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Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Solicitation Response

Proc Folder:	2050712
Solicitation Description:	Firewalls, Rack Mounting Shelves & SFP+ Transceiver Modules
Proc Type:	Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2026-09-22 13:30	SR 0708 ESR09092600000001957	1

VENDOR

VS0000036489
TOMMYTQL LLC

Solicitation Number: CRFQ 0708 ABC2700000001

Total Bid: 22400 **Response Date:** 2026-09-09 **Response Time:** 19:12:00

Comments: Please see attached specs for Fortinet and let me know if you need any additional details to evaluate

FOR INFORMATION CONTACT THE BUYER
James W Atkins
(304) 558-0094
james.w.atkins@wv.gov

Vendor
Signature X **FEIN#** **DATE**

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Firewalls	2.00000	EA	11000.000000	22000.00

Comm Code	Manufacturer	Specification	Model #
43222501			

Commodity Line Comments: Submitting PA Alternative - Fortinet. See attachments for full specs and how they address all key functionality
PN: FG-120G-BDL-950-60
PN: FC1-10-MVCLD-227-01-60

Extended Description:

Next-Gen Firewalls, Rack Mounting Shelves & SFP+ Transceiver Modules

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	1U Rack Mount Shelf	2.00000	EA	100.000000	200.00

Comm Code	Manufacturer	Specification	Model #
43211600			

Commodity Line Comments: Submitting PA Rack Alternative - Startech. See attachments for full specs and how they address all key functionality
PN: UNIRAILS1UB

Extended Description:

Next-Gen Firewalls, Rack Mounting Shelves & SFP+ Transceiver Modules

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	SFP+ Transceiver Module	4.00000	EA	50.000000	200.00

Comm Code	Manufacturer	Specification	Model #
43211600			

Commodity Line Comments: Submitting PA Alternative - Fortinet. See attachments for full specs and how they address all key functionality
PN: FN-TRAN-SFP+SR

Extended Description:

Next-Gen Firewalls, Rack Mounting Shelves & SFP+ Transceiver Modules

Header 5

List View

General Information | Contact | Default Values | Discount | Document Information | Clarification Request

Procurement Folder: 2050712
Procurement Type: Central Purchase Order
Vendor ID: VS0000036489
Legal Name: TOMMYTQL LLC
Alias/DBA:
Total Bid: $22,400.00
Response Date: 09/09/2026
Response Time: 19:12
Responded By User ID: tmacak
First Name: Thomas
Last Name: Macak
Email: tmacak@tommytql.com
Phone: 2035058616

SO Doc Code: CRFQ
SO Dept: 0708
SO Doc ID: ABC2700000001
Published Date: 9/14/26
Close Date: 9/22/26
Close Time: 13:30
Status: Closed
Solicitation Description: Firewalls, Rack Mounting Shelves & SFP+ Transceiver Modules
Total of Header Attachments: 5
Total of All Attachments: 5

3.1.1.1 System must have embedded machine learning (ML) in the core of the firewall to provide inline signatureless attack prevention.

Artificial Intelligence, Machine Learning Security with Deep Visibility FortiGate series next-generation firewalls (NGFW) combine artificial intelligence (AI)-powered security and machine learning (ML) to deliver threat protection at any scale. Get deeper visibility into your network and see applications, users, and devices before they become threats. Powered by a rich set of AI/ML security capabilities that extend into an integrated security fabric platform, FortiGate NGFWs deliver secure networking that is broad, deep, and automated. Secure your network end to end with advanced edge protection that includes web, content, and device security, while network segmentation and secure SD-WAN reduce complexity and risk in hybrid IT networks. This security fabric seamlessly extends across your entire environment, including a Hybrid Mesh Firewall architecture, ensuring consistent policy enforcement and threat protection across all network segments.

3.1.1.2 System must identify applications and users across all ports, regardless of evasion tactics or encryption, allowing for granular policy control.

1. **Application awareness with deep packet inspection (DPI):** FortiGates offer complete visibility into application-layer traffic. They identify specific apps and user activities regardless of port or protocol. This approach enables granular, **zero-trust access control** that aligns security enforcement with business intent.
2. **Intrusion prevention with stateful inspection:** An integrated intrusion prevention system (IPS) extends beyond basic firewall capabilities to identify and block network-based exploits targeting vulnerable systems. It helps detect malicious behavior in real-time and prevents attacks before they reach critical assets.
3. **AI-driven threat intelligence and malware protection:** FortiGates leverage AI-driven threat intelligence feeds to stay ahead of evolving cyberattack campaigns. They detect, classify, and block emerging threats faster and more accurately by correlating global **indicators of compromise (IoCs)** with live traffic.
4. **SSL/TLS inspection and packet filtering for encrypted traffic:** FortiGates can decrypt and inspect HTTPS tunnels to identify hidden threats that use encryption to bypass detection. This ensures complete visibility across encrypted sessions without compromising privacy or performance.
5. **Advanced malware and anomaly detection with AI analytics:**FortiGates use sandboxing and AI-based behavioral analytics to examine suspicious files and anomalies and counter malware. This proactive detection model identifies **zero-day attacks** before they can execute or spread laterally.

6. **User and device-based policy enforcement:** FortiGates integrate identity and device awareness into policy decisions, implementing controls based on user role, device type, and risk level. This enables dynamic, context-aware enforcement that supports zero-trust access across hybrid and remote environments.
7. **Scalable, high-performance architecture for future-proof networks:** FortiGates deliver high throughput and low latency even under heavy encrypted traffic. The scalable architecture supports **secure operations across data centers**, campuses, branches, and cloud environments without trade-offs in performance or protection.

3.1.1.3 System must receive software updates from designated servers located in the US.

This is easily set in the config.

config system fortiguard

set update-server-location usa

end

3.1.1.4 System must support high availability with active/active and active/passive modes.

High Availability Configurations Active-Active, Active-Passive, Clustering are all supported.

Here are reference links to the config for each

https://docs.fortinet.com/document/fortigate/8.0.0/administration-guide/357558/ha-active-active-cluster-setup

https://docs.fortinet.com/document/fortigate/8.0.0/administration-guide/900885/ha-active-passive-cluster-setup

https://docs.fortinet.com/document/fortigate/8.0.0/administration-guide/599385/ha-virtual-cluster-setup

3.1.1.5 System must support centralized administration with Panorama® network security management or equal.

System supports FortiManager Cloud which delivers all the functionality of Panorama security management. FortiManager Data sheet is attached

3.1.1.6 System must have audit logs that document security-related events.

FortiGate firewalls natively generate and deliver comprehensive audit logs that document security-related events. In the FortiOS ecosystem, these are categorized as **Security Logs** (which operate alongside the system management logs).

Whenever traffic hits your **FortiGate 120G cluster**, the hardware acceleration chips and software engines evaluate the packets against your security rules. If an event matches a security profile, an unalterable log entry is natively generated.

1. The Security-Related Event Categories

FortiGate breaks down security events into specific, granular sub-logs that you can monitor natively via the Web GUI under **Log & Report**:

- **Application Control Logs:** Identifies when an application bypasses standard port rules or attempts evasion tactics, logging the exact application signature matched (e.g., detecting BitTorrent over Port 80).
- **Intrusion Prevention (IPS) Logs:** Documents network exploits, brute-force patterns, and vulnerability scanning attempts blocked by the IPS engine.
- **AntiVirus / Sandbox Logs:** Records instances where a known malware string, trojan, or zero-day variant was detected and quarantined at the gateway.
- **Web Filtering & DNS Logs:** Logs blocked attempts to access malicious domains, command-and-control servers, or categories that violate your corporate security posture.
- **SSL/TLS Inspection Logs:** Documents details on certificate issues, untrusted connection rejections, or decryption events during Deep Packet Inspection.

2. Granular Policy Control Tracking

Security logs are explicitly bound to your **Firewall Policies**. When building a policy on the FortiGate, you have native, granular control over how security events are documented:

- **Log All Sessions vs. Security Events:** You can configure a policy to *only* generate a log entry when a security threat is actively triggered (reducing log volume), or log every single successful session connection for full visibility.
- **Packet Capture (PCAP):** For deep forensic auditing, you can natively toggle the firewall to automatically capture and attach the actual raw data packets of an IPS or malware attack directly to the log entry.

3.1.1.7 System must have a minimum Firewall Throughput of 6.5 Gbps.

FortiGate 120G far exceeds this.

System Performance and Capacity Firewall Throughput

(1518 / 512 / 64 byte UDP packets) 39 / 39 / 28 Gbps

Please see included data sheet

3.1.1.8 System must be capable of locking administrator accounts after no more than three (3) unsuccessful attempts to logon with an invalid password.

Yes FortiGates support this, here is the detail.

By default, the number password retry attempts is set to three, allowing the administrator a maximum of three attempts at logging in to their account before they are locked out for a set amount of time (by default, 60 seconds).

The number of attempts and the default wait time before the administrator can try to enter a password again can be configured using the CLI.

A maximum of ten retry attempts can be configured, and the lockout period can be 1 to 2147483647 seconds (over 68 years). The higher the retry attempts, the higher the risk that someone might be able to guess the password.

To configure the lockout options:

```
config system global
  set admin-lockout-threshold <failed_attempts>
  set admin-lockout-duration <seconds>
end
```

Example:

To set the number of retry attempts to 1, and the lockout time to 5 minutes, enter the following commands:

```
config system global
  set admin-lockout-threshold 1
  set admin-lockout-duration 300
end
```

3.1.1.9 System must be configurable to require multi-factor authentication for remote device management.

Yes, FortiGate firewalls can absolutely be configured to require Multi-Factor Authentication (MFA/2FA) for remote device management.

1. Native FortiToken Authentication

Every FortiGate firewall ships with **two free FortiToken Mobile licenses** baked into the hardware. This allows administrators to use the FortiToken app on their smartphone as a time-based one-time password (TOTP) generator.

GUI Configuration: Navigate to **System > Administrators**, edit the targeted admin profile, toggle the **Two-factor Authentication** slider, select **FortiToken**, choose an available token serial number, and send the activation QR code to the admin's email.

CLI Configuration:

text

```
config system admin
  edit "admin_username"
    set two-factor fortitoken
    set fortitoken <SERIAL_NUMBER>
    set email-to "admin@company.com"
  next
```

2. SAML Single Sign-On (SSO) Integration

For large enterprise networks using a central Identity Provider (IdP)—such as **Microsoft Entra ID (Azure AD), Okta, or Ping Identity**—FortiGate natively supports SAML authentication for administrative access. [1, 2]

3. Remote Server MFA via RADIUS / TACACS+

If your infrastructure uses central network access controllers like **FortiAuthenticator** or Cisco ISE, you can configure FortiGate to delegate authentication to these systems. The remote RADIUS server can be configured to prompt the administrator for their standard Active Directory password followed immediately by an OTP challenge string.

4. Natively Enforced Global Mandates

If you want to ensure that *no one* can log in locally without multi-factor verification, newer versions of FortiOS allow you to enforce a blanket requirement across the box via the CLI:

text

config system global

  set multifactor-authentication mandatory

end

5. Native Email and SMS Options

For lighter deployments, FortiGate can natively stream login verification codes via **Email or SMS**. While functional, these options are generally considered less secure than standard app-based tokens or SAML identity validation due to risks like SIM-swapping or email interception

3.1.1.10 Vendor must be an authorized reseller of all equipment bid. All equipment must be new and genuine; refurbished or gray market equipment will not be accepted.

3.1.2 Palo Alto Networks network device rack mount shelf - 1U (PAN-1RU 4POST-RACK-11) or Equal (Qty 2) 3.1.2.1 Shelf must be four post rack-mountable design with a height of one rack unit. 3.1.2.2 Shelf must be compatible with PAN-PA-550 firewall or equal.

FortiGate 120G natively supports 19 inch standard rack with the front ears so shelf is not needed for it.

3.1.3 Palo Alto Networks - SFP+ transceiver module - 10GbE (PAN-SFP PLUS-SR) or Equal (Qty 4)

3.1.3.1 Transceiver modules must work with 10 Gigabit Ethernet data link protocol, enabling a data transfer rate of 10 Gb/s.

3.1.3.2 Modules must have an Ethernet 10GBase-SR interface.

3.1.3.3 SFP+ modules must be compatible with PAN-PA-550 firewall or equal.

FN-TRAN-SFP+SR is the Fortinet equivalent

The **Fortinet FN-TRAN-SFP+SR** is an industry-standard 10 Gigabit Ethernet (10GBASE-SR) SFP+ optical transceiver module. It is primarily designed for high-speed, short-range fiber connectivity such as core firewall uplinks, switch stacking, or storage network connections.

Core Optical & Performance Specs

- **Data Rate: 10 Gbps** (supports speeds ranging from 1.25 Gbps to 11.3 Gbps for multi-rate applications).
- **Wavelength: 850 nm** (Short Range / SR).
- **Fiber Type: Multi-Mode Fiber (MMF)**.
- **Connector Type: Duplex LC** (Two female LC ports).
- **Maximum Distance Capacity:**
    - Up to **300 meters** over standard **OM3** MMF.
    - Up to **400 meters** over **OM4** MMF.
    - Up to **550 meters** depending on specialized legacy or premium OM5 signaling contexts.

Electrical & Operational Specs

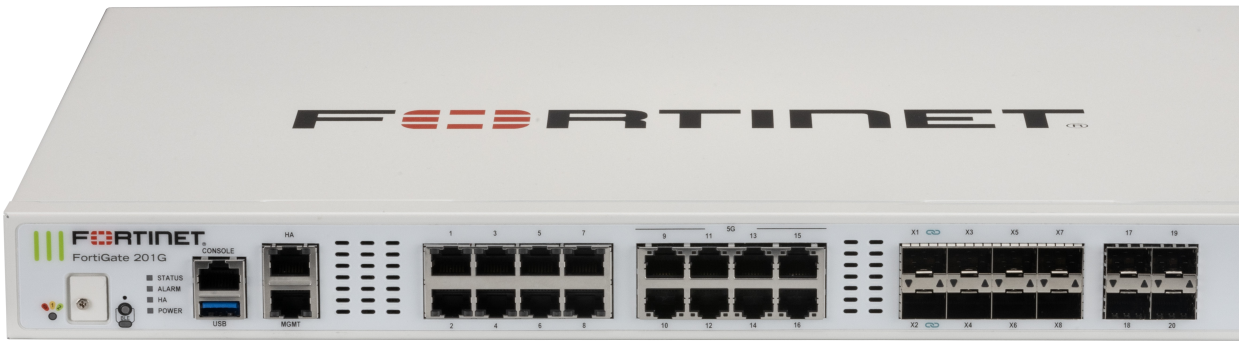
- **Power Dissipation / Consumption:** Natively low draw, typical operational usage is between **600 mW and 1W**.
- **Operating Temperature:** Standard commercial grade, **0°C to 70°C** (32°F to 158°F).
- **Digital Diagnostics Monitoring (DDM / DOM): Fully Supported**. This allows FortiOS to natively read live telemetry from the optic, including transceiver temperature, laser bias current, TX optical power, and RX optical power.

Standards Compliance

- Compliant with **IEEE 802.3ae** (10GBASE-SR).
- Built to **SFF-8431** and **SFF-8432** physical and mechanical Small Form-factor Pluggable (SFP+) MSA standards.

For alternate firewall submissions, the vendor is solely responsible for including all necessary security software subscriptions (including, but not limited to, WildFire, Advanced Threat Prevention, and management capabilities equivalent to those provided by the state's enterprise agreement) for the duration of the hardware life.

FortiGate 200G Series



Highlights

Leader in the Gartner® Magic Quadrant™ for Hybrid Mesh Firewall

Secure Networking with FortiOS for converged networking and security

State-of-the-art unparalleled performance with Fortinet's patented SPU and vSPU processors

Enterprise security with consolidated AI/ML-powered FortiGuard services

Deep visibility into applications, users, and devices beyond traditional firewall techniques

Artificial Intelligence, Machine Learning Security with Deep Visibility

The FortiGate 200G series next-generation firewall (NGFW) combines artificial intelligence (AI)-powered security and machine learning (ML) to deliver threat protection at any scale. Get deeper visibility into your network and see applications, users, and devices before they become threats.

Powered by a rich set of AI/ML security capabilities that extend into an integrated security fabric platform, the FortiGate 200G Series delivers secure networking that is broad, deep, and automated. Secure your network end to end with advanced edge protection that includes web, content, and device security, while network segmentation and secure SD-WAN reduce complexity and risk in hybrid IT networks. This security fabric seamlessly extends across your entire environment, including a Hybrid Mesh Firewall architecture, ensuring consistent policy enforcement and threat protection across all network segments.

Universal zero-trust network access (ZTNA) automatically controls, verifies, and facilitates user access to applications, reducing lateral threats by providing access only to validated users. Ultra-fast threat protection and SSL inspection provides security at the edge you can see without impacting performance.

