, 4 channel parallel fiber, long range for all systems with QSFP28 slots.

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



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