



FortiGate® Rugged Series

Integrated Security for Industrial Control Systems



FortiGate Rugged Series

FortiGate Rugged 30D, 35D, 60D and 90D

While traditional security solutions are designed and intended for the world of offices and corporations, the FortiGate Rugged Series offers industrially-hardened, all-in-one security appliance that delivers specialized threat protection for securing critical industrial and control networks against malicious attacks.

Ruggedized Protection for Harsh Environments

The ruggedized FortiGate meets all required performance and reliability standards for operating in demanding industrial settings. It was designed from the outset to operate reliably in harsh electrical and environmental conditions, including those with high levels of electrical and radio frequency interference and at wide ambient temperature ranges.

Industrial Network Security

Fortinet's FortiOS operating system running on the ruggedized platform provides specialized protections for industrial networks such as antivirus and Intrusion Protection (IPS).

Highlights

	Firewall Performance	IPS Performance	Interfaces
30D	900 Mbps	230 Mbps	Multiple GE RJ45
35D	550 Mbps	230 Mbps	Multiple GE RJ45 and GE RJ45 PoE
60D	1.5 Gbps	200 Mbps	Multiple GE SFP and GE RJ45 and a DB9 Serial
90D	2 Gbps	1.1 Gbps	Multiple GE SFP and GE RJ45, GE RJ45 bypass port pair and DB9 Serial

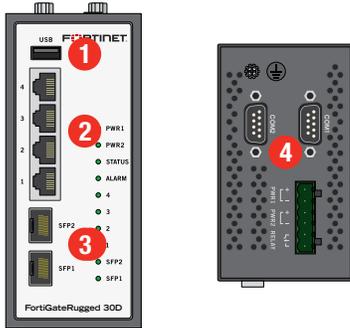
Features & Benefits

- Ruggedized design — fanless and use of robust components ensure reliable operation in harsh industrial environments.
- Consolidated security architecture — FortiGate consolidated security offers better protection and lower cost of ownership than multiple point products.
- Ease of management — robust management systems that allow rapid provision and deployment, monitoring of device and threat status while providing actionable reports.



HARDWARE

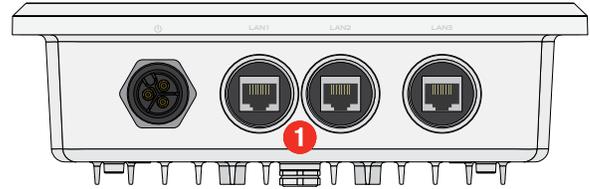
FortiGate Rugged 30D



Interfaces

1. 1x USB Port
2. 4x GE RJ45 Ports
3. 2x GE SFP Slots
4. 2x DB9 Serial Interface/Console

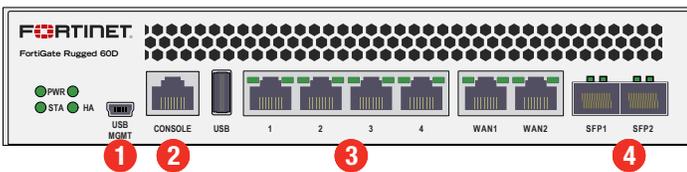
FortiGate Rugged 35D



Interfaces

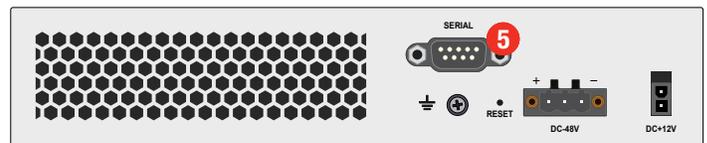
1. 3x GE RJ45 Ports

FortiGate Rugged 60D



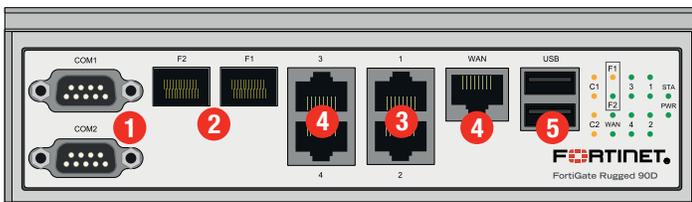
Interfaces

1. USB Management Port for FortiExplorer
2. Console Port (RJ45)
3. 4x GE RJ45 Ports



4. 2x Shared Media (GE RJ45 Ports / GE SFP Slots) Pairs
5. 1x DB9 Serial Interface

