ZyWALL VPN50/100/300/1000
VPN Firewall

Advanced VPN Firewall with an option to run SD-WAN

ZyWALL VPN Series Firewall, when as a standalone gateway, features many robust VPN functionalities to empower your business network with better connectivity and higher security, so your daily operations including all information flow between HQ and branches become faster, easier and safer to achieve maximum business performance.

Except serving as a standalone gateway, ZyWALL VPN Series can also be cloud-managed by Nebula SD-WAN Orchestrator, a cost-effective solution that optimizes WAN service quality, featuring zero-touch deployment, centralized monitoring, great agility, and higher throughput with lowered cost.

Benefits

Your secure connection to the world

The ZyWALL VPN Series integrated innovations connects your cross-group network while providing you the world's best central management and security features.

Diverse VPN solution (IPSec/SSL/L2TP over IPSec) for better security

Nebula SD-WAN cloud management makes it easy to manage multiple firewalls

Content Filtering and Geo Enforcer protect your network from web threats

AP Controller technology allows you to manage up to 1,032 APs

Device Insight provides better visibility and control

VPN Series
Your Secured Connection to the World

Datasheet ZyWALL VPN50/100/300/1000

nebula

The secure and fast VPN connection

The ZyWALL VPN Series is equipped with comprehensive VPN connection types including SSL & IPSec VPN, offering businesses secured remote connections. IPSec VPN hardware engine for high efficiency VPN tunnel and VPN load balance/failover with IKEv2 that ensures strong VPN reliability and security for business. Reliance on cloud platforms for mission-critical services are growing, VPN Series is validated by Microsoft Azure and AWS for SMB convenience by using a combination of on-site and cloud-based infrastructure with hybrid networks.

SD-WAN provides a platform for cloud management, get the benefit of a centralized management for site to site connectivity while having the ability to control and monitor remotely. VPN Series also provides a standalone gateway mode, if you request more robust VPN functionalities.

Same security across networks

We offer a wide array of products that allow different remote access options including firewalls for headquarters and branch offices, remote access points with Secure WiFi and VPN client management for off-site employees, extending endpoint protection.

Device Insight gives you more visibility of your networks including wired, wireless, BYOD, and IoT devices. You can create access policy with device contextual such as OS version or device category to enforce network segmentation. This reduces the attack surface and prevents threats from spreading.

Protect your business efficiently

The ZyWALL VPN Series provides all the latest advanced technologies including Content Filtering and Geo Enforcer to better protect your network from web threats.

• Content Filtering

ZyWALL VPN Series delivers enhanced web filtering functionality and security through its powerful combination of reputation and category-based filtering. It runs dynamic categorization, analyzes the content of a previously unknown website and determines if it belongs to an undesirable category such as gambling, pornography, games, and many others. It also supports CTIRU (Counter-Terrorism Internet Referral Unit) to restrict access to any online terrorism material.

• Geo Enforcer

Monitors traffic and analyzes log data of IP address locations while denying access from unnecessary or potentially dangerous traffic.