IPS	NGFW	Threat Protection	Interfaces
9 Gbps	7 Gbps	6 Gbps	Multiple GE RJ45, 5GE RJ45, 10GE SFP+ Slots, GE SFP Slots

Use Cases

Next Generation Firewall (NGFW)

- FortiGuard Labs' suite of AI-Powered Security Services, natively integrated with your NGFW, secures web, content, and devices and protects networks from ransomware, malware, zero days, and sophisticated AI-powered cyberattacks
- Real-time SSL inspection (including TLS 1.3) provides full visibility into users, devices, and applications across the attack surface
- Fortinet's patented SPU technology provides industry-leading high-performance protection

Secure SD-WAN

- FortiGate WAN Edge powered by one OS and unified security and management framework and systems transforms and secures WANs
- Delivers superior quality of experience and effective security posture for hybrid working models, SD-Branch, and cloud-first WAN use cases
- Achieve operational efficiencies at any scale through automation, deep analytics, and self-healing

Universal ZTNA

- Control access to applications no matter where the user is and no matter where the application is hosted for universal application of access policies
- Provide extensive authentications, checks, and enforce policy prior to granting application access every time
- Agent-based access with FortiClient or agentless access via proxy portal for guest or BYOD

Segmentation

- Dynamic segmentation adapts to any network topology to deliver true end-to-end security from the branch to the data center and across multi-cloud environments
- Ultra-scalable, low latency, VXLAN segmentation bridges physical and virtual domains with Layer 4 firewall rules
- Prevents lateral movement across the network with advanced, coordinated protection from FortiGuard Security Services, detects and prevents known, zero-day, and unknown attacks

Available in

Appliance

Virtual

Hosted

Cloud

Container

FortiOS Everywhere

FortiOS, Fortinet's Real-Time Quantum-Safe Network Security Operating System

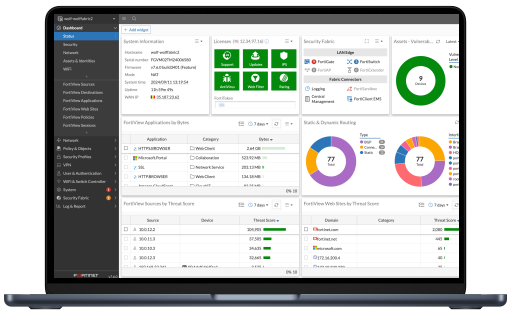
FortiOS is Fortinet's natively AI-powered and quantum-safe operating system (OS) that powers the Fortinet Security Fabric platform, enabling enforcement of security policies and holistic visibility across the entire attack surface. It provides a unified framework for securing networks across on-premises, cloud, hybrid environments, and the convergence of IT, OT, and IoT.

By converging networking and security functions into a single operating system, organizations can manage network and security more effectively to detect, investigate, and respond to incidents faster. This unified architecture simplifies operations, eliminates security silos, and allows organizations to scale securely without multiple tools or management complexity.

FortiOS also incorporates AI-driven capabilities that enhance threat detection, automate network activity analysis, and deliver more precise remediation guidance. Together, FortiGate firewalls and FortiOS provide intelligent, adaptive protection that reduces complexity, improves operational efficiency, and strengthens security across modern hybrid environments.

Learn more about what's new in FortiOS. https://www.fortinet.com/products/fortigate/fortios

Intuitive easy to use view into the network and endpoint vulnerabilities



Comprehensive view of network performance, security, and system status

FortiGuard AI-Powered Security Services

FortiGuard AI-Powered Security Services is part of Fortinet's layered defense and tightly integrated into our FortiGate NGFWs and other products. Powered by real-time AI enhanced threat intelligence from FortiGuard Labs, these services protect organizations against modern attack vectors and threats, including zero days and evasive, sophisticated AI-powered attacks.

Network and file security

Network and file security services protect against network and file-based threats. Consists of intrusion prevention system (IPS) which uses AI/ML models for deep packet/SSL inspection, detecting and blocking malicious content, uncovers hidden command-and-control activity, and applies virtual patches for newly discovered vulnerabilities. Application control improves security compliance and provides real-time visibility into applications and usage including generative AI (GenAI) applications.

Web/DNS security

Web/DNS security services protect against DNS-based attacks, malicious URLs (including those in emails), and botnet communications. DNS filtering blocks the full spectrum of DNS-based attacks while URL filtering uses a database of millions of URLs to identify and block malicious links. Meanwhile, IP reputation and anti-botnet services guard against botnet activity and DDoS attacks.

SaaS and data security

SaaS and data security services cover key security needs for application use and data protection. This service includes data loss/leakage prevention in files, GenAI applications and Images via OCR(optical character recognition). This ensures visibility, management, and protection (blocking exfiltration) of data in motion across networks, clouds, and users. The inline CASB service, secures SaaS applications in use, providing broad visibility and granular control over SaaS access, usage, and data.

Zero-Day threat prevention

Zero-day threat prevention is achieved through AI-powered inline malware prevention to analyze file content to identify and block unknown and zero-day malware in real time, delivering sub-second protection across all NGFWs. Integrated into FortiGate NGFWs, the service provides comprehensive defense by blocking unknown threats, streamlining incident response, and reducing security overhead.

Attack surface visibility and compliance

The FortiGuard Attack Surface Security Service provides continuous, compliance-ready monitoring of your Fortinet Security Fabric infrastructure. It calculates your overall security posture rating by scoring controls against vulnerabilities, misconfigurations, and sub-optimal settings, while offering specific remediation guidelines for devices found out of configuration. It maintains continuous compliance with PCI DSS, CIS Controls, and Fortinet security best practices.

OT security

With over 2400 virtual patches, 1600+ OT applications, and 3500+ protocol rules, integrated OT security capabilities detect threats targeting OT infrastructure, perform vulnerability correlation, apply virtual patching, and utilize industry-specific protocol decoders for robust defense of OT environments and devices.

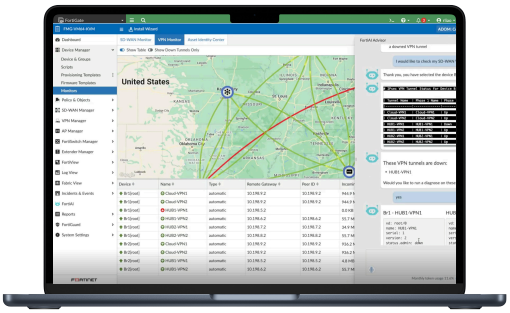
FortiManager

AI-Powered, Automation-Driven, Enterprise-Class Centralized Management at Scale

FortiManager, powered by FortiAI-Assist, provides centralized, single-pane management for the Fortinet Security Fabric, unifying configuration, policy, and responses across thousands of devices. It converges networking and security management, enabling consistent policy enforcement across SD-WAN, ZTNA, SASE, and branch environments while delivering real-time visibility and automated network operations.

FortiAI-Assist helps with Day 0–1 provisioning and Day N troubleshooting and maintenance. AI agents collaborating via a unified Model Context Protocol (MCP) framework automates goal-driven tasks toward a self-healing operation.

FortiManager integrates with FortiSOC for contextual insights and fabric-wise response. It also supports ecosystem integrations, and open APIs for extended automation. ADOM-based administration and FortiManager clusters enables resilient control across distributed networks.



GenAI in FortiManager helps manage networks effortlessly—generates configuration and policy scripts, troubleshoots issues, and executes recommended actions.

FortiConverter Service

Migration to FortiGate NGFW made easy

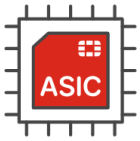
The FortiConverter Service provides hassle-free migration to help organizations transition quickly and easily from a wide range of legacy firewalls to FortiGate NGFWs. The service eliminates errors and redundancy by employing best practices with advanced methodologies and automated processes. Organizations can accelerate their network protection with the latest FortiOS technology.

FortiCare Services

Expertise at your service

Fortinet prioritizes customer success through FortiCare Services, optimizing the Fortinet Security Fabric solution. Our comprehensive life-cycle services include Design, Deploy, Operate, Optimize, and Evolve. The FortiCare Elite, one of the service offerings, provides heightened SLAs and swift issue resolution with a dedicated support team. This advanced support option includes an extended end-of-engineering support of 18 months, providing flexibility and access to the intuitive FortiCare Elite portal for a unified view of device and security health, streamlining operational efficiency and maximizing Fortinet deployment performance.

Fortinet ASICs: Unrivaled Security, Unprecedented Performance



Powered by the only purpose-built SPU

Traditional firewalls cannot protect against today's content and connection-based threats because they rely on off-the-shelf general-purpose central processing units (CPUs), leaving a dangerous security gap. Fortinet's custom SPUs deliver the power you need to radically increase speed, scale, and efficiency while greatly improving user experience and reducing footprint and power requirements. Fortinet's SPUs deliver up to 520 Gbps of protected throughput to detect emerging threats and block malicious content while ensuring your network security solution does not become a performance bottleneck.

Fortinet ASICs are designed to be energy-efficient, leading to lower power consumption and improved TCO. They deliver industry-leading throughput, handle more traffic and perform security inspections faster, reduce latency for quicker packet processing and minimize network delays.

Fortinet SPUs are designed with integrated security functions like zero trust, SSL, IPS, and VXLAN to name but a few, dramatically improving the performance of these functions that competitors traditionally implement in software.

Network processor NP7Lite

Fortinet's new, breakthrough SPU NP7Lite network processor works in line with FortiOS functions delivering:

- Superior firewall performance for IPv4/IPv6, SCTP, and multicast traffic with ultra-low latency
- VPN, CAPWAP, and IP tunnel acceleration
- Anomaly-based intrusion prevention, checksum offload, and packet defragmentation
- Traffic shaping and priority queuing

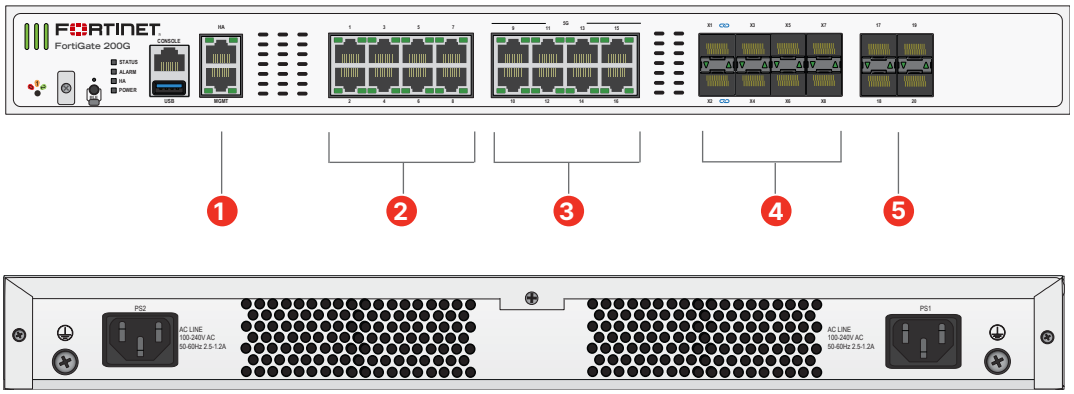
Content processor CP10

Content processors act as co-processors to offload resource-intensive processing of security functions. The tenth generation of the Fortinet Content Processor, the CP10, accelerates resource-intensive security functions while delivering:

- Pattern matching acceleration and fast inspection of real-time traffic for application identification
- IPS pre-scan/pre-match, signature correlation offload

Hardware

FortiGate 200G Series



Interfaces

1. 2 x GE RJ45 MGMT/HA Ports
2. 8 x GE RJ45 Ports
3. 8 × 5/2.5/GE RJ45 Ports
4. 8 × 10 GE SFP+/SFP FortiLink Slots
5. 4 x GE SFP Slots

Hardware Features

NP7Lite (SP5) | CP10 | TPM | 1RU | DUAL AC | 10/5/GE | 480GB

Trusted Platform Module (TPM)

The FortiGate 200G series features a dedicated module that hardens physical networking appliances by generating, storing, and authenticating cryptographic keys. Hardware-based security mechanisms protect against malicious software and phishing attacks.

Dual power supply

Power supply redundancy is essential in the operation of mission-critical networks. The FortiGate 200G series offers dual built-in non-hot swappable power supplies.

Access layer security

FortiLink protocol enables you to converge security and network access by integrating the FortiSwitch into the FortiGate as a logical extension of the firewall. These FortiLink-enabled ports can be reconfigured as regular ports as needed.

Signed Firmware Hardware Switch

The signed firmware switch is a physical security switch. It is by default set to the highest security level. The highest security level ensures that only an appropriately validated FortiOS firmware can be loaded on the FortiGate. This feature adds an additional physical layer of security to the FortiGate, acting as a key deterrent to and reducing risk of compromise.

Specifications

	FORTIGATE 200G	FORTIGATE 201G
Interfaces and Modules		
GE RJ45 Ports	8	
GE RJ45 Management / HA	1 / 1	
5/2.5/GE RJ45 Ports	8	
GE SFP Slots	4	
10/GE SFP/+ FortiLink Slots (default)	8	
USB Port	1	
Console Port	1	
Onboard Storage	0	1× 480 GB SSD
Trusted Platform Module (TPM)	✓	
Bluetooth Low Energy (BLE)	✓	
Signed Firmware Hardware Switch	✓	
Included Transceivers	0	
System Performance — Enterprise Traffic Mix		
IPS Throughput [2]	9 Gbps	
NGFW Throughput [2, 4]	7 Gbps	
Threat Protection Throughput [2, 5]	6 Gbps	
System Performance and Capacity		
IPv4 Firewall Throughput (1518 / 512 / 64 byte, UDP)	39 / 39 / 26.5 Gbps	
IPv6 Firewall Throughput (1518 / 512 / 64 byte, UDP)	39 / 39 / 26.5 Gbps	
Firewall Latency (64 byte, UDP)	4.36 µs	
Firewall Throughput (Packet per Second)	39.75 Mpps	
Concurrent Sessions (TCP)	11 Million	
New Sessions/Second (TCP)	400 000	
Firewall Policies	10 000	
IPsec VPN Throughput (512 byte) [1]	36 Gbps	
Gateway-to-Gateway IPsec VPN Tunnels	2000	
Client-to-Gateway IPsec VPN Tunnels	16 000	
SSL-VPN Throughput [6]	3 Gbps	
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)	500	
SSL Inspection Throughput (IPS, avg. HTTPS) [3]	7 Gbps	
SSL Inspection CPS (IPS, avg. HTTPS) [3]	7100	
SSL Inspection Concurrent Session (IPS, avg. HTTPS) [3]	900 000	
Application Control Throughput (HTTP 64K) [2]	27.8 Gbps	
CAPWAP Throughput (HTTP 64K)	37.5 Gbps	
Virtual Domains (Default / Maximum)	10 / 25	
Maximum Number of FortiSwitches Supported	64	
Maximum Number of FortiAPs (Total / Tunnel)	256 / 128	
Maximum Number of FortiTokens	5000	
High Availability Configurations	Active-Active, Active-Passive, Clustering	

	FORTIGATE 200G	FORTIGATE 201G
Dimensions and Power		
Height x Width x Length (inches)	1.75 × 17.0 × 15.0	
Height x Width x Length (mm)	44.45 × 432 × 380	
Weight	14.11 lbs (6.4 kg)	14.33 lbs (6.5 kg)
Form Factor (supports EIA/non-EIA standards)	Rack Mount, 1 RU	
AC Power Consumption (Average / Maximum)	145 W / 175 W	145 W / 176 W
AC Power Input	100–240V AC, 50/60Hz	
AC Current (Maximum)	2A @100VAC, 1.2A @240VAC	
Heat Dissipation	597.12 BTU/h	600.54 BTU/h
Power Supply Efficiency Rating	80Plus Compliant	
Redundant Power Supplies	✓ (Default dual non-swappable AC PSU for 1+1 Redundancy)	
Operating Environment and Certifications		
Operating Temperature	32°F to 104°F (0°C to 40°C)	
Storage Temperature	-31°F to 158°F (-35°C to 70°C)	
Humidity	5% to 90% non-condensing	
Noise Level	LPA 48 dBA / LWA 55 dBA	
Forced Airflow	Side and Front to Back	
Operating Altitude	Up to 10 000 ft (3048 m)	
Compliance	FCC Part 15 Class A, RCM, VCCI, CE, UL/cUL, CB	
Certification	USGv6/IPv6	

Note: All performance values are "up to" and vary depending on system configuration.

[1] IPsec VPN performance test uses AES256-SHA256.

[2] IPS (Enterprise Mix), Application Control, NGFW and Threat Protection are measured with Logging enabled.

[3] SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.

[4] NGFW performance is measured with Firewall, IPS and Application Control enabled.

[5] Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection enabled.

[6] Uses RSA-2048 certificate.