FortiGate Rugged 90D



Interfaces

1. 2x DB9 Serial Interface/Console
2. 2x GE SFP Slots
3. 1x GE RJ45 Bypass Pair
4. 3x GE RJ45 ports
5. 2x USB interfaces

Wireless and 3G/4G WAN Extensions

The FortiGate supports external 3G/4G modems that allow additional or redundant WAN connectivity for maximum reliability. The FortiGate can also operate as a wireless access point controller to further extend wireless capabilities.

Compact, Ruggedized and Reliable Form Factor

Designed for confined spaces and harsh environments, the ruggedized FortiGate can be mounted within an enclosure, on a wall or on a DIN rail. It is small and lightweight yet highly reliable with superior Mean Time Between Failure (MTBF), minimizing the chance of a network disruption. The hardware components used meet high standards in both EMI and vibration tolerance with a wide thermal operating range supported.

HIGHLIGHTS

FortiOS — The World's Most Advanced Security Operating System

▪ Feature Select

Instantly fine-tunes the FortiGate based on desired deployment needs using feature presets. Simplifies user administration and configurations while providing flexibility for different deployment modes.

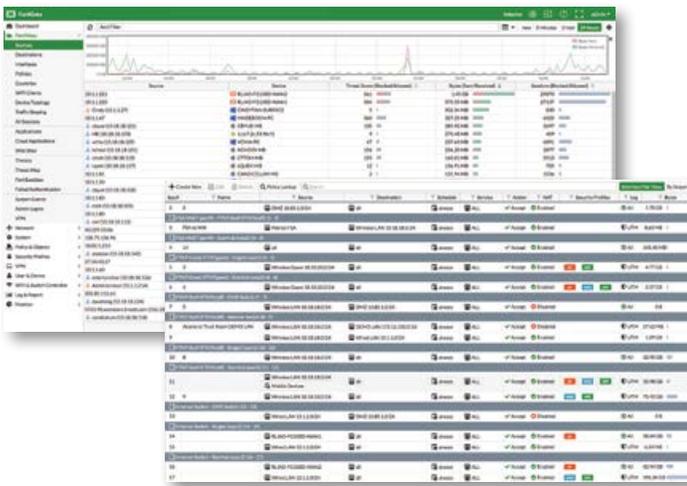
▪ Contextual Visibility

Presents critical deep insights into real-time network activities with data on threat details, IPs, users, devices, applications and more. Allows administrators to quickly understand threats and stop them.

▪ Advanced Security

Multiple advanced technologies can be coordinated to look for and stop today's blended, targeted or unknown attacks. Efficient packet handling improves performance while lowering latencies and reducing network complexities.

For complete, up-to-date and detailed feature set, please refer to the Administration Handbook and FortiOS Datasheet



FortiOS Dashboard — Single Pane of Glass Management

IPS and Application Control Signatures Support List

Vendors/Applications:

3S CODESYS, 7T Technologies/Schneider Electric, ABB, Advantech, Avahi, Beckhoff Automation, Broadwin, CitectSCADA, CoDeSys, Cogent, Control Automation, Datac, GE, Iconics, InduSoft, Intellicom, KASKAD, KingSCADA, Measuresoft, Microsys, MOXA, Nordex, Opto 22, PcVue, Phoenix Contact, Progea, Promotic, RealFlex, Rockwell Automation, RSLogix, SearchBlox, Siemens, Sunway, TeeChart, Triangle Research, Trihedral, TwinCAT, Veeder-Root, WellinTech, xArrow, Yokogawa

Protocols: BACnet, DLMS/COSEM, DNP3, ELCOM7, EtherCAT, EtherIP, ICCP, IEC.60870.5.104, IEC.61850, Modbus, OPC, PROFINET, S7

Industry Validated Best-in-Class Security

Our FortiGate appliances have earned more certifications than any other vendor by consistently and continually meeting rigorous third-party standards. Our many industry-leading security technologies such as firewall, IPS and antivirus provide organizations with air-tight security that you can safely depend on.