Comprehensive connectivity

The ZyWALL VPN Series combines AP Controller technology enabling users to manage up to 1032 APs from a centralized user interface. Businesses can deploy or expand a managed Wi-Fi network with minimal effort.
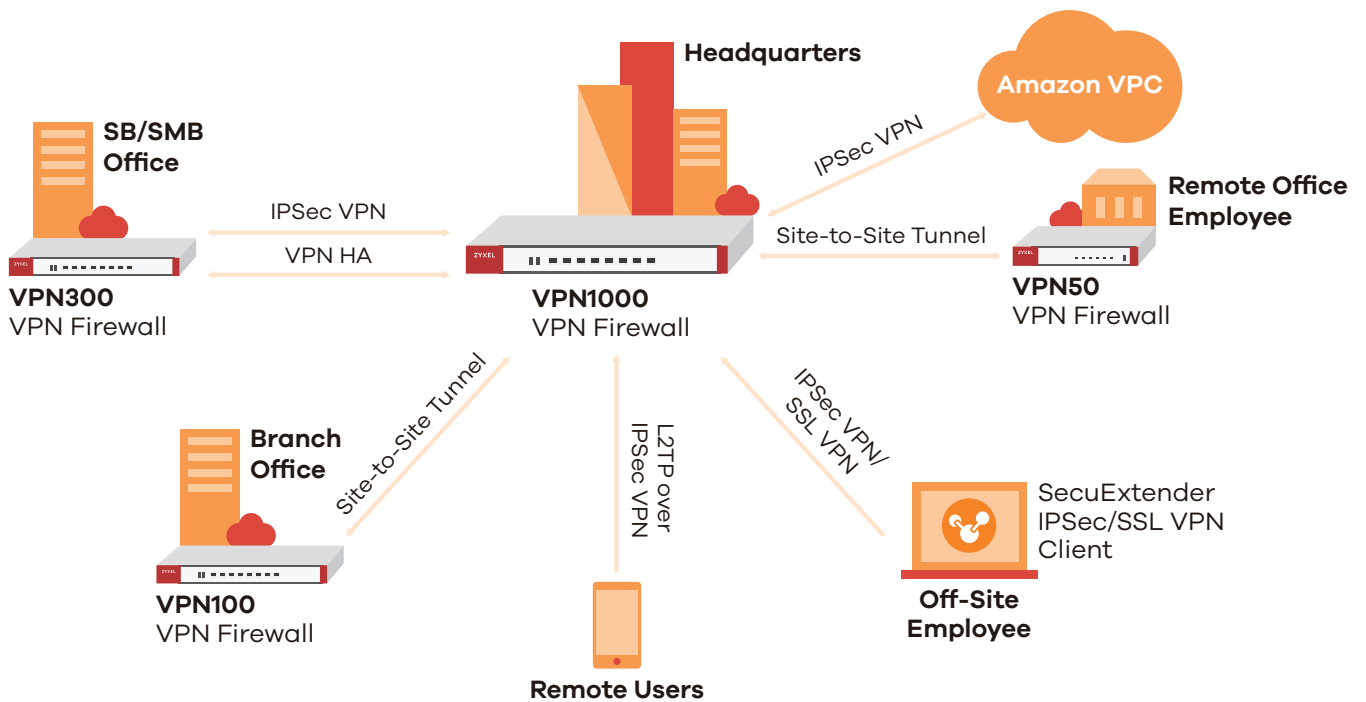
We also provide Wireless Health Monitor giving you visibility into the connection state of client and access point issues, allowing network administrators to easily troubleshoot issues.

Non-stop service

VPN features multi-WAN load balancing and failover safety with USB 3G/4G support as a backup WAN, providing a non-stop internet connection service.

Application Diagram

SB/SMB Office
VPN300 VPN Firewall

IPSec VPN
VPN HA

Headquarters

VPN1000 VPN Firewall

IPSec VPN

Amazon VPC

Site-to-Site Tunnel

Remote Office Employee
VPN50 VPN Firewall

Branch Office
VPN100 VPN Firewall

Site-to-Site Tunnel

L2TP over IPSec VPN

Remote Users

IPSec VPN/ SSL VPN

SecuExtender IPSec/SSL VPN Client

Off-Site Employee

Specifications

Model	ZyWALL VPN50	ZyWALL VPN100	ZyWALL VPN300	ZyWALL VPN1000
Product photo				
Hardware Specifications				
Interfaces	4 x LAN/DMZ, 1 x WAN, 1 x SFP	4 x LAN/DMZ, 2 x WAN, 1 x SFP	7 x GbE (configurable), 1 x SFP	12 x GbE (configurable), 2 x SFP (configurable)
USB3.0 ports	1	2	2	2
Console port	Yes (RJ-45)	Yes (DB9)	Yes (DB9)	Yes (DB9)
Rack-mountable	–	Yes	Yes	Yes
System Capacity & Performance*[1]				
SPI firewall throughput (Mbps)*[2]	800	2,000	2,600	8,000
VPN throughput (Mbps)*[3]	150	500	1,000	1,500
VPN IMIX Throughput (Mbps)*[3]	40	160	240	600
Max. TCP concurrent sessions*[4]	400,000	800,000	2,000,000	3,000,000
Max. concurrent IPSec VPN tunnels*[5]	50	100	300	1,000
Recommended gateway-to-gateway IPSec VPN tunnels	20	50	150	300
Concurrent SSL VPN users (default/max.)*[6]	10/50	30/200	50/300	250/500
VLAN interface	8	16	64	128
Speed Test Performance				
SPI firewall throughput*[11] (Mbps)	620	900	930	930
Security Service				
Content filtering*[6]*[8]	Yes, (bundle 1 year License)	Yes, (bundle 1 year License)	Yes, (bundle 1 year License)	Yes, (bundle 1 year License)
Geo Enforcer	Yes	Yes	Yes,	Yes
SSL (HTTPS) inspection	–	Yes	Yes	Yes
2-Factor Authentication	Yes	Yes	Yes	Yes
Device Insight	Yes	Yes	Yes	Yes
VPN Features				
DPI Firewall	Yes	Yes	Yes	Yes
VPN	IKEv2, IPSec, SSL, L2TP/IPSec	IKEv2, IPSec, SSL, L2TP/IPSec	IKEv2, IPSec, SSL, L2TP/IPSec	IKEv2, IPSec, SSL, L2TP/IPSec
Microsoft Azure	Yes	Yes	Yes	Yes
Amazon VPC	Yes	Yes	Yes	Yes
WLAN Management				
Default Number of Managed AP	8	8	8	8
Secure WiFi Service*[6]	Yes	Yes	Yes	Yes
Maximum Number of Tunnel-Mode AP	10	18	130	258
Maximum Number of Managed AP	40	72	520	1032
Recommend max. AP in 1 AP Group	20	60	200	300