Subscriptions

Service Category	Service Offering	A-la-carte	Bundles: Enterprise Protection	Bundles: Unified Threat Protection	Bundles: Advanced Threat Protection	Bundles: SD-WAN
FortiGuard Security Services	IPS — IPS, Malicious/Botnet URLs	•	•	•	•	
	Anti-Malware Protection (AMP)—AV, Botnet Domains, Mobile Malware, Virus Outbreak Protection, Content Disarm and Reconstruct[1], AI-based Heurestic AV, FortiGate Cloud Sandbox	•	•	•	•	
	URL, DNS and Video Filtering — URL, DNS and Video[1] Filtering, Malicious Certificate	•	•	•		
	Anti-Spam		•	•		
	AI-based Inline Malware Prevention	•	•			
	Data Loss Prevention (DLP) [2]	•	•			
	Attack Surface Security — IoT Device Detection, IoT Vulnerability Correlation and Virtual Patching, Security Rating, Outbreak Check		•			•
	OT Security—OT Device Detection, OT Vulnerability Correlation and Virtual Patching, OT Application Control and IPS [2]	•				
	Application Control	----------included with FortiCare Subscription----------				
	Inline CASB[1]	----------included with FortiCare Subscription----------				
SD-WAN and SASE Services	SD-WAN SLA Database					•
	SD-WAN Underlay and Application Monitoring Service					•
	SD-WAN Overlay Orchestration Service					•
	SD-WAN Connector for FortiSASE Secure Private Access					•
	FortiSASE Starter Kit for n* Users[3]					•
	FortiGate Cloud One Year Cloud-based Log Retention					•
	FortiTelemetry Cloud					•
NOC and SOC Services	FortiConverter Service for One Time Configuration Conversion	•	•			
	Managed FortiGate Service—Available 24×7, with Fortinet NOC Experts Performing Device Setup, Network, And Policy Change Management	•				
	FortiGate Cloud—Management, Analysis, and One Year Log Retention	•				
	FortiManager Cloud	•				
	FortiAnalyzer Cloud	•				
	FortiGuard SOCaaS—24×7 Cloud-Based Managed Log Monitoring, Incident Triage, and SOC Escalation Service	•				
Hardware and Software Support	FortiCare Essentials	Desktop models only				
	FortiCare Premium	•	•	•	•	•
	FortiCare Elite	•				
Base Services	Device/OS Detection, GeoIPs, Trusted CA Certificates, Internet Services and Botnet IPs, DDNS (v4/v6), Local Protection, PSIRT Check, Anti-Phishing	----------included with FortiCare Subscription----------				

1. Not available for FortiGate/FortiWiFi 40F, 60E, 60F, 80E, and 90E series from 7.4.4 onwards. Not available for FortiGate/FortiWiFi 30G and 50G series in any OS build.
2. Full features available when running FortiOS 7.4.1.
3. Only supported on FortiGate models from the 100F onwards (F-series and all later series).
See the FortiSASE Ordering Guide for supported models and corresponding user license allocations.

FortiGuard AI-Powered Security Bundles for FortiGate

FortiGuard AI-Powered Security Bundles provide a comprehensive and meticulously curated selection of security services to combat known, unknown, zero-day, and emerging AI-based threats. These services are designed to prevent malicious content from breaching your defenses, protect against web-based threats, secure devices throughout IT/OT/IoT environments, and ensure the safety of applications, users, and data. All bundles include FortiCare Premium Services featuring 24×7×365 availability, one-hour response for critical issues, and next-business-day response for noncritical matters.

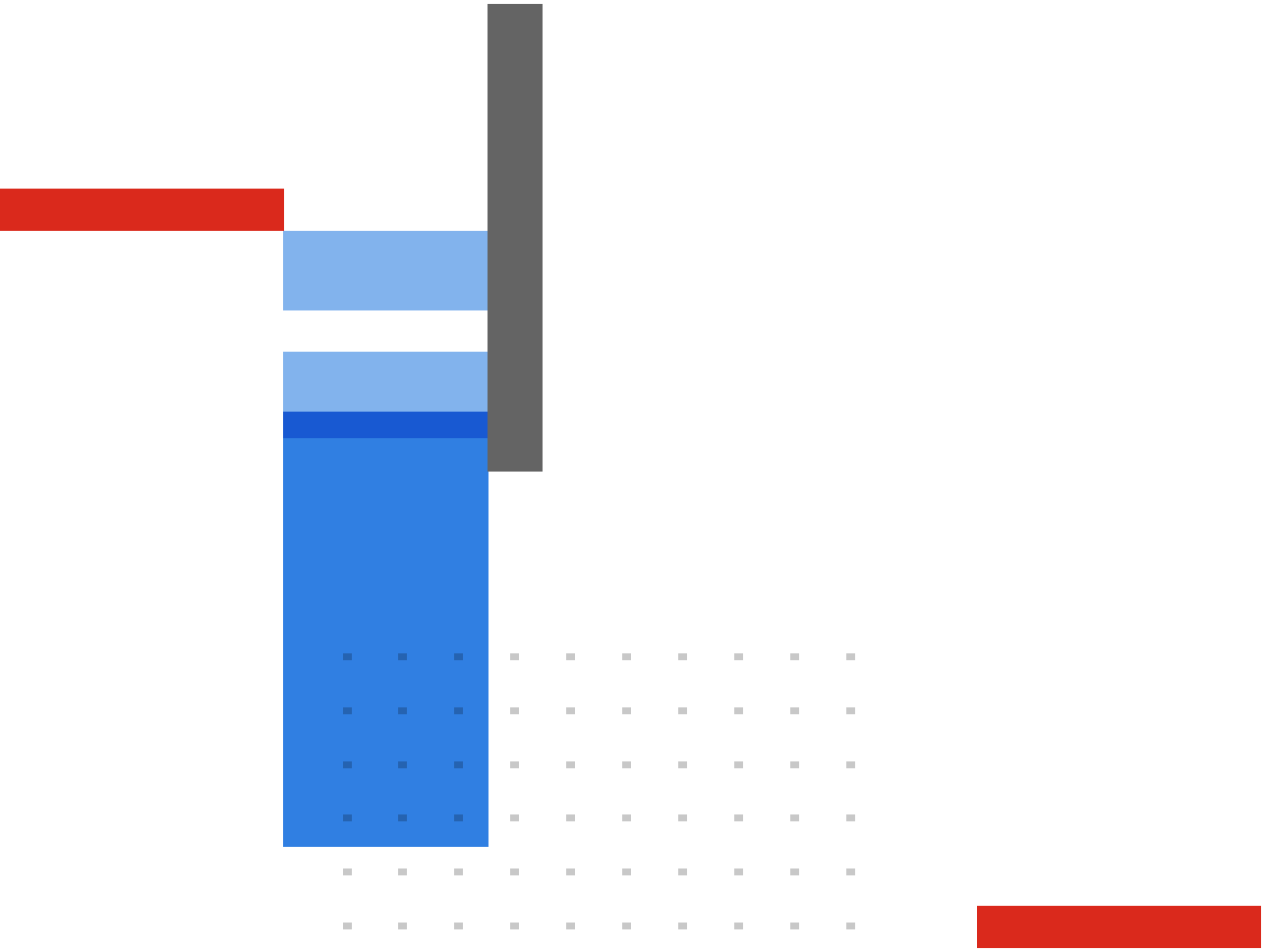
Ordering Information

Product	SKU	Description
FortiGate 200G	FG-200G	10x GE RJ45 (including 1x MGMT port, 1x HA port, 8x switch ports), 4x GE SFP slots, 8× 5GE RJ45, 8× 10GE SFP+ slots, NP7Lite and CP10 hardware accelerated.
FortiGate 201G	FG-201G	10x GE RJ45 (including 1x MGMT port, 1x HA port, 8x switch ports), 4x GE SFP slots, 8× 5GE RJ45, 8× 10GE SFP+ slots, NP7Lite and CP10 hardware accelerated, 480GB onboard SSD storage.
Transceivers		
1 GE SFP EX Transceiver Module	FN-TRAN-EX	1 GE SFP EX transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP SX Transceiver Module	FN-TRAN-SX	1 GE SFP SX transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP LX Transceiver Module	FN-TRAN-LX	1 GE SFP LX transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP ZX Transceiver Module	FN-TRAN-ZX	1 GE SFP ZX transceiver module for all systems with SFP and SFP/SFP+ slots.
10 GE copper SFP+ RJ45 Transceiver Module (80m range)	FN-TRAN-SFP+GC-T80	10 GE copper SFP+ RJ45 transceiver module (80m range) for systems with SFP+ slots.
10 GE SFP+ RJ45 Transceiver Module	FN-TRAN-SFP+GC	10 GE SFP+ RJ45 transceiver module for systems with SFP+ slots.
10 GE SFP+ Transceiver Module, Short Range	FN-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	FN-TRAN-SFP+LR	10 GE SFP+ transceiver module, long range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, Extended Range	FN-TRAN-SFP+ER	10 GE SFP+ transceiver module, extended range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, Extended Range	FN-TRAN-SFP+ER-BD27	10GE SFP+ transceiver module, Extended range single BiDi for systems with SFP+ and SFP/SFP+ slots (connects to FN-TRAN-SFP+ER-BD33, ordered separately).
10 GE SFP+ Transceiver Module, Extended Range	FN-TRAN-SFP+ER-BD33	10GE SFP+ transceiver module, Extended range single BiDi for systems with SFP+ and SFP/SFP+ slots (connects to FN-TRAN-SFP+ER-BD27, ordered separately).
10 GE SFP+ Transceiver Module, 80km Extreme Long Range	FN-TRAN-SFP+ZR	10GE SFP+ transceiver module, 80km extreme long range, for systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, 30km Long Range	FN-TRAN-SFP+BD27	10GE SFP+ transceiver module, 30km long range single BiDi for systems with SFP+ and SFP/SFP+ slots (connects to FN-TRAN-SFP+BD33, ordered separately).
10 GE SFP+ Transceiver Module, (connects to FN-TRAN-SFP+BD27, ordered separately)	FN-TRAN-SFP+BD33	10GE SFP+ transceiver module, 30km long range single BiDi for systems with SFP+ and SFP/SFP+ slots (connects to FN-TRAN-SFP+BD27, ordered separately).
25 GE SFP28 Transceiver Module, Short Range	FN-TRAN-SFP28-SR	25 GE SFP28 transceiver module, short range, compatible with 10 GE SFP/SFP+ slots.
Cables		
10 GE SFP+ Passive Direct Attach Cable 1m	FN-CABLE-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 3m	FN-CABLE-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 5m	FN-CABLE-SFP+5	10 GE SFP+ passive direct attach cable, 5m for systems with SFP+ and SFP/SFP+ slots.

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

Fortinet Corporate Social Responsibility 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.



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July 9, 2026

FG-200G-DAT-R11-20260709

Fortinet Transceivers

Transceiver Modules for Fortinet Products

Take the Guesswork Out of Selecting Transceivers

Common connectivity problems in enterprise and data center networks are often traced back to low-quality and incompatible transceiver modules, rather than a fault in the network appliances themselves. Fortinet's transceivers have been purpose-built and tested to work with Fortinet equipment, ensuring that your network is as stable and robust as possible, and taking the guesswork out of selecting compatible transceivers.

Highlights

Copper and optical options

Supports

- SFP
- SFP+
- SFP28
- SFP56
- QSFP+
- DAC
- CFP2
- QSFP28
- QSFP56
- QSFP-DD

Performance from 1 Gbps to 400 Gbps

Tested for compatibility with Fortinet appliances

Wide Range for Maximum Flexibility

Supporting various form factors, media types, and throughput, Fortinet transceivers provide connectivity options to meet many different network architectures and deployment scenarios. Whether your network demands high-speed 400 GE inside the data center, or long-range 1 GE to connect data centers in different cities, Fortinet has a transceiver to meet your needs.

Available in

Appliance

Key Features and Benefits

Various Interface Options

Fortinet transceivers support various interfaces including: SFP, SFP+, DAC, and newer high-speed standards including SFP28, SFP56, QSFP+, CFP2, QSFP28, QSFP56, and QSFP-DD.

Tested for Compatibility

You can rest assured that your Fortinet transceivers have been tested for compatibility on Fortinet products, taking the guesswork out of selecting transceivers for your environment.

Maximize Network Uptime

Eliminate connectivity problems to maximize network uptime by using quality transceivers, designed to work with Fortinet products.

Cost Effective

Transceiver modules can be expensive, especially those with sensitive high-speed optics. Fortinet delivers high-quality transceivers, while keeping cost to a minimum.

Quick Reference Matrix

Maximum Transmission Distance	SFP (100MBPS)	SFP (GE)	SFP (2.5 GE)	SFP+ (10 GE)	SFP28 (25 GE)	SFP56 (50 GE)
10 Meter				SP-CABLE-ADASFP+		
30 Meter				FN-TRAN-SFP+GC		
80 Meter				FN-TRAN-SFP+GC-T80		
100 Meter		FN-TRAN-GC			FN-TRAN-SFP28-SR	FN-TRAN-SFP56-SR
150 Meter						
220 Meter		FN-TRAN-SX (62.5/125 µm) FR-TRAN-SX (62.5/125 µm)		FN-TRAN-SFP+LRM on MMF		
300 Meter			FN-TRAN-SFP2-SX	FN-TRAN-SFP+SR FN-TRAN-SFP+LRM on SMF FN-TRAN-SFP+SRI		
400 Meter				FN-TRAN-SFP+SRI (on OM4 MMF)		
500 Meter		FN-TRAN-SX (50/125 µm) FR-TRAN-SX (50/125 µm) FN-TRAN-SXI (50/125 µm)				
550 Meter				FN-TRAN-SFP+SR (on OM4 MMF)		
2 Kilometer	FN-TRAN-FX FN-TRAN-SFX					
10 Kilometer		FN-TRAN-LX FN-TRAN-SFP-1BD10 FN-TRAN-SFP-1BU10		FN-TRAN-SFP+LR FN-TRAN-SFP+LRI	FN-TRAN-SFP28-LR	
25 Kilometer			FN-TRAN-SFP2-LX			
30 Kilometer				FN-TRAN-SFP+BD27 FN-TRAN-SFP+BD33		
40 Kilometer		FN-TRAN-SFP-1BD40 FN-TRAN-SFP-1BU40 FN-TRAN-EX		FN-TRAN-SFP+ER FN-TRAN-SFP+ERI		
80 Kilometer				FN-TRAN-SFP+ZR		
90 Kilometer		FR-TRAN-ZX				

Maximum Transmission Distance	QSFP+ (40 GE)	CFP2 (100 GE)	QSFP28 (100 GE)	QSFP56 (200 GE)	QSFPDD (400 GE)
10 Meter					
30 Meter					
100 Meter	FN-TRAN-QSFP+SR FG-TRAN-QSFP+SR-BIDI (on OM3 MMF) FN-TRAN-QSFP+BIDI (on OM3 MMF)	FG-TRAN-CFP2-SR10	FN-TRAN-QSFP28-SR FN-TRAN-QSFP28-BIDI (on OM4 MMF) FN-TRAN-QSFP28-BIDI-I	FN-TRAN-QSFP56-SR4	FN-TRAN-QSFPDD-SR8
150 Meter	FN-TRAN-QSFP+SR FG-TRAN-QSFP+SR-BIDI (on OM4 MMF) FN-TRAN-QSFP+BIDI (on OM4 MMF)		FN-TRAN-QSFP28-BIDI (on OM5 MMF)		
220 Meter					
300 Meter					
400 Meter					
500 Meter			FN-TRAN-QSFP28-DR		FN-TRAN-QSFPDD-DR4
2 Kilometer			FN-TRAN-QSFP28-CWDM4 FN-TRAN-QSFP28-FR	FN-TRAN-QSFP56-FR4	FN-TRAN-QSFPDD-DR4+ FN-TRAN-QSFPDD-FR4
10 Kilometer	FN-TRAN-QSFP+LR FN-TRAN-QSFP+LRI	FG-TRAN-CFP2-LR4	FN-TRAN-QSFP28-LR		FN-TRAN-QSFPDD-LR4
20 Kilometer			FN-TRAN-QSFP28-ER		
30 Kilometer					
40 Kilometer	FN-TRAN-QSFP+ER				
80 Kilometer					
90 Kilometer					