Scalable Centralized Management Support

Centrally manage any number of FortiGate devices across multiple locations with ease by using FortiManager. FortiManager allows administrators the ability to efficiently apply policies and to deploy security updates and firmware updates. FortiManager provides a wide number of deployment types, growth flexibility, as well as advanced customization through advanced APIs and simplified licensing. Additionally, it can serve as a central logging and reporting repository, providing much needed visibility and monitoring capabilities.

Complete and Real-Time Protection

Fortinet's FortiGuard Subscription Services provide automated, real-time and up-to-date protection against the latest security threats. Our threat research teams are located worldwide, providing around-the-clock support and updates in order to respond to breaking threats and events.

World-Class Technical Support and Documentation

Fortinet's FortiCare support offerings provide comprehensive global support for all of your Fortinet products and services. If the need arises, our teams of support staff are available to assist you anytime day or night to give you the assurance that your Fortinet products are performing optimally and providing the protection your infrastructure, users, applications and data demand.

SPECIFICATIONS

	FGR-30D	FGR-35D	FGR-60D	FGR-90D
Interfaces and Modules				
GE RJ45 Interfaces	4	3	4	3
GE RJ45 Bypass Pair	–	–	–	1
GE SFP Slots	2	–	–	2
Shared Media Pairs (GE RJ45 / GE SFP)	–	–	2	–
DB9 Serial Interface	2	–	1	2
USB (Client / Server)	1	–	1/1	1
RJ45 Console Port	–	–	1	–
Included Transceivers	None	None	None	None
System Performance and Capacity				
IPv4 Firewall Throughput (1518 UDP)	900 Mbps	550 Mbps	1.5 Gbps	2 Gbps
Firewall Latency (64 byte, UDP)	70 µs	90 µs	4 µs	51 µs
Firewall Throughput (Packets Per Second)	87 Kpps	52.5 Kpps	2.2 Mbps	84 Kbps
Concurrent Sessions (TCP)	750,000	750,000	500,000	2.5 Million
New Sessions/Sec (TCP)	5,000	5,000	4,000	20,000
Firewall Policies	5,000	5,000	5,000	5,000
IPsec VPN Throughput (512 byte)	45 Mbps	45 Mbps	1 Gbps	84 Mbps
Gateway-to-Gateway IPsec VPN Tunnels	200	200	200	200
Client-to-Gateway IPsec VPN Tunnels	250	250	500	1,000
SSL-VPN Throughput	25 Mbps	25 Mbps	30 Mbps	115 Mbps
Concurrent SSL-VPN Users (Recommended Maximum)	80	80	100	200
IPS Throughput (HTTP)	230 Mbps	230 Mbps	200 Mbps	1.1 Gbps
Virtual Domains (Default / Maximum)	5 / 5	5 / 5	10 / 10	10 / 10
Maximum Number of FortiAPs (Total / Tunnel)	2 / 2	2 / 2	10 / 5	32 / 16
Maximum Number of FortiTokens	20	20	100	100
Maximum Number of Registered FortiClients	200	200	200	200
High Availability Configurations	Active-Active, Active-Passive, Clustering	Active-Active, Active-Passive, Clustering	Active-Active, Active-Passive, Clustering	Active-Active, Active-Passive, Clustering
Dimensions and Power				
Height x Width x Length (inches)	5.49 x 4.13 x 2.36	3.07 x 10.04 x 10.04	1.73 x 8.50 x 6.10	2.11 x 7.32 x 6.30
Height x Width x Length (mm)	139.5 x 105 x 60	78 x 255.09 x 255.09	44 x 216 x 155	53.5 x 186 x 160
Weight	1.46 lbs (0.668 kg)	3.986 lbs (1.808 kg)	3.5 lbs (1.6 kg)	2.4 lbs (1.08 kg)
Form Factor	Desktop	Outdoor mountable, IP67	Desktop	Desktop, IP40
Power Supply	Dual input, total 6 pin terminal block (12–48V DC) AC adapter not included.*	Terminal block (12–48V DC)	-48V DC power supply and external 12V DC power adapter connection. AC adapter not included.*	Dual input, total 6 pin terminal block (12–48V DC) AC adapter included.
Power Consumption (Average / Maximum)	15.55 W / 15.92W	10.2 W / 10.5 W	11.6 W / 14 W	40 W / 49 W
Maximum Current	1.19A	0.83A	-48V DC / 0.5A	12–48V DC/ 4.08–1.02A
Heat Dissipation	54.29 BTU/h	35.81 BTU/h	40 BTU/h	167 BTU/h
Operating Environment and Certifications				
Operating Temperature	-40–158°F (-40–70°C)	-40–140°F (-40–60°C)	-4–140°F (-20–60°C)	-40–158°F (-40–70°C) **
Storage Temperature	-58–185°F (-50–85°C)	-58–185°F (-50–85°C)	-40–185°F (-40–85°C)	-40–185°F (-40–85°C)
Humidity	5–95% non-condensing	5–95% non-condensing	20–90% non-condensing	0–95% non-condensing
Operating Altitude	Up to 7,400 ft (2,250 m)			
Compliance	FCC Part 15 Class A, C-Tick, CE, UL/cUL, CB	FCC Part 15 Class A, C-Tick, CE, UL/cUL, CB	FCC Part 15 Class A, C-Tick, VCCI, CE, UL/cUL, CB	FCC Part 15 Class A, C-Tick, VCCI, CE, UL/cUL, CB
Certifications	IEC 61850-3 (EMC) and IEEE 1613 Emission Compliant ICSA Labs: Firewall, IPsec, IPS, Antivirus, SSL-VPN	IEC 61850-3 (EMC) and IEEE 1613 Emission Compliant ICSA Labs: Firewall, IPsec, IPS, Antivirus, SSL-VPN	IEC 61850-3 (EMC) and IEEE 1613 Emission Compliant ICSA Labs: Firewall, IPsec, IPS, Antivirus, SSL-VPN	IEC 61850-3 (EMC) and IEEE 1613 Emission Compliant ICSA Labs: Firewall, IPsec, IPS, Antivirus, SSL-VPN