Model	ZyWALL VPN50	ZyWALL VPN100	ZyWALL VPN300	ZyWALL VPN1000
Connectivity Management				
EZ Mode	Yes	-	-	-
Device HA Pro*10	-	Yes	Yes	Yes
Link Aggregation (LAG)	-	-	Yes	Yes
Hotspot Management*6	Yes	Yes	Yes	Yes
Ticket printer support*9/ Support Q'ty (max.)	Yes (SP350E) / 10	Yes (SP350E) / 10	Yes (SP350E) / 10	Yes (SP350E) / 10
Concurrent devices logins (default/max.)*6*7	64	200/300	500/800	800/4000
Power Requirements				
Power input	12 V DC, 2.0 A max.	12 V DC, 2.5 A max.	12 V DC, 4.17 A max.	100-240 V AC, 50/60 Hz, 2.5 A max.
Max. power consumption (watt)	12	13.3	24.1	46.0
Heat dissipation (BTU/hr)	40.92	45.38	82.23	120.10
Physical Specifications				
Item — Dimensions (WxDxH) (mm/in.)	216 x 143 x 33/ 8.50 x 5.63 x 1.30	272 x 187 x 36/ 10.7 x 7.36 x 1.42	300 x 188 x 44/ 16.93 x 7.4 x 1.73	430 x 250 x 44/ 16.93 x 9.84 x 1.73
Weight (kg/lb.)	0.88/1.94	1.4/3.09	1.65/3.64	3.3/7.28
Packing — Dimensions (WxDxH) (mm/in.)	276 x 185 x 98/ 10.87 x 7.28 x 3.86	427 x 247 x 73/ 16.81 x 9.72 x 2.87	351 x 152 x 245/ 13.82 x 5.98 x 9.65	519 x 392 x 163/ 20.43 x 15.43 x 6.42
Weight (kg/lb.)	1.41/3.11	2.23 (W/O bracket) 2.42 (W/ bracket)	2.83/6.24	4.8/10.58
Included accessories	• Power adapter • RJ-45 - RS-232 cable for console connection	• Power adapter • Rack mounting kit	• Power adapter • Power cord • Rack mounting kit	• Power cord • Rack mounting kit
Environmental Specifications				
Operating environment — Temperature	0°C to 40°C/ 32°F to 104°F	0°C to 40°C/ 32°F to 104°F	0°C to 40°C/ 32°F to 104°F	0°C to 40°C/ 32°F to 104°F
Humidity	10% to 90% (non-condensing)	10% to 90% (non-condensing)	10% to 90% (non-condensing)	10% to 90% (non-condensing)
Storage environment — Temperature	-30°C to 70°C/ -22°F to 158°F	-30°C to 70°C/ -22°F to 158°F	-30°C to 70°C/ -22°F to 158°F	-30°C to 70°C/ -22°F to 158°F
Humidity	10% to 90% (non-condensing)	10% to 90% (non-condensing)	10% to 90% (non-condensing)	10% to 90% (non-condensing)
MTBF (hr)	655,130	529,688.2	529,688.2	444,930
Certifications				
EMC	FCC Part 15 (Class B), IC, CE EMC (Class B), RCM, BSMI	FCC Part 15 (Class B), CE EMC (Class B), C-Tick (Class B), BSMI	FCC Part 15 (Class A), CE EMC (Class A), C-Tick (Class A), BSMI	FCC Part 15 (Class A), CE EMC (Class A), C-Tick (Class A), BSMI
Safety	BSMI, UL	LVD (EN60950-1), BSMI	LVD (EN60950-1), BSMI	LVD (EN60950-1), BSMI