Specifications

TRANSCEIVER MODULES										
HARDWARE	**FN-TRAN-FX**	**FN-TRAN-SFX**	**FN-TRAN-FE**	**FN-TRAN-GC**	**FN-TRAN-SX**	**FN-TRAN-SXI**	**FR-TRAN-SX**	**FN-TRAN-LX**	**FN-TRAN-EX**	**FR-TRAN-ZX**
Protocol Standard	100Base-FX	100Base-FX (SGMII)	100Base-T	1000Base-T	1000Base-SX	1000Base-SX	1000Base-SX	1000Base-LX	1000Base-EX	1000Base-LX
IEEE Standard	802.3u	802.3u	802.3u	802.3ab	802.3z	802.3z	802.3z	802.3z	802.3z	802.3z
Module Type	SFP	SFP	SFP	SFP	SFP	SFP	SFP	SFP	SFP	SFP
Data Link Rate for Ethernet	100 Mbps	100 Mpbs	100 Mbps	1.25 Gbps	1.25 Gbps	1.25 Gbps	1.25 Gbps	1.25 Gbps	1.25 Gbps	1.25 Gbps
Transmission Range	2 km	2 km	100 m	100 m	220 m / 500 m	500 m	500 m	10 km	40 km	90 km
Media	MM	MM	Copper Interface	Copper interface	MM	MM	MM	SM	SM	SM
Wavelength (nm)	1310	1310			850	850	850	1310	1310	1550
Connector Type	Duplex LC	Duplex LC	RJ-45	RJ-45	Duplex LC	Duplex LC	Duplex LC	Duplex LC	Duplex LC	Duplex LC
Power Dissipation	< 1.1 W	< 1.2 W	< 1 W	1.05 W	< 800 mW	< 500 mW	< 500 mW	< 830 mW	1 W	< 700 mW
Operating Temperature	-40°C to 85°C	-40°C to 85°C	-40 to 85°C	-40°C to 85°C	-20°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
Hot Plug	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Serial ID PROM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Digital Monitoring	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Auto Negotiation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Link Status	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

TRANSCEIVER MODULES						
HARDWARE	**FN-TRAN-SFP-1BD10***	**FN-TRAN-SFP-1BU10****	**FN-TRAN-SFP-1BD40 *** **	**FN-TRAN-SFP-1BU40 **** **	**FN-TRAN-SFP2-SX**	**FN-TRAN-SFP2-LX**
Protocol Standard	1000BASE-BX10	1000BASE-BX10	1000BASE-BX10	1000BASE-BX10	2500BASE-X	2500BASE-X
IEEE Standard	802.3ah	802.3ah	802.3ah	802.3ah	802.3z	802.3z
Module Type	SFP	SFP	SFP	SFP	SFP	SFP
Data Link Rate for Ethernet	1.25 Gbps	1.25 Gbps	1.25 Gbps	1.25 Gbps	2.5 Gbps	2.5 Gbps
Transmission Range	10 km	10 km	40 km	40 km	300 m	25 km
Media	SM	SM	SM	SM	MM	SM
Wavelength (nm)	TX: 1490 RX: 1310	TX: 1310 RX: 1490	TX: 1490 RX: 1310	TX: 1310 RX: 1490	850	1310
Connector Type	Simplex LC	Simplex LC	Simplex LC	Simplex LC	Duplex LC	Duplex LC
Power Dissipation	< 1 W	< 1 W	< 1 W	< 1 W	< 1 W	< 1 W
Operating Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
Hot Plug	Yes	Yes	Yes	Yes	Yes	Yes
Serial ID PROM	Yes	Yes	Yes	Yes	Yes	Yes
Digital Monitoring	Yes	Yes	Yes	Yes	Yes	Yes
Auto Negotiation	Yes	Yes	Yes	Yes	Yes	Yes
Link Status	Yes	Yes	Yes	Yes	Yes	Yes

* connects to FN-TRAN-1BU10, ordered separately
** connects to FN-TRAN-1BD10, ordered separately
*** connects to FN-TRAN-1BU40, ordered separately
**** connects to FN-TRAN-1BD40, ordered separately

Specifications

TRANSCEIVER MODULES						
HARDWARE	**FN-TRAN-SFP+GC**	**FN-TRAN-SFP+GC-T80**	**FN-TRAN-SFP+SR**	**FN-TRAN-SFP+SRI**	**FN-TRAN-SFP+LR**	**FN-TRAN-SFP+LRI**
Protocol Standard	10GBASE-T	10GBase-T	10GBase-SR	10GBase-SR	10GBase-LR	10GBase-LR
IEEE Standard	802.3an	802.3an	802.3ae	802.3ae	802.3ae	802.3ae
Module Type	SFP+	SFP+	SFP+	SFP+	SFP+	SFP+
Data Link Rate for Ethernet	10 Gbps	10 Gbps	10 Gbps	11.1 Gbps	10 Gbps	10.3 Gbps
Transmission Range	30 m (Cat6A or better)	80 m (Cat6a or better)	300 m (OM3) 550 m (OM4)	300 m (OM3) - 400 m (OM4)	10 km	10 km
Media	Copper interface	Copper Interface	MM	MM	SM	SM
Wavelength (nm)	—	—	850	850	1310	1310
Connector Type	RJ-45	RJ-45	Duplex LC	Duplex LC	Duplex LC	Duplex LC
Power Dissipation	2.5 W	1.88 W	600 mW	< 1 W	850 mW	< 1 W
Operating Temperature	-5°C to 85°C	-5°C to 85°C	0°C to 70°C	-40°–85°C	0°C to 85°C	-40°–85°C
Hot Plug	Yes	Yes	Yes	Yes	Yes	Yes
Serial ID PROM	Yes	Yes	Yes	Yes	Yes	Yes
Digital Monitoring	No	No	Yes	Yes	Yes	Yes
Auto Negotiation	Yes	Yes	Yes	Yes	Yes	Yes
Link Status	Yes	Yes	Yes	Yes	Yes	Yes

TRANSCEIVER MODULES						
HARDWARE	**FN-TRAN-SFP+ER**	**FN-TRAN-SFP+ERI**	**FN-TRAN-SFP+LRM**	**FN-TRAN-SFP+ZR**	**FN-TRAN-SFP+BD27***	**FN-TRAN-SFP+BD33****
Protocol Standard	10GBASE-ER	10GBase-ER	10GBase-LRM	10G-Base-ZR	10G-Base-LR/LW	10G-Base-LR/LW
IEEE Standard	802.3ae	802.3ae	802.3aq	802.3ae	802.3ae	802.3ae
Module Type	SFP+	SFP+	SFP+	SFP+	SFP+	SFP+
Data Link Rate for Ethernet	11.3 Gbps	10.3 Gbps	11.3 Gbps	11.3 Gbps	11.3 Gbps	11.3 Gbps
Transmission Range	40 km	40 km	220 m MMF 300 SMF	80 km	30 km	30 km
Media	SM	SM	MM/SM	SM	SM	SM
Wavelength (nm)	1550	1550	1310	1550	TX: 1271 RX: 1331	TX: 1331 RX: 1271
Connector Type	Duplex LC	Duplex LC	Duplex LC	Duplex LC	Single LC	Single LC
Power Dissipation	1.5 W	< 1.8 W	< 1 W	< 1.5 W	< 1 W	< 1 W
Operating Temperature	-5°C to 70°C	-40°–85°C	0°C to 70°C	-5°C to 70°C	-5°C to 85°C	-5°C to 85°C
Hot Plug	Yes	Yes	Yes	Yes	Yes	Yes
Serial ID PROM	Yes	Yes	Yes	Yes	Yes	Yes
Digital Monitoring	Yes	Yes	Yes	Yes	Yes	Yes
Auto Negotiation	Yes	Yes	Yes	Yes	Yes	Yes
Link Status	Yes	Yes	Yes	Yes	Yes	Yes

* Connects to FN-TRAN-SFP+BD33, ordered separately.

** Connects to FN-TRAN-SFP+BD27, ordered separately.

Specifications

TRANSCEIVER MODULES		
HARDWARE	**FN-TRAN-SFP28-SR**	**FN-TRAN-SFP28-LR**
Protocol Standard	25GBase-SR, 10GBase-SR	25GBase-LR, 10GBase-LR
IEEE Standard	802.3by, 802.3ae	802.3cc
Module Type	SFP28	SFP28
Data Link Rate for Ethernet	25.78 / 10.3 Gbps	25.78 Gbps
Transmission Range	100 m	10 km
Media	MM	SM
Wavelength (nm)	850	1310
Connector Type	Duplex LC	Duplex LC
Power Dissipation	1.2 W	1.5 W
Operating Temperature	0°C to 70°C	0°C to 70°C
Hot Plug	Yes	Yes
Serial ID PROM	Yes	Yes
Digital Monitoring	Yes	Yes
Auto Negotiation	No	No
Link Status	Yes	Yes

TRANSCEIVER MODULES						
HARDWARE	**FN-TRAN-QSFP+SR**	**FN-TRAN-QSFP+LR**	**FN-TRAN-QSFP+LRI**	**FN-TRAN-QSFP+ER**	**FG-TRAN-QSFP+SR-BIDI**	**FN-TRAN-QSFP+BIDI**
Protocol Standard	40GBase-SR4	40GBase-LR4	40GBase-LR4	40G-Base-ER4	40GBase-SR-BiDi	40GBase-SR-BiDi
IEEE Standard	802.3ba	802.3ba	802.3ba	802.3bm	802.3ba	802.3ba
Module Type	QSFP+	QSFP+	QSFP+	QSFP+	QSFP+	QSFP+
Data Link Rate for Ethernet	1.06 Gbps–41.2 Gbps	41.2 Gbps	41.2 Gbps	41.3 Gbps	41.2 Gbps	41.2Gbps
Transmission Range	100 m (OM3)–150 m (OM4)	10 km	10 km	40 km	100 m (OM3)–150 m (OM4)	100 m (OM3)–150 m (OM4)
Media	MM	SM	SM	SM	MM	MM
Wavelength (nm)	750–980	1264.5 - 1277.5 1284.5 - 1297.5 1304.5 - 1317.5 1324.5 - 1337.5	1264.5 - 1277.5 1284.5 - 1297.5 1304.5 - 1317.5 1324.5 - 1337.5	1264.5 – 1277.5 1284.5 – 1297.5 1304.5 – 1317.5 1324.5 – 1337.5	850–900	850-900
Connector Type	MPO-12	Duplex LC	Duplex LC	Duplex LC	Duplex LC	Duplex LC
Power Dissipation	< 1.5 W	< 3.5 W	< 3.5 W	< 3.5 W	< 3.5 W	< 3.5 W
Operating Temperature	0°C to 70°C	0°C to 70°C	-40°–85°C	0°C to 70C	0°C to 70°C	0°C to 70°C
Hot Plug	Yes	Yes	Yes	Yes	Yes	Yes
Serial ID PROM	Yes	Yes	Yes	Yes	Yes	Yes
Digital Monitoring	Yes	Yes	Yes	Yes	No	Yes
Auto Negotiation	Yes	Yes	Yes	Yes	Yes	Yes
Link Status	Yes	Yes	Yes	Yes	Yes	Yes

Specifications

TRANSCEIVER MODULES					
HARDWARE	**FG-TRAN-CFP2-SR10**	**FG-TRAN-CFP2-LR4**	**FN-TRAN-QSFP28-SR**	**FN-TRAN-QSFP28-LR**	**FN-TRAN-QSFP28-FR**
Protocol Standard	100GBase-SR10	100GBase-LR4	100GBase-SR4	100GBase-LR4	100GBase-FR
IEEE Standard	802.3ba	802.3ba	802.3bm	802.3ba	802.3bm/cd/cu
Module Type	CFP2	CFP2	QSFP28	QSFP28	QSFP28
Data Link Rate for Ethernet	103.12 Gbps	103.1 Gbps	103.1 Gbps	103.1 Gbps	103.1 Gbps
Transmission Range	100 m (OM3)–150 m (OM4)	10 km	100 m (OM4)	10 km (SMF)	2 km
Media	MM	SM	MM	SM	SM
Wavelength (nm)	850	1310	850	1294.53 – 1296.59 1299.02 – 1301.09 1303.54 – 1305.63 1308.09 – 1310.19	1310
Connector Type	24 fiber MPO	Duplex LC	MPO12	Duplex LC	Duplex LC
Power Dissipation		< 8 W	< 3.5 W	< 3.5 W	< 4.5 W
Operating Temperature	0°C to 70°C	0°C to 70°C	0°C to 70°C	0°C to 70°C	0°C to 70°C
Hot Plug	Yes	Yes	Yes	Yes	Yes
Serial ID PROM	Yes	Yes	Yes	Yes	Yes
Digital Monitoring	Yes	Yes	Yes	Yes	Yes
Auto Negotiation	Yes	Yes	Yes	Yes	Yes
Link Status	Yes	Yes	Yes	Yes	Yes

TRANSCEIVER MODULES					
HARDWARE	**FN-TRAN-QSFP28-ER**	**FN-TRAN-QSFP28-DR**	**FN-TRAN-QSFP28-CWDM4**	**FN-TRAN-QSFP28-BIDI**	**FN-TRAN-QSFP28-BIDI-I**
Protocol Standard	100G-Base-LR4	100G-Base-DR	100GBase-CWDM4	100GBase-SR-BiDi	100G-Base-SR1.2
IEEE Standard	802.3ba/bm	802.3bm/cd/cu	802.3bm	802.3bm	802.3bm
Module Type	QSFP28	QSFP28	QSFP28	QSFP28	QSFP28
Data Link Rate for Ethernet	103.1 Gbps	103.1 Gbps	103.1 Gbps	103.1 Gbps	106.25 Gbps
Transmission Range	20 km	500 m	2 km	100 m	100 m
Media	SM	SM	SM	MM	MM
Wavelength (nm)	1294.53 – 1296.59 1299.02 – 1301.09 1303.54 – 1305.63 1308.09 – 1310.19	1304.5 – 1317.5	1264.5 – 1277.5 1284.5 – 1297.5 1304.5 – 1317.5 1324.5 – 1337.5	850 900	850 900
Connector Type	Duplex LC	Duplex LC	Duplex LC	Duplex LC	Duplex LC
Power Dissipation	< 3.5 W	< 4.5 W	< 3.5 W	< 3.5 W	< 4 W
Operating Temperature	0°C to 70°C	0°C to 70°C	0°C to 70°C	10°C to 70°C	0°C to 70°C
Hot Plug	Yes	Yes	Yes	Yes	Yes
Serial ID PROM	Yes	Yes	Yes	Yes	Yes
Digital Monitoring	Yes	Yes	Yes	Yes	Yes
Auto Negotiation	Yes	Yes	Yes	Yes	Yes
Link Status	Yes	Yes	Yes	Yes	Yes

Specifications

TRANSCEIVER MODULES			
HARDWARE	**FN-TRAN-SFP56-SR**	**FN-TRAN-QSFP56-SR4**	**FN-TRAN-QSFP56-FR4**
Protocol Standard	50G-Base-SR	200G-Base-SR4	200G-Base-FR4
IEEE Standard	802.3cd	802.3cd	802.3bs
Module Type	SFP56	QSFP56	QSFP56
Data Link Rate for Ethernet	53.125 Gbps	212.5 Gbps	212.5 Gbps
Transmission Range	100 m	100 m	2 km
Media	MM	MM	SM
Wavelength (nm)	850	850	1264.5 – 1277.5 1284.5 – 1297.5 1304.5 – 1317.5 1324.5 – 1337.5
Connector Type	Duplex LC	MPO-12	Duplex LC
Power Dissipation	< 1.5 W	< 4.5 W	< 6 W
Operating Temperature	0°C to 70°C	0°C to 70°C	0°C to 70°C
Hot Plug	Yes	Yes	Yes
Serial ID PROM	Yes	Yes	Yes
Digital Monitoring	Yes	Yes	Yes
Auto Negotiation	Yes	Yes	Yes
Link Status	Yes	Yes	Yes

TRANSCEIVER MODULES					
HARDWARE	**FN-TRAN-QSFPDD-SR8**	**FN-TRAN-QSFPDD-LR4**	**FN-TRAN-QSFPDD-FR4**	**FN-TRAN-QSFPDD-DR4**	**FN-TRAN-QSFPDD-DR4+**
Protocol Standard	400G-Base-SR8	400G-Base-LR4	400G-Base-FR4	400G-Base-DR4	400G-Base-DR4
IEEE Standard	802.3bs	802.3bs	802.3cu	802.3bs	802.3bs
Module Type	QSFP-DD	QSFP-DD	QSFP-DD	QSFP-DD	QSFP-DD
Data Link Rate for Ethernet	425 Gbps	425 Gbps	425 Gbps	425 Gbps	425 Gbps
Transmission Range	100 m	10 km	2 km	500 m	2 km
Media	MM	SM	SM	SM	SM
Wavelength (nm)	850	1271 1291 1311 1331	1271 1291 1311 1331	1310	1311
Connector Type	MPO-16 APC	Duplex LC	Duplex LC	MPO-12	MPO-12
Power Dissipation	< 9 W	< 10.5 W	< 12 W	< 12 W	< 14 W
Operating Temperature	0°C to 70°C	0°C to 70°C	0°C to 70°C	0°C to 70°C	0°C to 70°C
Hot Plug	Yes	Yes	Yes	Yes	Yes
Serial ID PROM	Yes	Yes	Yes	Yes	Yes
Digital Monitoring	Yes	Yes	Yes	Yes	Yes
Auto Negotiation	Yes	Yes	Yes	Yes	Yes
Link Status	Yes	Yes	Yes	Yes	Yes