* Power supplies do not operate in redundant mode. Third-party AC adapter is required and may affect systems compliance with Industrial standards.

** Excludes supplied power adapter which operates at smaller temperature range.

Note: All performance values are "up to" and vary depending on system configuration. IPS performance is measured using 1 Mbyte HTTP files. IPsec VPN performance is based on 512 byte UDP packets using AES256+SHA1.

For complete, up-to-date and detailed feature set, please refer to the Administration Handbook and FortiOS Datasheet.



FortiGate Rugged 30D



FortiGate Rugged 35D



FortiGate Rugged 60D



FortiGate Rugged 90D

ORDER INFORMATION

Product	SKU	Description
FortiGate Rugged 30D	FGR-30D	Ruggedized, 4x GE RJ45 ports, 2x GE SFP slots, 2x DB9 Serial. Maximum managed FortiAPs (Total / Tunnel) 2 / 2.
FortiGate Rugged 35D	FGR-35D	Ruggedized, IP67 rating for outdoor environment, 3x GE RJ45 Switch ports. Maximum managed FortiAPs (Total / Tunnel) 2 / 2.
FortiGate Rugged 60D	FGR-60D	Ruggedized, 4x GE RJ45 Switch ports, 2x Shared Media pairs (Including 2x GE RJ45 ports, 2x SFP slots). DB9 Serial. Maximum managed FortiAPs (Total / Tunnel) 10 / 5.
FortiGate Rugged 90D	FGR-90D	Ruggedized, 3x GE RJ45 ports, 1x GE RJ45 bypass pair, 2x SFP slots. 2x DB9 Serial/console. Dual power input. Maximum managed FortiAPs (Total / Tunnel) 32 / 16.
Optional Accessories		
1 GE SFP LX transceivers, SMF, -40–85°C operation	FR-TRAN-LX	1 GE SFP LX transceiver module, -40–85°C, over SMF, for all systems with SFP and SFP/SFP+ slots.
1 GE SFP SX transceivers, MMF, -40–85°C operation	FR-TRAN-SX	1 GE SFP SX transceiver module, -40–85°C, over MMF, for all systems with SFP and SFP/SFP+ slots.
1 GE SFP transceivers, 90km range, -40–85°C operation	FR-TRAN-ZX	1 GE SFP transceivers, -40–85°C operation, 90km range for all systems with SFP slots.



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