Note:
*: This matrix with the latest firmware version.
*1: Actual performance may vary depending on network conditions and activated applications.
*2: Maximum throughput based on RFC 2544 (1,518-byte UDP packets).
*3: VPN throughput measured based on RFC 2544 (1,424-byte UDP packets); IMIX: UDP throughput based on a combination of 64 byte, 512 byte and 1424 byte packet sizes.
*4: Maximum sessions measured using the industry standard IXIA IxLoad testing tool.
*5: Including Gateway-to-Gateway and Client-to-Gateway.
*6: With Zyxel service license to enable or extend the feature capacity.
*7: This is the recommend maximum number of concurrent logged-in devices.
*8: SafeSearch function in Content Filtering need to enable SSL inspection firstly and not for small business models.
*9: With Hotspot Management license support.
*10: ZyWALL VPN100 or above supports Device HA Pro once registered.
*11: The Speedtest result is conducted with 1Gbps WAN link in real world and it is subject to fluctuate due to quality of the ISP link.

Software Features

Security Service

Firewall
- ICSA-certified corporate firewall
- Routing and transparent (bridge) modes
- Stateful packet inspection
- SIP/H.323 NAT traversal
- ALG support for customized ports
- Protocol anomaly detection and protection
- Traffic anomaly detection and protection
- Flooding detection and protection
- DoS/DDoS protection

Unified Security Policy
- Unified policy management interface
- Support Content Filtering, Application Patrol, firewall(ACL/SSL)
- Policy criteria: zone,source anddestination IP address, user, time

Content Filtering
- HTTPs domain filtering
- SafeSearch support
- Whitelist websites enforcement
- URL blacklist and whitelist with keyword blocking
- Customizable warning messages and redirect URL
- Customizable Content Filtering block page
- URL categories increased to 111
- CTIRU (Counter-Terrorism Internet Referral Unit) support

Geo Enforcer
- Geo IP blocking
- Geographical visibility on traffics statistics and logs
- IPv6 address support

Device Insight
- Agentless Scanning for discovery and classification of devices
- Provide the dashboard to view all devices on the network, including wired, wireless, BYOD, IoT, and SecuExtender (remote endpoint)
- Extended view of the inventory on SecuReporter
- Visibility of network devices (switches, wireless access points, firewalls) from Zyxel or 3rd party vendors

VPN

IPSec VPN
- Key management: IKEv1 (x-auth, mode-config), IKEv2 (EAP, configuration payload)
- Encryption: DES, 3DES, AES (256-bit)
- Authentication: MD5, SHA1, SHA2 (512-bit)
- Perfect forward secrecy (DH groups) support 1, 2, 5, 14, 15-18, 20-21
- PSK and PKI (X.509) certificate support
- IPSec NAT traversal (NAT-T)
- Dead Peer Detection (DPD) and relay detection
- VPN concentrator
- Route-based VPN Tunnel Interface (VTI)
- VPN high availability (Failover, LB)
- GRE over IPSec
- NAT over IPSec
- L2TP over IPSec
- SecuExtender Zero Trust VPN Client
- Support native Windows, iOS/macOS and Android (StrongSwan) client provision
- Support 2FA Email/SMS and Google Authenticator

SSL VPN
- Supports Windows and Mac OS X
- Supports full tunnel mode
- Supports 2-Factor authentication

Networking

Secure WiFi
- Secure Tunnel for Remote AP
- L2 access between home office and HQ (Secured Tunnel)
- Enforcing 2FA with Google Authenticator WPA2 Enterprise (802.1x) supported
- Wireless Storm Control

WLAN Management
- Supports AP Controller (APC) version 3.66
- 802.11ax Wi-Fi 6 AP and WPA3 support
- 802.11k/v/r support
- Wireless L2 isolation
- Supports auto AP FW update
- Scheduled WiFi service
- Dynamic Channel Selection (DCS)
- Client steering for 5 GHz priority and sticky client prevention
- Auto healing
- Customizable captive portal page
- WiFi Multimedia (WMM) wireless QoS
- CAPWAP discovery protocol
- Multiple SSID with VLAN
- Supports ZyMesh
- Support AP forward compatibility
- Rogue AP Detection

Mobile Broadband
- WAN connection failover via 3G and 4G* USB modems
- Auto fallback when primary WAN recovers

IPv6 Support
- Dual stack
- IPv4 tunneling (6rd and 6to4 transition tunnel)
- SLAAC, static IP address
- DNS, DHCPv6 server/client
- Static/Policy route
- IPSec (IKEv2 6in6, 4in6, 6in4)