Specifications

DIRECT ATTACH CABLES				
HARDWARE	**FN-CABLE-SFP+1**	**FN-CABLE-SFP+3**	**FN-CABLE-SFP+5**	**SP-CABLE-ADASFP+**
Protocol Standard	10GBase-CR	10GBase-CR	10GBase-CR	10GBase-CR
Data Link Rate for Ethernet	10 Gbps	10 Gbps	10 Gbps	1 Gbps to 10 Gbps
Module Type	SFP+	SFP+	SFP+	SFP+
Power Dissipation	< 0.1 W	< 0.1 W	< 0.1 W	< 0.5 W
Operating Temperature	0°C to 70°C	0°C to 70°C	0°C to 70°C	0°C to 70°C
Hot Plug	Yes	Yes	Yes	Yes
Cable Length	1 m	3 m	5 m	10 m
Cable Type	Twinax Copper Passive	Twinax Copper Passive	Twinax Copper Passive	Twinax Copper Active
Transceiver	Included	Included	Included	Included
Compliance	RoHS	RoHS	RoHS	RoHS
Bend Radius	22 mm (30 AWG)	22 mm (30 AWG)	33 mm (24 AWG)	25 mm (30 AWG)
Cable Diameter	4.5 mm	4.5 mm	5.6 mm	4.5 mm
Digital Monitoring	Yes	Yes	Yes	Yes

DIRECT ATTACH CABLES			
HARDWARE	**FN-CABLE-SFP28-1**	**FN-CABLE-SFP28-3**	**FN-CABLE-SFP28-5**
Protocol Standard	25GBase-CR	25GBase-CR	25GBase-CR
Data Link Rate for Ethernet	25 Gbps	25 Gbps	25 Gbps
Module Type	SFP28	SFP28	SFP28
Power Dissipation	< 0.1 W	< 0.1 W	< 0.1 W
Operating Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
Hot Plug	Yes	Yes	Yes
Cable Length	1 m	3 m	5 m
Cable Type	Twinax Copper Passive	Twinax Copper Passive	Twinax Copper Passive
Transceiver	Included	Included	Included
Compliance	RoHS	RoHS	RoHS
Bend Radius	35 mm (30 AWG)	35 mm (30 AWG)	35 mm (30 AWG)
Cable Diameter	4.83 mm	4.83 mm	4.83 mm
Digital Monitoring	Yes	Yes	Yes

Specifications

DIRECT ATTACH CABLES				
HARDWARE	**FN-CABLE-QSFP+1**	**FN-CABLE-QSFP+3**	**FN-CABLE-QSFP+5**	**FN-CABLE-QSFP+7**
Protocol Standard	40GBase-CR4	40GBase-CR4	40GBase-CR4	40GBase-CR4
Data Link Rate for Ethernet	40 Gbps	40 Gbps	40 Gbps	40 Gbps
Module Type	QSFP+	QSFP+	QSFP+	QSFP+
Power Dissipation	< 0.1 W	< 0.1 W	< 0.1 W	<0.1 W
Operating Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
Hot Plug	Yes	Yes	Yes	Yes
Cable Length	1 m	3 m	5 m	7 m
Cable Type	Twinax Copper Passive	Twinax Copper Passive	Twinax Copper Passive	Twinax Copper Passive
Transceiver	Included	Included	Included	Included
Compliance	RoHS	RoHS	RoHS	RoHS
Bend Radius	37.5 mm (28 AWG)	37.5 mm (28 AWG)	44 mm (26 AWG)	49 mm (24 AWG)
Cable Diameter	7.5 mm	7.5 mm	8.8 mm	9.8 mm
Digital Monitoring	Yes	Yes	Yes	Yes

DIRECT ATTACH CABLES (DAC)				
HARDWARE	**FN-CABLE-SFP56-DAC-L1**	**FN-CABLE-SFP56-DAC-LB5**	**FN-CABLE-QSFP56-DAC-L1**	**FN-CABLE-QSFP56-DAC-LB5**
Protocol Standard	50GBase-CR	50GBase-CR	200G-BASE-CR4	200G-BASE-CR4
Data Link Rate for Ethernet	50 Gbps	50 Gbps	200 Gbps	200 Gbps
Module Type	SFP56	SFP56	QSFP56	QSFP56
Power Dissipation	< 0.1 W	< 0.1 W	< 0.1 W	< 0.1 W
Operating Temperature	0°C to 70°C	0°C to 70°C	0°C to 70°C	0°C to 70°C
Hot Plug	Yes	Yes	Yes	Yes
Cable Length	1 m	2.5 m	1 m	2.5 m
Cable Type	Twinax Copper Passive	Twinax Copper Passive	Twinax Copper Passive	Twinax Copper Passive
Transceiver	Included	Included	Included	Included
Compliance	RoHS	RoHS	RoHS	RoHS
Bend Radius	22.5 mm (30 AWG)	27.5 mm (28 AWG)	35.0 mm (30 AWG)	42.5 mm (28 AWG)
Cable Diameter	4.5 mm	5.5 mm	7.0 mm	8.5 mm
Digital Monitoring	No	No	No	No

DIRECT ATTACH CABLES (DAC)				
HARDWARE	**FN-CABLE-QSFP28-1**	**FN-CABLE-QSFP28-2**	**FN-CABLE-QSFP28-3**	**FN-CABLE-QSFP28-5**
Protocol Standard	100GBase-CR4	100GBase-CR4	100GBase-CR4	100GBase-CR4
Data Link Rate for Ethernet	100 Gbps	100 Gbps	100 Gbps	100 Gbps
Module Type	QSFP28	QSFP28	QSFP28	QSFP28
Power Dissipation	< 0.1 W	< 0.1 W	< 0.1 W	< 0.1 W
Operating Temperature	0°C to 70°C	0°C to 70°C	0°C to 70°C	0°C to 70°C
Hot Plug	Yes	Yes	Yes	Yes
Cable Length	1 m	2 m	3 m	5 m
Cable Type	Twinax Copper Passive	Twinax Copper Passive	Twinax Copper Passive	Twinax Copper Passive
Transceiver	Included	Included	Included	Included
Compliance	RoHS	RoHS	RoHS	RoHS
Bend Radius	25 mm (30 AWG)	25 mm (30 AWG)	25 mm (30 AWG)	25 mm (30 AWG)
Cable Diameter	6.4 mm	6.4 mm	6.4 mm	6.4 mm
Digital Monitoring	N/A	N/A	N/A	N/A

Specifications

	DIRECT ATTACH CABLE (DAC)	DIRECT ATTACH CABLE (DAC)	ACTIVE OPTICAL CABLE (AOC)
HARDWARE	**FN-CABLE-QSFPDD-DAC-01**	**FN-CABLE-QSFPDD-DAC-B5**	**FN-CABLE-QSFPDD-AOC-03**
Protocol Standard	400GBase-CR8	400GBase-CR8	400G Ethernet
IEEE Standard	IEEE802.3bs	IEEE802.3bs	IEEE802.3bs
Data Link Rate for Ethernet	425 Gbps	425 Gbps	425 Gbps
Module Type	QSFP-DD	QSFP-DD	QSFP-DD
Power Dissipation	< 0.1 W	< 0.1 W	8 W
Operating Temperature	0°C to 70°C	0°C to 70°C	0°C to 70°C
Hot Plug	Yes	Yes	Yes
Cable Length	1 m	2.5 m	3 m
Cable Type	Twinax Copper Passive	Twinax Copper Passive	OM3
Transceiver	Included	Included	Included
Compliance	RoHS	RoHS	RoHS
Bend Radius	31.5 mm (30 AWG)	40.6 mm (26 AWG)	—
Cable Diameter	9.0 mm	11.6 mm	—
Digital Monitoring	No	No	Yes

	BREAKOUT DIRECT ATTACH CABLES (DAC)		
HARDWARE	**FN-CABLE-QSFP28-4SFP28-1**	**FN-CABLE-QSFP28-4SFP28-3**	**FN-CABLE-QSFP28-4SFP28-5**
Protocol Standard	25GBase-CR	25GBase-CR	25GBase-CR
IEEE Standard			
Data Link Rate for Ethernet	1× 100 Gbps 4× 25 Gbps	1× 100 Gbps 4× 25 Gbps	1× 100 Gbps 4× 25 Gbps
Module Type	1x QSFP28 4x SFP28	1x QSFP28 4x SFP28	1x QSFP28 4x SFP28
Power Dissipation	< 0.1 W	< 0.1 W	< 0.1 W
Operating Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
Hot Plug	Yes	Yes	Yes
Cable Length	1 m	3 m	5 m
Cable Type	Twinax Copper Passive	Twinax Copper Passive	Twinax Copper Passive
Transceiver	Included	Included	Included
Compliance	RoHS	RoHS	RoHS
Bend Radius	30 mm (30 AWG)	30 mm (30 AWG)	30 mm (30 AWG)
Cable Diameter	4.83 mm	4.83 mm	4.83 mm
Digital Monitoring	Yes	Yes	Yes

Specifications

BREAKOUT DIRECT ATTACH CABLES (DAC)				
HARDWARE	**FN-CABLE-QSFPDD-2QSFP56-L1**	**FN-CABLE-QSFPDD-2QSFP56-LB5**	**FN-CABLE-QSFPDD-8SFP56-L1**	**FN-CABLE-QSFPDD-8SFP56-LB5**
Protocol Standard	400G/200G Ethernet	400G/200G Ethernet	400G/50G Ethernet	400G/50G Ethernet
IEEE Standard	802.3cd	802.3cd	802.3cd	802.3cd
Data Link Rate for Ethernet	1× 400 Gbps 2× 200 Gbps	1× 400 Gbps 2× 200 Gbps	1× 400 Gbps 8× 50 Gbps	1× 400 Gbps 8× 50 Gbps
Module Type	1x QSFP-DD 2x QSFP56	1x QSFP-DD 2x QSFP56	1x QSFP-DD 8x SFP56	1x QSFP-DD 8x SFP56
Power Dissipation	0.1 W	0.1 W	0.1 W	0.1 W
Operating Temperature	0°C to 70°C	0°C to 70°C	0°C to 70°C	0°C to 70°C
Hot Plug	Yes	Yes	Yes	Yes
Cable Length	1 m	2.5 m	1 m	2.5 m
Cable Type	Twinax Copper Passive	Twinax Copper Passive	Twinax Copper Passive	Twinax Copper Passive
Transceiver	Included	Included	Included	Included
Compliance	RoHS	RoHS	RoHS	RoHS
Bend Radius	70 mm (30 AWG)	85 mm (28 AWG)	45 mm (30 AWG)	50 mm (28 AWG)
Cable Diameter	7.0 mm	8.5 mm	4.5 mm	5.0 mm
Digital Monitoring	No	No	No	No

BREAKOUT CABLES				
HARDWARE	**FG-TRAN-QSFP-4xSFP**	**FG-TRAN-QSFP-4SFP-5**	**FG-CABLE-SR10-SFP+**	**FG-CABLE-SR10-SFP+5**
Connector A	1× 40 GE QSFP+	1× 40 GE QSFP+	1× 100 GE SR10 CFP2	1× 100 GE SR10 CFP2
Connector A Type	MPO	MPO	MPO	MPO
Connector B	4× 10 GE SFP+	4× 10 GE SFP+	10× 10 GE SFP+	10× 10 GE SFP+
Connector B Type	LC duplex	LC duplex	LC duplex	LC duplex
Cable Length	1 m	5 m	1 m	5 m
Cable Type	OM3 MMF	OM3 MMF	OM3 MMF	OM3 MMF
Transceiver	Not included	Not included	Not included	Not included

Fortinet Breakout Cables — Qualified on Fortinet Products (on applicable interfaces)

Ordering Information

Product	SKU	Description
Transceivers		
1 GE SFP Transceiver module, 10km, BiDi	FN-TRAN-SFP-1BD10	1 GE SFP BIDI transceiver module, long range 10km, single LC connector, SMF, TX:1490nm/ RX:1310nm, -40°C to 85°C, for systems with SFP+ slots (connects to FN-TRAN-1BU10, ordered separately).
1 GE SFP Transceiver module, 10km, BiDi	FN-TRAN-SFP-1BU10	1 GE SFP BIDI transceiver module, long range 10km, single LC connector, SMF, TX:1310nm/ RX:1490nm, -40°C to 85°C, for systems with SFP+ slots (connects to FN-TRAN-1BD10, ordered separately).
1 GE SFP Transceiver module, 40km, BiDi	FN-TRAN-SFP-1BD40	1 GE SFP BIDI transceiver module, long range 40km, single LC connector, SMF, TX:1490nm/ RX:1310nm, -40°C to 85°C, for systems with SFP+ slots (connects to FN-TRAN-1BU40, ordered separately).
1 GE SFP Transceiver module, 40km, BiDi	FN-TRAN-SFP-1BU40	1 GE SFP BIDI transceiver module, long range 40km, single LC connector, SMF, TX:1310nm/ RX:1490nm, -40°C to 85°C, for systems with SFP+ slots (connects to FN-TRAN-1BD40, ordered separately).
1 GE SFP LX Transceiver module, long range	FN-TRAN-LX	1 GE SFP transceiver module, long range 10km, LC connector, SMF, 1310nm, -40°C to 85°C, for systems with SFP/SFP+ slots.
1 GE SFP RJ45 Transceiver module, 100m range	FN-TRAN-GC	1 GE SFP transceiver module, range 100m, RJ45 connector, -40°C to 85°C, for systems with SFP/ SFP+ slots.
1 GE SFP SX Transceiver module, short range	FN-TRAN-SX	1 GE SFP transceiver module, short range 500m, LC connector, MMF, 850nm, -20°C to 85°C, for systems with SFP slots.
1 GE SFP transceiver module, short range 500m	FN-TRAN-SXI-4PACK	Pack of four 1 GE SFP transceiver module, short range 500m, LC connector, MMF, 850nm, -40°C to 85°C, for systems with SFP slots.
1 GE SFP SX Transceiver module, MMF, -40°–85°C operation	FR-TRAN-SX	1 GE SFP transceiver module, short range 500m, LC connector, MMF, 850nm, -40°C to 85°C, for systems with SFP slots.
1 GE SFP transceiver module, long range 40km	FN-TRAN-EX-4PACK	Pack of four 1 GE SFP transceiver module, long range 40km, LC connector, SMF, 1310nm, -40°C to 85°C, for systems with SFP/SFP+ slots.
1 GE SFP Transceiver module, 90 km range, -40°–85°C operation	FR-TRAN-ZX	1 GE SFP transceiver module, long range 90km, LC connector, SMF, 1550nm, -40°C to 85°C, for systems with SFP slots.
Pack of four 1 GE SFP transceiver module, short range 500m	FN-TRAN-SXI-4PACK	Pack of four 1 GE SFP transceiver module, short range 500m, LC connector, MMF, 850nm, -40°C to 85°C, for systems with SFP slots.
2.5 GE SFP Transceiver module, 20km range	FN-TRAN-SFP2-LX	2.5 GE SFP+ transceiver module, long range 25km, LC connector, SMF, 1310nm, -40°C to 70°C, for systems with SFP/SFP+ slots.
2.5 GE SFP Transceiver module, short range	FN-TRAN-SFP2-SX	2.5 GE SFP+ transceiver module, long range 300m, LC connector, MMF, 850nm, -40°C to 70°C, for systems with SFP/SFP+ slots.
10 GE SFP+ Transceiver module, short range	FN-TRAN-SFP+SR	10 GE SFP+ transceiver module, short range 550m, LC connector, MMF, 850nm, -40°C to 85°C, for systems with SFP+ slots.
10 GE SFP+ transceiver module, short range	FN-TRAN-SFP+SRI	10 GE SFP+ transceiver module, short range 400m, LC connector, MMF, 850nm, -40°C to 85°C, for systems with SFP+ slots.
10 GE SFP+ Transceiver module, long range	FN-TRAN-SFP+LR	10 GE SFP+ transceiver module, long range 10km, LC connector, SMF, 1310nm, 0°C to 70°C, for systems with SFP+ slots. TAA Compliant.
10 GE SFP+ transceiver module, 10km range	FN-TRAN-SFP+LRI	10 GE SFP+ transceiver module, long range 10km, LC connector, SMF, 1310nm, -40°C to 85°C, for systems with SFP+ slots.
10 GE SFP Transceiver module, long range MMF	FN-TRAN-SFP+LRM	10 GE SFP+ transceiver module, long range 220m/300m, LC connector, OM1 MMF/SMF, 1310nm, 0°C to 70°C, for systems with SFP+ slots.
10 GE SFP+ Transceiver module, short range, BiDi	FN-TRAN-SFP+BD27	10 GE SFP+ BIDI transceiver module, long range 30km, single LC connector, SMF, TX:1271nm/ RX:1331nm, -5°C to 85°C, for systems with SFP+ slots (connects to FN-TRAN-SFP+BD33, ordered separately).
10 GE SFP+ Transceiver module, short range, BiDi	FN-TRAN-SFP+BD33	10 GE SFP+ BIDI transceiver module, long range 30km, single LC connector, SMF, TX:1331nm/ RX:1271nm, -5°C to 85°C, for systems with SFP+ slots (connects to FN-TRAN-SFP+BD27, ordered separately).
10 GE SFP+ Transceiver module, extended range	FN-TRAN-SFP+ER	10 GE SFP+ transceiver module, long range 40km, LC connector, SMF, 1550nm, -40°C to 85°C, for systems with SFP+ slots.
10 GE SFP+ transceiver module, 40km range	FN-TRAN-SFP+ERI	10 GE SFP+ transceiver module, long range 40km, LC connector, SMF, 1550nm, -40°C to 85°C, for systems with SFP+ slots.
10 GE SFP+ Transceiver module, extended range	FN-TRAN-SFP+ZR	10 GE SFP+ transceiver module, long range 80km, LC connector, SMF, 1550nm, -5°C to 70°C, for systems with SFP+ slots.
10 GE copper SFP+ RJ45 Transceiver module, 30m range	FN-TRAN-SFP+GC	10 GE SFP+ transceiver module, range 30m, RJ45 connector, CAT6A, -5°C to 85°C, for systems with SFP+ slots.
10 GE copper SFP+ RJ45 Transceiver module, 80m range	FN-TRAN-SFP+GC-T80	10 GE SFP+ transceiver module, range 80m, RJ45 connector, CAT6A, -5°C to 85°C, for systems with SFP+ slots.