Connection
- Routing mode, bridge mode and hybrid mode
- Ethernet and PPPoE
- NAT and PAT
- NAT Virtual Server Load Balancing
- VLAN tagging (802.1Q)
- Virtual interface (alias interface)
- Policy-based routing (user-aware)
- Policy-based NAT (SNAT)
- GRE
- Dynamic routing (RIPv1/v2 and OSPF, BGP)
- DHCP client/server/relay
- Dynamic DNS support
- WAN trunk for more than 2 ports
- Per host session limit
- Guaranteed bandwidth
- Maximum bandwidth
- Priority-bandwidth utilization
- Bandwidth limit per user
- Bandwidth limit per IP
- Bandwidth management by application
- Link Aggregation support*[1]

Management

Authentication
- Local user database

- External user database: Microsoft Windows Active Directory, RADIUS, LDAP
- IEEE 802.1x authentication
- Captive portal Web authentication
- XAUTH, IKEv2 with EAP VPN authentication
- IP-MAC address binding
- SSO (Single Sign-On) support
- Supports 2-factor authentication (Google Authenticator, SMS/Email)

System Management
- Role-based administration
- Multi-lingual Web GUI (HTTPS and HTTP)
- Command line interface (console, web console, SSH and telnet)
- SNMP v1, v2c, v3
- System configuration rollback
- Configuration auto backup
- Firmware upgrade via FTP, FTP-TLS and Web GUI
- New firmware notify and auto upgrade
- Dual firmware images
- Cloud CNM SecuManager

Logging and Monitoring
- Comprehensive local logging
- Syslog (to up to 4 servers)
- Email alerts (to up to 2 servers)
- Real-time traffic monitoring
- Built-in daily report

Zyxel One Network
- ZON Utility:
  - IP configuration
  - Web GUI access
  - Firmware upgrade
  - Password configuration
- Smart Connect:
  - Location and System Name update
  - Discover neighboring devices
  - One-click remote management access to the neighboring Zyxel devices

Hotspot Management
- Integrated account generator, Web based authentication portal and billing system
- Supports external RADIUS servers
- Per account bandwidth management
- User agreement login

- SP350E Service Gateway Printer enables oneclick account and billing generation
- Built-in billing system:
  - Time-to-finish accounting mode
  - Accumulation accounting mode
- Supports PayPal online payment
- Marketing tool:
  - Advertisement link
  - Walled garden
  - Portal page
- Billing Replenish

Support
- Nebula SD-WAN (https://www.zyxel.com/sd-wan)
- Zyxel Support (https://support.zyxel.eu/hc/en-us)
- Zyxel Biz Forum (https://businessforum.zyxel.com/categories/security)

*: For specific models supporting the 3G and 4G dongles on the list, please refer to the Zyxel product page at 3G dongle document

*1: Supported models VPN300/1000

Licenses

Security

Product	SD-WAN Pack	Content Filtering	Secure WiFi
ZyWALL VPN50	1 month/1 year	1 year/2 years	1 month/1 year /2 years
ZyWALL VPN100	1 month/1 year	1 year/2 years	1 month/1 year /2 years
ZyWALL VPN300	1 month/1 year	1 year/2 years	1 month/1 year /2 years
ZyWALL VPN1000	1 month/1 year	1 year/2 years	1 month/1 year /2 years

Note: Support Content Filtering 1 year free license.

VPN Service

Product	SSL VPN Tunnels	SecuExtender SSL VPN Client*	SecuExtender IPSec VPN Client
ZyWALL VPN50	Add 5/10 tunnels	Add 1/5/10 clients	For 1/5/10/50 clients
ZyWALL VPN100	Add 5/10/50 tunnels	Add 1/5/10 clients	For 1/5/10/50 clients
ZyWALL VPN300	Add 5/10/50 tunnels	Add 1/5/10 clients	For 1/5/10/50 clients
ZyWALL VPN1000	Add 5/10/50 tunnels	Add 1/5/10 clients	For 1/5/10/50 clients

*: Support OS: MAC OS 10.7 or later

Access Point Compatibility for Secure WiFi License

Secure Tunnel for Remote AP

Functions	Remote AP	Number of Tunnel Mode AP	Supported Remote AP
ATP	ATP100(W)	6	• WAX510D • WAX610D • WAX630S • WAX650S • WAC500 • WAC500H • WAC5302D-Sv2
	ATP200	10	
	ATP500	18	
	ATP700	66	
	ATP800	130	
USG FLEX	USG FLEX100(W)	6	
	USG FLEX200	10	
	USG FLEX500	18	
	USG FLEX700	130	
VPN	VPN50	10	
	VPN100	18	
	VPN300	130	
	VPN1000	258	