Ordering Information

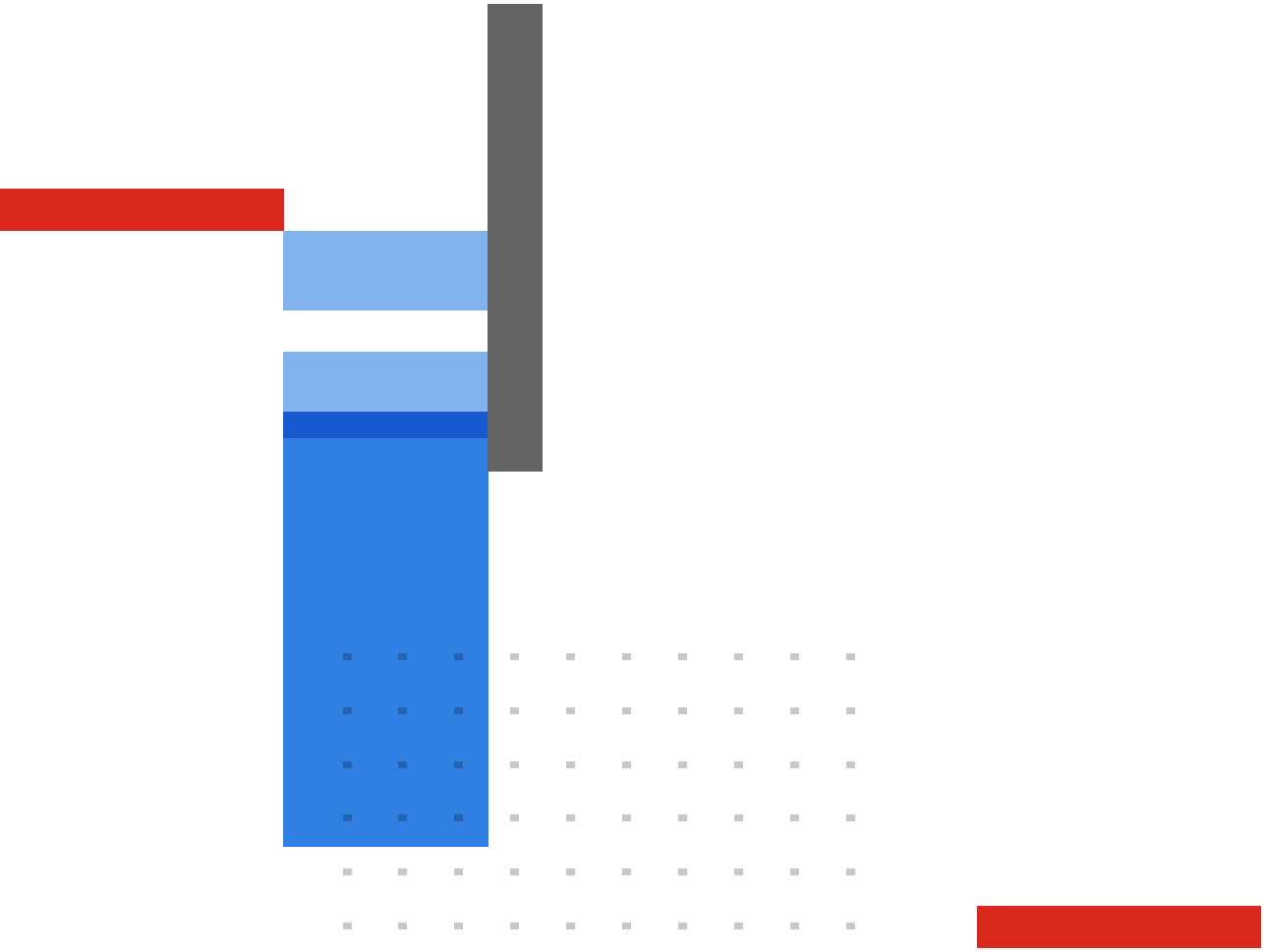
Product	SKU	Description
25 GE SFP28 transceiver module, long range	FN-TRAN-SFP28-LR	25 GE / 10 GE SFP28 transceiver module, long range 10km, LC connector, SMF, 1310nm, 0°C to 70°C, for systems with SFP28 slots.
25 GE SFP28 Transceiver module, short range	FN-TRAN-SFP28-SR	25 GE / 10 GE SFP28 transceiver module, short range 100m, LC connector, MMF, 850nm, 0°C to 70°C, for systems with SFP28 slots.
40 GE QSFP+ Transceiver module, short range	FN-TRAN-QSFP+SR	40 GE QSFP+ transceiver module, short range 150m, MPO-12 connector, four channel parallel MMF, 850nm, 0°C to 70°C, for systems with QSFP+/QSFP28 slots.
40 GE QSFP+ Transceiver module, extended range	FN-TRAN-QSFP+ER	40 GE QSFP+ transceiver module, long range 40km, LC connector, SMF, 40GBase-ER4, 0°C to 70°C, for systems with QSFP+/QSFP28 slots.
40 GE QSFP+ Transceiver module, short range, BiDi	FG-TRAN-QSFP+SR-BIDI	40 GE QSFP+ BIDI transceiver module, short range 150m, LC connector, MMF, 850nm/900nm, 0°C to 70°C, for systems with QSFP28 slots.
40 GE QSFP+ BIDI Transceiver module, short range 150m	FN-TRAN-QSFP+BIDI	40 GE QSFP+ BIDI transceiver module, short range 150m, LC connector, MMF, 850nm/900nm, 0°C to 70°C, for systems with QSFP+/QSFP28 slots.
40 GE QSFP+ Transceiver module, long range	FN-TRAN-QSFP+LR	40 GE QSFP+ transceiver module, long range 10km, LC connector, SMF, 40GBase-LR4, 0°C to 70°C, for systems with QSFP+/QSFP28 slots.
40 GE QSFP+ transceiver module, 10km range	FN-TRAN-QSFP+LRI	40 GE QSFP+ transceiver module, long range 10km, LC connector, SMF, 40GBase-LR4, -40°C to 85°C, for systems with QSFP+/QSFP28 slots.
50 GE SFP56 Transceiver module, short range	FN-TRAN-SFP56-SR	50 GE SFP56 transceiver module, short range 100m, LC connector, MMF, 850nm, 0°C to 70°C, for systems with SFP28 slots.
100 Mb SFP Transceiver module, 2km range over MMF	FN-TRAN-FX	100 M SFP transceiver module, long range 2km, LC connector, MMF, 1310nm, -40°C to 85°C, for systems with SFP slots and capable of 10/100Mb mode selection.
100 M SFP transceiver module, long range 2km over MMF, SGMII interface	FN-TRAN-SFX	100 M SFP transceiver module with SGMII interface, long range 2km, LC connector, MMF, 1310nm, -40°C to 85°C, for systems with SFP slots and SGMII interface.
100M Fast Ethernet transceiver module, range 100M	FN-TRAN-FE-4PACK	Pack of four 100M Fast Ethernet transceiver module, range 100m, RJ45 connector, -40°C to 85°C, for systems with SFP slots.
100 GE CFP2 Transceiver module, long range	FG-TRAN-CFP2-LR4	100 GE CFP2 transceiver module, long range 10km, LC connector, SMF, 1310nm, 0°C to 70°C, for systems with CFP2 slots.
100 GE CFP2 Transceiver module, short range	FG-TRAN-CFP2-SR10	100 GE CFP2 transceiver module, short range 100m, MPO-24 connector, ten-channel parallel MMF, 850nm, 0°C to 70°C, for systems with CFP2 slots.
100 GE QSFP28 Transceiver module, short range	FN-TRAN-QSFP28-SR	100 GE QSFP28 transceiver module, short range 100m, MPO-12 connector, four-channel parallel MMF, 850nm, 0°C to 70°C, for systems with QSFP28 slots. TAA compliant.
100 GE QSFP28 Transceiver module, long range	FN-TRAN-QSFP28-LR	100 GE QSFP28 transceiver module, long range 10km, LC connector, SMF, 100GBase-LR4, 0°C to 70°C, for systems with QSFP28 slots.
100 GE QSFP28 transceiver module, long range	FN-TRAN-QSFP28-FR	100 GE QSFP28 transceiver module, long range 2km, LC connector, SMF, 1310nm, 100GBase-FR, 0°C to 70°C, for systems with QSFP28 slots.
100 GE QSFP28 Transceiver module, extended range	FN-TRAN-QSFP28-ER	100 GE QSFP28 transceiver module, long range 20km, LC connector, SMF, 100GBase-LR4, 0°C to 70°C, for systems with QSFP28 slots.
100 GE QSFP28 Transceiver module, short range	FN-TRAN-QSFP28-DR	100 GE QSFP28 transceiver module, short range 500m, LC connector, SMF, 1310nm, 0°C to 70°C, for systems with QSFP28 slots.
100 GE QSFP28 Transceiver module, CWDM	FN-TRAN-QSFP28-CWDM4	100 GE QSFP28 transceiver module, long range 2km, LC connector, SMF, 100GBase-CWDM4, 0°C to 70°C, for systems with QSFP28 slots.
100 GE QSFP28 Transceiver module, short range, BiDi	FN-TRAN-QSFP28-BIDI	100 GE QSFP28 BIDI transceiver module, short range 100m, LC connector, MMF, 850nm/900nm, 0°C to 70°C, 100GBase-SR-BiDi, for systems with QSFP28 slots.
100 GE QSFP28 Transceiver module, short range, BiDi	FN-TRAN-QSFP28-BIDI-I	100 GE QSFP28 BIDI transceiver module, short range 100m, LC connector, MMF, 850nm/900nm, 0°C to 70°C, 100G-Base-SR1.2, for systems with QSFP28 slots.
200 GE QSFP56 Transceiver module, short range	FN-TRAN-QSFP56-SR4	200 GE QSFP56 transceiver module, short range 100m, MPO-12 connector, four-channel parallel MMF, 850nm, 0°C to 70°C, for systems with QSFP56 slots.
200 GE QSFP56 transceiver module, 2km range	FN-TRAN-QSFP56-FR4	200 GE QSFP56 transceiver module, long range 2km, LC connector, SMF, 200G-Base-FR4, 0°C to 70°C, for systems with QSFP56 slots
400 GE QSFPDD Transceiver module, short range	FN-TRAN-QSFPDD-SR8	400 GE QSFPDD transceiver module, short range 100m, MPO-16 connector, eight-channel parallel MMF, 850nm, 0°C to 70°C, for systems with QSFP-DD slots.
400 GE QSFPDD Transceiver module, short range	FN-TRAN-QSFPDD-DR4	400 GE QSFPDD transceiver module, short range 500m, MPO-12 connector, four-channel parallel SMF, 1310nm, 0°C to 70°C, for systems with QSFP-DD slots.
400 GE QSFPDD Transceiver module, long range	FN-TRAN-QSFPDD-LR4	400 GE QSFPDD transceiver module, long range 10km, LC connector, SMF, 400G-Base-LR4, 0°C to 70°C, for systems with QSFP-DD slots.
400 GE QSFPDD Transceiver module, mid range	FN-TRAN-QSFPDD-FR4	400 GE QSFPDD transceiver module, long range 2km, LC connector, SMF, 400G-Base-FR4, 0°C to 70°C, for systems with QSFP-DD slots.
400 GE QSFPDD Transceiver module, mid range	FN-TRAN-QSFPDD-DR4+	400 GE QSFPDD transceiver module, long range 2km, MPO-12 connector, four-channel parallel SMF, 1311nm, 0°C to 70°C, for systems with QSFP-DD slots.