Managed AP Service

Product	Unified AP		Unified Pro AP	
Models	• NWA5301-NJ • NWA5121-NI • NWA5123-NI • NWA5123-AC • NWA5123-AC HD*	• WAC5302D-S • WAC5302D-Sv2 • WAC500* • WAC500H* • WAX510D*	• WAC6103D-I • WAC6303D-S • WAC6502D-S • WAC6503D-S • WAC6552D-S	• WAC6502D-E • WAC6553D-E • WAX610D • WAX630S*[1] • WAX650S
Functions				
Central management	Yes		Yes	
Auto provisioning	Yes		Yes	
Data forwarding	Local bridge		Local bridge/Data tunnel	
ZyMesh	Yes		Yes	

*: Support both local bridge and data tunnel for data forwarding
*1: WAX630S will be available in January 2022

Accessories

Service Gateway Printer

Model	Feature	Supported Model			

SP350E	• Buttons: 3
	• Paper roll width: 58 (+0/-1) mm
	• Interface: 10/100 Mbps RJ-45 port
	• Power input: 12V DC, 5A max.
	• Item dimensions (WxDxH):
	  176 x 111 x 114 mm
	  (6.93" x 4.37" x 4.49")
	• Item weight: 0.8 kg (1.76 lb.)
		• USG FLEX 200
		• USG FLEX 500
		• USG FLEX 700
			• VPN50
			• VPN100
			• VPN300
			• VPN1000
				• USG60
				• USG60W
				• USG110
				• USG210
				• USG310
				• USG1100
				• USG1900
				• USG2200 Series
					• ZyWALL110
					• ZyWALL310
					• ZyWALL1100

Note: Hotspot management licenses required

Transceivers (Optional)

Model	Speed	Connector	Wavelength	Max. Distance	Optical Fiber Type	DDMI
SFP10G-SR*	10-Gigabit SFP+	Duplex LC	850 nm	300m/ 328 yd	Multi Mode	Yes
SFP10G-SR-E*	10-Gigabit SFP+	Duplex LC	850 nm	300 m/ 328 yd	Multi Mode	Yes
SFP10G-LR*	10-Gigabit SFP+	Duplex LC	1310 nm	10 km/ 10936 yd	Single Mode	Yes
SFP10G-LR-E*	10-Gigabit SFP+	Duplex LC	1310 nm	10 km/ 10936 yd	Single Mode	Yes
SFP-1000T	Gigabit	RJ-45	-	100 m/ 109 yd	Multi Mode	-
SFP-SX-D	Gigabit	Duplex LC	850 nm	550 m/ 601 yd	Multi Mode	Yes
SFP-SX-E	Gigabit	Duplex LC	850 nm	550 m/ 601 yd	Multi Mode	Yes
SFP-LX-10-D	Gigabit	Duplex LC	1310 nm	10 km/ 10936 yd	Single Mode	Yes
SFP-LX-10-E	Gigabit	Duplex LC	1310 nm	10 km/ 10936 yd	Single Mode	Yes
SFP-LHX1310-40-D	Gigabit	Duplex LC	1310 nm	40 km/ 43744 yd	Single Mode	Yes
SFP-ZX-80-D	Gigabit	Duplex LC	1550 nm	80 km/ 87488 yd	Single Mode	Yes
SFP-BX1310-10-D*[1]	Gigabit	Single LC	1310 nm (TX) 1490 nm (RX)	10 km/ 10936 yd	Single Mode	Yes
SFP-BX1310-E*[1]	Gigabit	Single LC	1310 nm (TX) 1550 nm (RX)	20 km/ 21872 yd	Single Mode	Yes
SFP-BX1490-10-D*[1]	Gigabit	Single LC	1490 nm(TX) 1310 nm(RX)	10 km/ 10936 yd	Single Mode	Yes
SFP-BX1550-E*[1]	Gigabit	Single LC	1550 nm (TX) 1310 nm (RX)	20 km/ 21872 yd	Single Mode	Yes

*: Only USG2200 Series supports 10-Gigabit SFP+

*1: SFP-BX1310-10-D & SFP-BX1490-10-D, SFP-BX1310-E & SFP-BX1550-E must be used in pairs.

14/02/22

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