Ordering Information

Product	SKU	Description
Cables		
10 GE SFP+ active direct attach cable, 10m/32.8 ft	SP-CABLE-ADASFP+	10 GE SFP+ active direct attach cable, 10m, 0°C to 70°C, transceivers included, for systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ passive direct attach cable 1m	FN-CABLE-SFP+1	10 GE SFP+ passive direct attach cable, 1m, 0°C to 70°C, transceivers included, for systems with SFP/SFP+ slots.
10 GE SFP+ passive direct attach cable 3m	FN-CABLE-SFP+3	10 GE SFP+ passive direct attach cable, 3m, 0°C to 70°C, transceivers included, for systems with SFP/SFP+ slots.
10 GE SFP+ passive direct attach cable 5m	FN-CABLE-SFP+5	10 GE SFP+ passive direct attach cable, 5m, 0°C to 70°C, transceivers included, for systems with SFP/SFP+ slots.
25 GE passive direct attach cable 1m	FN-CABLE-SFP28-1	25 GE SFP28 passive direct attach cable, 1m, -40°C to 85°C, transceivers included, for systems with SFP28 slots.
25 GE passive direct attach cable 3m	FN-CABLE-SFP28-3	25 GE SFP28 passive direct attach cable, 3m, -40°C to 85°C, transceivers included, for systems with SFP28 slots.
25 GE passive direct attach cable 5m	FN-CABLE-SFP28-5	25 GE SFP28 passive direct attach cable, 5m, -40°C to 85°C, transceivers included, for systems with SFP28 slots.
40 GE QSFP+ passive direct attach cable 1m	FN-CABLE-QSFP+1	40 GE QSFP+ passive direct attach cable, 1m, -40°C to 85°C, transceivers included, for systems with QSFP+/QSFP28 slots.
40 GE QSFP+ passive direct attach cable 3m	FN-CABLE-QSFP+3	40 GE QSFP+ passive direct attach cable, 3m, -40°C to 85°C, transceivers included, for systems with QSFP+/QSFP28 slots.
40 GE QSFP+ passive direct attach cable 5m	FN-CABLE-QSFP+5	40 GE QSFP+ passive direct attach cable, 5m, -40°C to 85°C, transceivers included, for systems with QSFP+/QSFP28 slots.
40 GE QSFP+ passive direct attach cable, 7m	FN-CABLE-QSFP+7-4PACK	Pack of four 40 GE QSFP+ passive direct attach cable, 7m, -40°C to 85°C, transceivers included, for systems with QSFP+/QSFP28 slots
40 G/100G QSFP+ to 4x SFP+/SFP28 optical breakout 1m	FG-TRAN-QSFP-4XSFP	40G/100G QSFP+/QSFP28 to SFP+/SFP28 parallel breakout MPO to 4xLC connectors, OM3 MMF, 1m, transceivers not included.
40 G/100G QSFP+ to 4x SFP+/SFP28 optical breakout 5m	FG-TRAN-QSFP-4SFP-5	40G/100G QSFP+/QSFP28 to SFP+/SFP28 parallel breakout MPO to 4xLC connectors, OM3 MMF, 5m, transceivers not included.
50 GE SFP56 passive direct attach cable, 1m	FN-CABLE-SFP56-DAC-L1	50 GE SFP56 passive direct attach cable, 1m, 0°C to 70°C, transceivers included, for systems with SFP56 slots.
50 GE SFP56 passive direct attach cable, 2.5m	FN-CABLE-SFP56-DAC-LB5	50 GE SFP56 passive direct attach cable, 2.5m, 0°C to 70°C, transceivers included, for systems with SFP56 slots.
100 GE SR10 to 10× 10 GE fan out cable, 1m	FG-CABLE-SR10-SFP+	100 GE CFP2 parallel breakout MPO to 10xLC conectors, OM3 MMF, 1m reach, transceivers not included.
100 GE SR10 to 10× 10 GE fan out cable, 5m	FG-CABLE-SR10-SFP+5	100 GE CFP2 parallel breakout MPO to 10xLC conectors, OM3 MMF, 5m reach, transceivers not included.
100 GE passive direct attach cable 1m	FN-CABLE-QSFP28-1	100 GE QSFP28 passive direct attach cable, 1m, 0°C to 70°C, transceivers included, for systems with QSFP28 slots.
100 GE passive direct attach cable 2m	FN-CABLE-QSFP28-2	100 GE QSFP28 passive direct attach cable, 2m, 0°C to 70°C, transceivers included, for systems with QSFP28 slots.
100 GE passive direct attach cable 3m	FN-CABLE-QSFP28-3	100 GE QSFP28 passive direct attach cable, 3m, 0°C to 70°C, transceivers included, for systems with QSFP28 slots.
100 GE passive direct attach cable 5m	FN-CABLE-QSFP28-5	100 GE QSFP28 passive direct attach cable, 5m, 0°C to 70°C, transceivers included, for systems with QSFP28 slots.
100 GE QSFP28 to 4× 25 GE SFP28 direct attach cable breakout, 1m	FN-CABLE-QSFP28-4SFP28-1	100 GE QSFP28 breakout to 4× 25 GE SFP28 passive direct attach cable, 1m, -40°C to 85°C, transceivers included, for systems with QSFP28/QSFP+, SFP28/SFP+ slots.
100 GE QSFP28 to 4× 25 GE SFP28 direct attach cable breakout, 3m	FN-CABLE-QSFP28-4SFP28-3	100 GE QSFP28 breakout to 4× 25 GE SFP28 passive direct attach cable, 3m, -40°C to 85°C, transceivers included, for systems with QSFP28/QSFP+, SFP28/SFP+ slots.
100 GE QSFP28 to 4× 25 GE SFP28 direct attach cable breakout, 5m	FN-CABLE-QSFP28-4SFP28-5	100 GE QSFP28 breakout to 4× 25 GE SFP28 passive direct attach cable, 5m, -40°C to 85°C, transceivers included, for systems with QSFP28/QSFP+, SFP28/SFP+ slots.
200 GE QSFP56 passive direct attach cable, 1m	FN-CABLE-QSFP56-DAC-L1	200 GE QSFP56 passive direct attach cable, 1m, 0°C to 70°C, transceivers included, for systems with QSFP56 slots.
200 GE QSFP56 passive direct attach cable, 2.5m	FN-CABLE-QSFP56-DAC-LB5	200 GE QSFP56 passive direct attach cable, 2.5m, 0°C to 70°C, transceivers included, for systems with QSFP56 slots.
400 GE passive direct attach cable 1m	FN-CABLE-QSFPDD-DAC-01	400 GE QSFPDD passive direct attach cable, 1m, 0°C to 70°C, transceivers included, for systems with QSFP-DD slots.
400 GE passive direct attach cable 2.5m	FN-CABLE-QSFPDD-DAC-B5	400 GE QSFPDD passive direct attach cable, 2.5m, 0°C to 70°C, transceivers included, for systems with QSFP-DD slots.
400 GE QSFPDD Active Optical Cable, 3m	FN-CABLE-QSFPDD-AOC-03	400 GE QSFPDD active optical cable, 3m, 0°C to 70°C, transceivers included, for systems with QSFP-DD slots.
400 GE QSFPDD breakout to 2× 200 GE QSFP56 passive direct attach cable, 1m	FN-CABLE-QSFPDD-2QSFP56-L1	400 GE QSFPDD breakout to 2× 200 GE QSFP56 passive direct attach cable, 1m, 0°C to 70°C, transceivers included, for systems with QSFPDD, QSFP56 slots.
400 GE QSFPDD breakout to 2× 200 GE QSFP56 passive direct attach cable, 2.5m	FN-CABLE-QSFPDD-2QSFP56-LB5	400 GE QSFPDD breakout to 2× 200 GE QSFP56 passive direct attach cable, 2.5m, 0°C to 70°C, transceivers included, for systems with QSFPDD, QSFP56 slots.
400 GE QSFPDD breakout to 8× 50 GE SFP56 passive direct attach cable, 1m	FN-CABLE-QSFPDD-8SFP56-L1	400 GE QSFPDD breakout to 8× 50 GE SFP56 passive direct attach cable, 1m, 0°C to 70°C, transceivers included, for systems with QSFPDD, SFP56 slots.
400 GE QSFPDD breakout to 8× 50 GE SFP56 passive direct attach cable, 2.5m	FN-CABLE-QSFPDD-8SFP56-LB5	400 GE QSFPDD breakout to 8× 50 GE SFP56 passive direct attach cable, 2.5m, 0°C to 70°C, transceivers included, for systems with QSFPDD, SFP56 slots.

Fortinet Corporate Social Responsibility 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.



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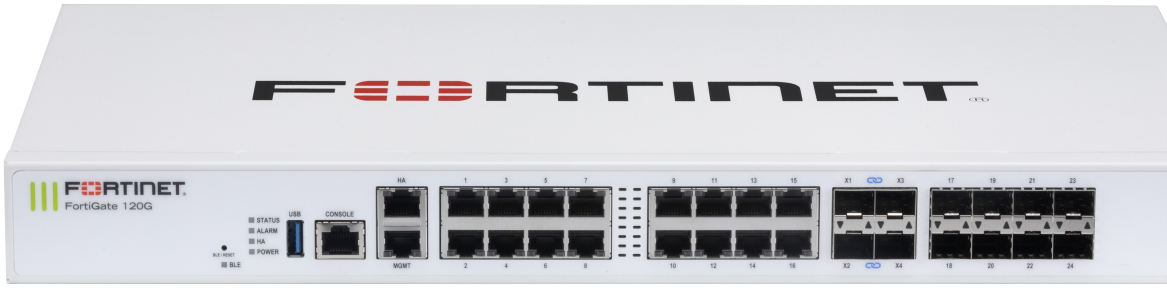
May 26, 2026

TRAN-DAT-R45-20260526

FortiGate 120G Series



Highlights

Leader in the Gartner® Magic Quadrant™ for Hybrid Mesh Firewall

Secure Networking with FortiOS for converged networking and security

State-of-the-art unparalleled performance with Fortinet's patented SPU and vSPU processors

Enterprise security with consolidated AI/ML-powered FortiGuard services

Deep visibility into applications, users, and devices beyond traditional firewall techniques

Artificial Intelligence, Machine Learning Security with Deep Visibility

The FortiGate 120G series next-generation firewall (NGFW) combines artificial intelligence (AI)-powered security and machine learning (ML) to deliver threat protection at any scale. Get deeper visibility into your network and see applications, users, and devices before they become threats.

Powered by a rich set of AI/ML security capabilities that extend into an integrated security fabric platform, the FortiGate 120G Series delivers secure networking that is broad, deep, and automated. Secure your network end to end with advanced edge protection that includes web, content, and device security, while network segmentation and secure SD-WAN reduce complexity and risk in hybrid IT networks. This security fabric seamlessly extends across your entire environment, including a Hybrid Mesh Firewall architecture, ensuring consistent policy enforcement and threat protection across all network segments.

Universal zero-trust network access (ZTNA) automatically controls, verifies, and facilitates user access to applications, reducing lateral threats by providing access only to validated users. Ultra-fast threat protection and SSL inspection provides security at the edge you can see without impacting performance.

IPS	NGFW	Threat Protection	Interfaces
5.3 Gbps	3.1 Gbps	2.8 Gbps	Multiple GE RJ45, SFP, and 10GE SFP+ Slots Variants with internal storage

Use Cases

Next Generation Firewall (NGFW)

- FortiGuard Labs' suite of AI-Powered Security Services, natively integrated with your NGFW, secures web, content, and devices and protects networks from ransomware, malware, zero days, and sophisticated AI-powered cyberattacks
- Real-time SSL inspection (including TLS 1.3) provides full visibility into users, devices, and applications across the attack surface
- Fortinet's patented SPU technology provides industry-leading high-performance protection

Secure SD-WAN

- FortiGate WAN Edge powered by one OS and unified security and management framework and systems transforms and secures WANs
- Delivers superior quality of experience and effective security posture for hybrid working models, SD-Branch, and cloud-first WAN use cases
- Achieve operational efficiencies at any scale through automation, deep analytics, and self-healing

Universal ZTNA

- Control access to applications no matter where the user is and no matter where the application is hosted for universal application of access policies
- Provide extensive authentications, checks, and enforce policy prior to granting application access every time
- Agent-based access with FortiClient or agentless access via proxy portal for guest or BYOD

Available in

Appliance

Virtual

Hosted

Cloud

Container

FortiOS Everywhere

FortiOS, Fortinet's Real-Time Quantum-Safe Network Security Operating System

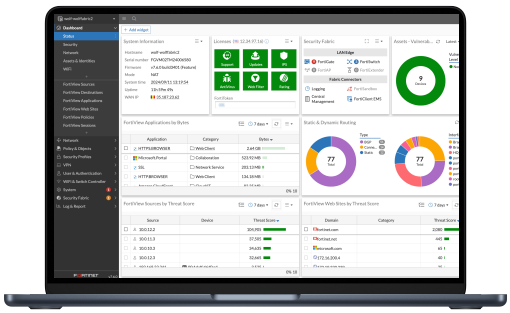
FortiOS is Fortinet's natively AI-powered and quantum-safe operating system (OS) that powers the Fortinet Security Fabric platform, enabling enforcement of security policies and holistic visibility across the entire attack surface. It provides a unified framework for securing networks across on-premises, cloud, hybrid environments, and the convergence of IT, OT, and IoT.

By converging networking and security functions into a single operating system, organizations can manage network and security more effectively to detect, investigate, and respond to incidents faster. This unified architecture simplifies operations, eliminates security silos, and allows organizations to scale securely without multiple tools or management complexity.

FortiOS also incorporates AI-driven capabilities that enhance threat detection, automate network activity analysis, and deliver more precise remediation guidance. Together, FortiGate firewalls and FortiOS provide intelligent, adaptive protection that reduces complexity, improves operational efficiency, and strengthens security across modern hybrid environments.

Learn more about what's new in FortiOS. https://www.fortinet.com/products/fortigate/fortios

Intuitive easy to use view into the network and endpoint vulnerabilities



Comprehensive view of network performance, security, and system status

FortiGuard AI-Powered Security Services

FortiGuard AI-Powered Security Services is part of Fortinet's layered defense and tightly integrated into our FortiGate NGFWs and other products. Powered by real-time AI enhanced threat intelligence from FortiGuard Labs, these services protect organizations against modern attack vectors and threats, including zero days and evasive, sophisticated AI-powered attacks.

Network and file security

Network and file security services protect against network and file-based threats. Consists of intrusion prevention system (IPS) which uses AI/ML models for deep packet/SSL inspection, detecting and blocking malicious content, uncovers hidden command-and-control activity, and applies virtual patches for newly discovered vulnerabilities. Application control improves security compliance and provides real-time visibility into applications and usage including generative AI (GenAI) applications.

Web/DNS security

Web/DNS security services protect against DNS-based attacks, malicious URLs (including those in emails), and botnet communications. DNS filtering blocks the full spectrum of DNS-based attacks while URL filtering uses a database of millions of URLs to identify and block malicious links. Meanwhile, IP reputation and anti-botnet services guard against botnet activity and DDoS attacks.

SaaS and data security

SaaS and data security services cover key security needs for application use and data protection. This service includes data loss/leakage prevention in files, GenAI applications and Images via OCR(optical character recognition). This ensures visibility, management, and protection (blocking exfiltration) of data in motion across networks, clouds, and users. The inline CASB service, secures SaaS applications in use, providing broad visibility and granular control over SaaS access, usage, and data.

Zero-Day threat prevention

Zero-day threat prevention is achieved through AI-powered inline malware prevention to analyze file content to identify and block unknown and zero-day malware in real time, delivering sub-second protection across all NGFWs. Integrated into FortiGate NGFWs, the service provides comprehensive defense by blocking unknown threats, streamlining incident response, and reducing security overhead.

Attack surface visibility and compliance

The FortiGuard Attack Surface Security Service provides continuous, compliance-ready monitoring of your Fortinet Security Fabric infrastructure. It calculates your overall security posture rating by scoring controls against vulnerabilities, misconfigurations, and sub-optimal settings, while offering specific remediation guidelines for devices found out of configuration. It maintains continuous compliance with PCI DSS, CIS Controls, and Fortinet security best practices.

OT security

With over 2400 virtual patches, 1600+ OT applications, and 3500+ protocol rules, integrated OT security capabilities detect threats targeting OT infrastructure, perform vulnerability correlation, apply virtual patching, and utilize industry-specific protocol decoders for robust defense of OT environments and devices.

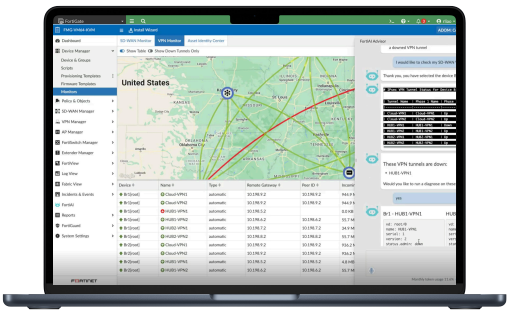
FortiManager

AI-Powered, Automation-Driven, Enterprise-Class Centralized Management at Scale

FortiManager, powered by FortiAI-Assist, provides centralized, single-pane management for the Fortinet Security Fabric, unifying configuration, policy, and responses across thousands of devices. It converges networking and security management, enabling consistent policy enforcement across SD-WAN, ZTNA, SASE, and branch environments while delivering real-time visibility and automated network operations.

FortiAI-Assist helps with Day 0–1 provisioning and Day N troubleshooting and maintenance. AI agents collaborating via a unified Model Context Protocol (MCP) framework automates goal-driven tasks toward a self-healing operation.

FortiManager integrates with FortiSOC for contextual insights and fabric-wise response. It also supports ecosystem integrations, and open APIs for extended automation. ADOM-based administration and FortiManager clusters enables resilient control across distributed networks.



GenAI in FortiManager helps manage networks effortlessly—generates configuration and policy scripts, troubleshoots issues, and executes recommended actions.

FortiConverter Service

Migration to FortiGate NGFW made easy

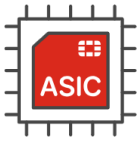
The FortiConverter Service provides hassle-free migration to help organizations transition quickly and easily from a wide range of legacy firewalls to FortiGate NGFWs. The service eliminates errors and redundancy by employing best practices with advanced methodologies and automated processes. Organizations can accelerate their network protection with the latest FortiOS technology.

FortiCare Services

Expertise at your service

Fortinet prioritizes customer success through FortiCare Services, optimizing the Fortinet Security Fabric solution. Our comprehensive life-cycle services include Design, Deploy, Operate, Optimize, and Evolve. The FortiCare Elite, one of the service offerings, provides heightened SLAs and swift issue resolution with a dedicated support team. This advanced support option includes an extended end-of-engineering support of 18 months, providing flexibility and access to the intuitive FortiCare Elite portal for a unified view of device and security health, streamlining operational efficiency and maximizing Fortinet deployment performance.

Fortinet ASICs: Unrivaled Security, Unprecedented Performance



Powered by the only purpose-built SPU

Traditional firewalls cannot protect against today's content and connection-based threats because they rely on off-the-shelf general-purpose central processing units (CPUs), leaving a dangerous security gap. Fortinet's custom SPUs deliver the power you need to radically increase speed, scale, and efficiency while greatly improving user experience and reducing footprint and power requirements. Fortinet's SPUs deliver up to 520 Gbps of protected throughput to detect emerging threats and block malicious content while ensuring your network security solution does not become a performance bottleneck.

Fortinet ASICs are designed to be energy-efficient, leading to lower power consumption and improved TCO. They deliver industry-leading throughput, handle more traffic and perform security inspections faster, reduce latency for quicker packet processing and minimize network delays.

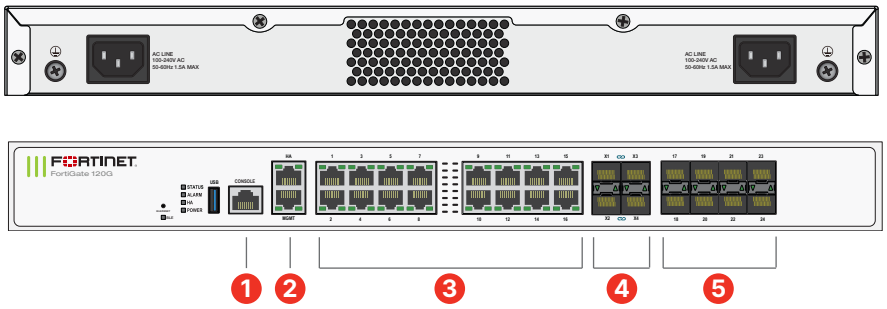
Fortinet SPUs are designed with integrated security functions like zero trust, SSL, IPS, and VXLAN to name but a few, dramatically improving the performance of these functions that competitors traditionally implement in software.

Secure SD-WAN ASIC SP5

- Combines a RISC-based CPU with Fortinet's proprietary security processing unit (SPU) content and network processors for unmatched performance
- Delivers the industry's fastest application identification and steering for efficient business operations
- Accelerates IPsec VPN performance for the best user experience on direct internet access
- Enables best-of-breed NGFW security and deep SSL inspection with high performance
- Extends security to access layer to enable SD-Branch transformation with accelerated and integrated switch and access point connectivity

Hardware

FortiGate 120G/121G Series



Interfaces

1. 1x RJ45 Console Port
2. 2x RJ45 HA and Management Ports
3. 16x GE RJ45 Ports
4. 4× 10GE SFP+ FortiLink Slots
5. 8x SFP Ports

Hardware Features

SP5 | TPM | 1RU | DUAL AC | 480GB

Trusted Platform Module (TPM)

The FortiGate 120G series features a dedicated module that hardens physical networking appliances by generating, storing, and authenticating cryptographic keys. Hardware-based security mechanisms protect against malicious software and phishing attacks.

Dual power supply

Power supply redundancy is essential in the operation of mission-critical networks. The FortiGate 120G series offers dual built-in non-hot swappable power supplies.

Access layer security

FortiLink protocol enables you to converge security and network access by integrating the FortiSwitch into the FortiGate as a logical extension of the firewall. These FortiLink-enabled ports can be reconfigured as regular ports as needed.

Specifications

	FORTIGATE 120G	FORTIGATE 121G
Hardware Specifications		
Hardware Accelerated GE RJ45 Ports	16	
GE RJ45 Management / HA	1 / 1	
Hardware Accelerated GE SFP Slots	8	
Hardware Accelerated 10 GE SFP+ FortiLink Slots (default)	4	
USB Ports	1	
Console (RJ45) Port	1	
Internal Storage	—	1 × 480 GB SSD
Trusted Platform Module (TPM)	✓	
Bluetooth Low Energy (BLE)	✓	
Signed Firmware Hardware Switch	—	
System Performance* — Enterprise Traffic Mix		
IPS Throughput [2]	5.3 Gbps	
NGFW Throughput [2, 4]	3.1 Gbps	
Threat Protection Throughput [2, 5]	2.8 Gbps	
System Performance and Capacity		
Firewall Throughput (1518 / 512 / 64 byte UDP packets)	39 / 39 / 28 Gbps	
Firewall Latency (64 byte UDP packets)	3.17 µs	
Firewall Throughput (Packets Per Second)	42 Mpps	
Concurrent Sessions (TCP)	3 M	
New Sessions/Second (TCP)	140 000	
Firewall Policies	10 000	
IPsec VPN Throughput (512 byte) [1]	35 Gbps	
Gateway-to-Gateway IPsec VPN Tunnels	2000	
Client-to-Gateway IPsec VPN Tunnels	16 000	
SSL-VPN Throughput	1.5 Gbps	
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)	500	
SSL Inspection Throughput (IPS, avg. HTTPS) [3]	3 Gbps	
SSL Inspection CPS (IPS, avg. HTTPS) [3]	2100	
SSL Inspection Concurrent Session (IPS, avg. HTTPS) [3]	315 000	
Application Control Throughput (HTTP 64K) [2]	6.7 Gbps	
CAPWAP Throughput (HTTP 64K)	35 Gbps	
Virtual Domains (Default / Maximum)	10 / 10	
Maximum Number of FortiSwitches Supported	48*	
Maximum Number of FortiAPs (Total / Tunnel Mode)	128 / 64	
Maximum Number of FortiTokens	5000	
High Availability Configurations	Active-Active, Active-Passive, Clustering	

	FORTIGATE 120G	FORTIGATE 121G
Dimensions		
Height x Width x Length (inches)	1.73 × 17 × 10	
Height x Width x Length (mm)	44 × 432 × 254	
Weight	12.17 lbs (5.52 kg)	
Form Factor (supports EIA/non-EIA standards)	Rack Mount, 1RU	
Operating Environment and Certifications		
Input Rating	100-240VAC, 60-50Hz	
Power Supply Efficiency Rating	N/A	
Redundant Power Supplies	Yes (Default dual non-swappable AC PSU for 1+1 Redundancy)	
Maximum Current	1.0A @100V, 0.5A @240V	
Power Consumption (Average / Maximum)	38 W / 40 W	43 W / 47 W
Heat Dissipation	138 BTU/hr	159 BTU/h
Operating Temperature	32°F to 104°F (0°C to 40°C)	
Storage Temperature	-31°F to 158°F (-35°C to 70°C)	
Humidity	20% to 90% non-condensing	10% to 90% non-condensing
Noise Level	49 dBA	
Air Flow	Front to Back	
Operating Altitude	Up to 10 000 ft (3048 m)	
Compliance	FCC Part 15B, Class A, CE, RCM, VCCI, UL/cUL, CB, BSMI	
Certifications	USGv6/IPv6	

* FortiOS 7.6.1+ is required for supporting up to 48 FSW. All prior releases support up to 32.

Note: All performance values are “up to” and vary depending on system configuration.

[1] IPsec VPN performance test uses AES256-SHA256.

[2] IPS (Enterprise Mix), Application Control, NGFW and Threat Protection are measured with Logging enabled.

[3] SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.

[4] NGFW performance is measured with Firewall, IPS and Application Control enabled.

[5] Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection enabled.

Subscriptions

Service Category	Service Offering	A-la-carte	Bundles			
			Enterprise Protection	Unified Threat Protection	Advanced Threat Protection	SD-WAN
FortiGuard Security Services	IPS — IPS, Malicious/Botnet URLs	•	•	•	•	
	Anti-Malware Protection (AMP)—AV, Botnet Domains, Mobile Malware, Virus Outbreak Protection, Content Disarm and Reconstruct[1], AI-based Heurestic AV, FortiGate Cloud Sandbox	•	•	•	•	
	URL, DNS and Video Filtering — URL, DNS and Video[1] Filtering, Malicious Certificate	•	•	•		
	Anti-Spam		•	•		
	AI-based Inline Malware Prevention	•	•			
	Data Loss Prevention (DLP) [2]	•	•			
	Attack Surface Security — IoT Device Detection, IoT Vulnerability Correlation and Virtual Patching, Security Rating, Outbreak Check		•			•
	OT Security—OT Device Detection, OT Vulnerability Correlation and Virtual Patching, OT Application Control and IPS [2]	•				
	Application Control		----------included with FortiCare Subscription----------			
	Inline CASB[1]		----------included with FortiCare Subscription----------			
SD-WAN and SASE Services	SD-WAN SLA Database					•
	SD-WAN Underlay and Application Monitoring Service					•
	SD-WAN Overlay Orchestration Service					•
	SD-WAN Connector for FortiSASE Secure Private Access					•
	FortiSASE Starter Kit for n* Users[3]					•
	FortiGate Cloud One Year Cloud-based Log Retention					•
	FortiTelemetry Cloud					•
NOC and SOC Services	FortiConverter Service for One Time Configuration Conversion	•	•			
	Managed FortiGate Service—Available 24×7, with Fortinet NOC Experts Performing Device Setup, Network, And Policy Change Management	•				
	FortiGate Cloud—Management, Analysis, and One Year Log Retention	•				
	FortiManager Cloud	•				
	FortiAnalyzer Cloud	•				
	FortiGuard SOCaaS—24×7 Cloud-Based Managed Log Monitoring, Incident Triage, and SOC Escalation Service	•				
Hardware and Software Support	FortiCare Essentials	Desktop models only				
	FortiCare Premium	•	•	•	•	•
	FortiCare Elite	•				
Base Services	Device/OS Detection, GeoIPs, Trusted CA Certificates, Internet Services and Botnet IPs, DDNS (v4/v6), Local Protection, PSIRT Check, Anti-Phishing		----------included with FortiCare Subscription----------			

1. Not available for FortiGate/FortiWiFi 40F, 60E, 60F, 80E, and 90E series from 7.4.4 onwards. Not available for FortiGate/FortiWiFi 30G and 50G series in any OS build.
2. Full features available when running FortiOS 7.4.1.
3. Only supported on FortiGate models from the 100F onwards (F-series and all later series).
See the FortiSASE Ordering Guide for supported models and corresponding user license allocations.

FortiGuard AI-Powered Security Bundles for FortiGate

FortiGuard AI-Powered Security Bundles provide a comprehensive and meticulously curated selection of security services to combat known, unknown, zero-day, and emerging AI-based threats. These services are designed to prevent malicious content from breaching your defenses, protect against web-based threats, secure devices throughout IT/OT/IoT environments, and ensure the safety of applications, users, and data. All bundles include FortiCare Premium Services featuring 24×7×365 availability, one-hour response for critical issues, and next-business-day response for noncritical matters.

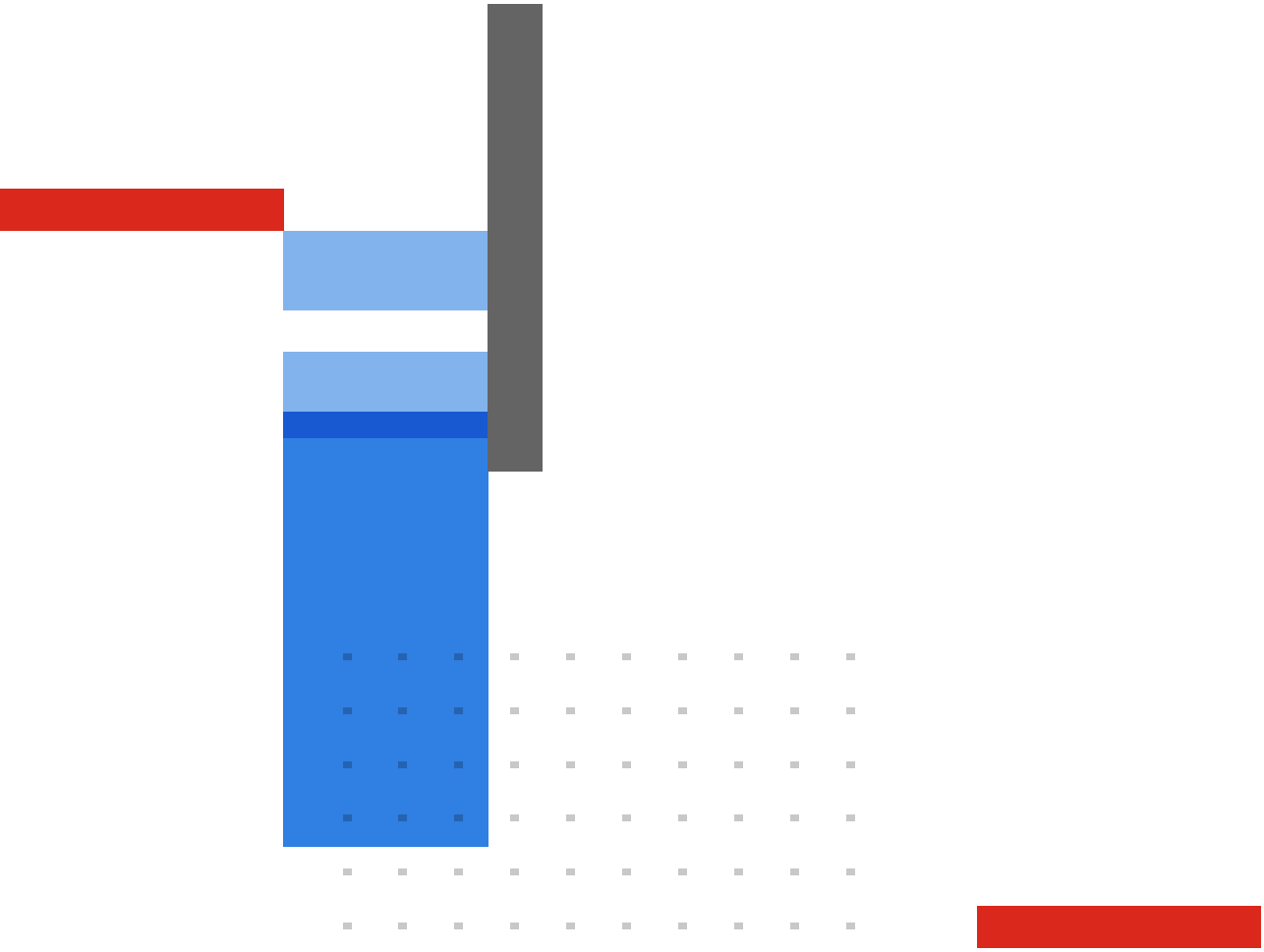
Ordering Information

Product	SKU	Description
FortiGate 120G	FG-120G	18x GE RJ45 ports (including 1x MGMT port, 1x HA port, 16x switch ports), 8x GE SFP slots, 4× 10GE SFP+ slots, SP5 hardware accelerated, dual AC power supplies.
FortiGate 121G	FG-121G	18x GE RJ45 ports (including 1x MGMT port, 1x HA port, 16x switch ports), 8x GE SFP slots, 4× 10GE SFP+ slots, SP5 hardware accelerated, 480GB onboard SSD storage, dual AC power supplies.
Transceivers		
1 GE SFP EX Transceiver Module	FN-TRAN-EX	1 GE SFP EX transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP RJ45 Transceiver Module	FN-TRAN-GC	1 GE SFP RJ45 transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP LX Transceiver Module	FN-TRAN-LX	1 GE SFP LX transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP Transceiver Module, 10km	FN-TRAN-SFP-1BD10	1 GE SFP transceiver module, 10km range single BiDi for systems with SFP slots (connects to FN-TRAN-1BU10, ordered separately).
1 GE SFP Transceiver Module, 40km	FN-TRAN-SFP-1BD40	1 GE SFP transceiver module, 40km long range single BiDi for systems with SFP slots (connects to FN-TRAN-1BU40, ordered separately).
1 GE SFP Transceiver Module, 10km	FN-TRAN-SFP-1BU10	1 GE SFP transceiver module, 10km range single BiDi for systems with SFP slots (connects to FN-TRAN-1BD10, ordered separately).
1 GE SFP Transceiver Module, 40km	FN-TRAN-SFP-1BU40	1 GE SFP transceiver module, 40km long range single BiDi for systems with SFP slots (connects to FN-TRAN-1BD40, ordered separately).
100M SFP transceiver module, long range 2km	FN-TRAN-SFX	100M SFP transceiver module with SGMII interface, long range 2km, LC connector, MMF, 1310nm, -40°C to 85°C, for systems with SFP slots and capable of 100M mode selection.
1 GE SFP SGC Transceiver Module	FN-TRAN-SGC	SGMII host interface, copper 10M/100M/1000M
1 GE SFP SX Transceiver Module	FN-TRAN-SX	1 GE SFP SX transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP ZX Transceiver Module	FN-TRAN-ZX	1 GE SFP ZX transceiver module for all systems with SFP and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, 30km Long Range	FN-TRAN-SFP+BD27	10GE SFP+ transceiver module, 30km long range single BiDi for systems with SFP+ and SFP/SFP+ slots (connects to FN-TRAN-SFP+BD33, ordered separately).
10 GE SFP+ Transceiver Module, 30km Long Range	FN-TRAN-SFP+BD33	10GE SFP+ transceiver module, 30km long range single BiDi for systems with SFP+ and SFP/SFP+ slots (connects to FN-TRAN-SFP+BD27, ordered separately).
10 GE SFP+ Transceiver Module, Extended Range	FN-TRAN-SFP+ER	10 GE SFP+ transceiver module, extended range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, Extended Range	FN-TRAN-SFP+ER-BD27	10GE SFP+ transceiver module, Extended range single BiDi for systems with SFP+ and SFP/SFP+ slots (connects to FN-TRAN-SFP+ER-BD33, ordered separately).
10 GE SFP+ Transceiver Module, Extended Range	FN-TRAN-SFP+ER-BD33	10GE SFP+ transceiver module, Extended range single BiDi for systems with SFP+ and SFP/SFP+ slots (connects to FN-TRAN-SFP+ER-BD27, ordered separately).
10 GE SFP+ RJ45 Transceiver Module	FN-TRAN-SFP+GC	10 GE SFP+ RJ45 transceiver module for systems with SFP+ slots.
10 GE copper SFP+ RJ45 Transceiver Module (80m Range)	FN-TRAN-SFP+GC-T80	10 GE copper SFP+ RJ45 transceiver module (80m range) for systems with SFP+ slots.
10 GE SFP+ Transceiver Module, Long Range	FN-TRAN-SFP+LR	10 GE SFP+ transceiver module, long range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, Short Range	FN-TRAN-SFP+SR	10GE SFP+ transceiver module, short range for systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, 80km Extreme Long Range	FN-TRAN-SFP+ZR	10 GE SFP+ transceiver module, 80km extreme long range, for systems with SFP+ and SFP/SFP+ slots.
Cables		
10 GE SFP+ Passive Direct Attach Cable 1m	FN-CABLE-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 3m	FN-CABLE-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 5m	FN-CABLE-SFP+5	10 GE SFP+ passive direct attach cable, 5m for systems with SFP+ and SFP/SFP+ slots.

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

Fortinet Corporate Social Responsibility 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.



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July 17, 2026

FG-120G-DAT-R18-20260717