



FortiGate 100D

QuickStart Guide



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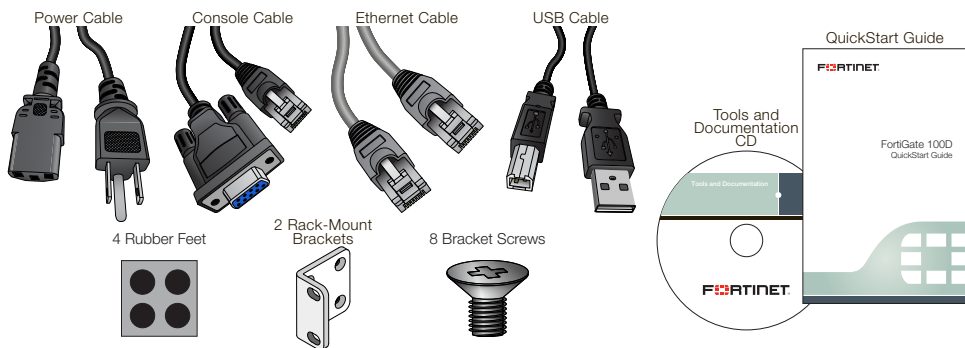
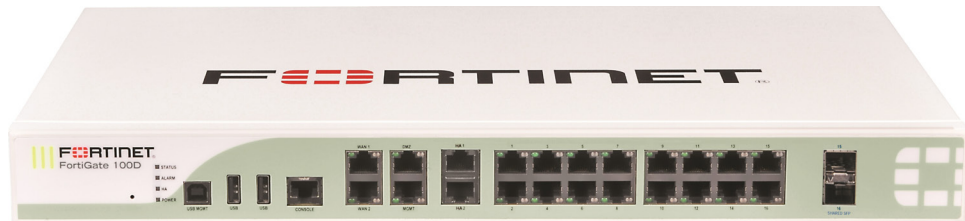
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Package Contents

Fortinet's consolidated security solutions provide an integrated set of core security and network services in a single, easy-to-manage, high-performance appliance that is capable of supporting a wide range of deployment scenarios.

Your box contains the following:

- FortiGate 100D
- QuickStart Guide
- Tools and Documentation CD
- Power Cable
- Ethernet cable
- USB Cable
- Console Cable
- 4 Rubber Feet
- 2 Rack-Mount Brackets
- 8 Bracket Screws



Installation

The FortiGate unit can be placed on any flat surface, or mounted in any standard 19 inch (48.3 cm) rack unit with the provided rack-mount brackets and screws.

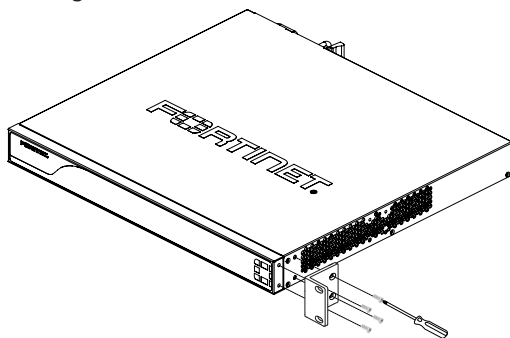
Caution: Electrostatic discharge (ESD) can damage your Fortinet equipment.

Caution: Do not place heavy objects on the unit.

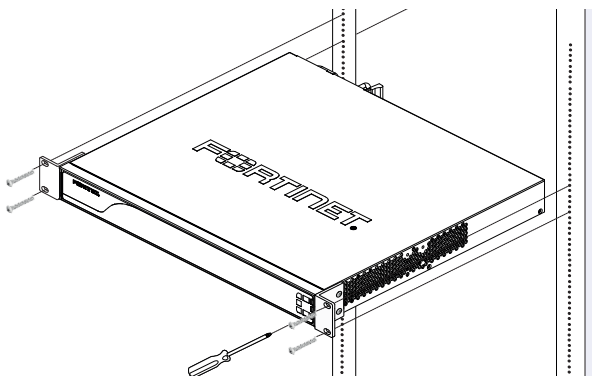
To install the FortiGate unit into a rack:

Caution: To avoid personal injury or damage to the unit, it is recommended that two or more people install the unit into the rack.

1. Ensure that the FortiGate unit is placed on a stable surface prior to rack-mount installation.
2. Attach the provided rack-mount brackets to the sides of the unit using the provided screws.
 - a. If you are installing the unit into a four-post rack, attach the rack-mount brackets with the handles aligned with the front of the unit.



- b. If you are installing the unit into a two-post rack, attach the rack-mount brackets with the handles aligned with the middle of the unit.

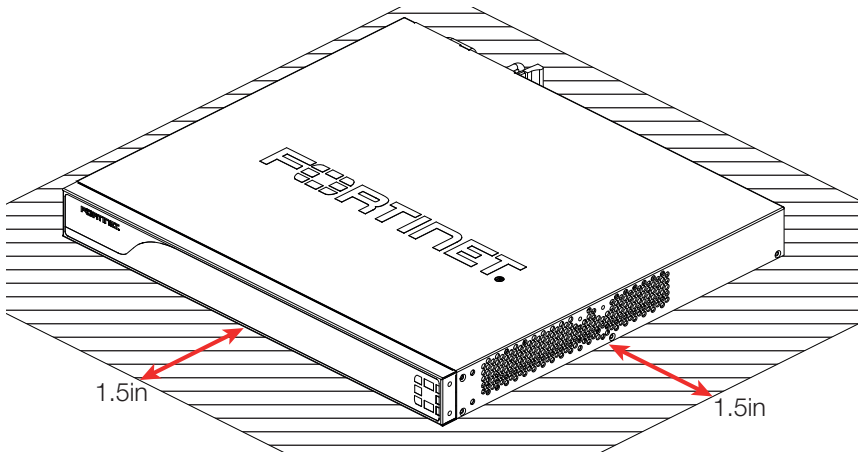


3. Position the FortiGate unit in the rack. Ensure there is enough room around the unit to allow for sufficient air flow.
4. Line up the rack-mount bracket holes to the holes on the rack and ensure that the FortiGate unit is level.
5. Finger tighten four rack-mount screws to attach the unit to the rack.
6. Verify that the spacing around the FortiGate unit conforms to requirements and that the unit is level, then tighten the rack-mount screws with an applicable screwdriver.
7. Using the provided power cables, plug the cables into the rear of the unit and then into an electrical outlet.

Note: If the unit has a redundant power supply, each power cable should be connected to a different power source. In this way, if one power source fails, the other may still be operational and the unit will not lose power.

To install the unit on a flat surface:

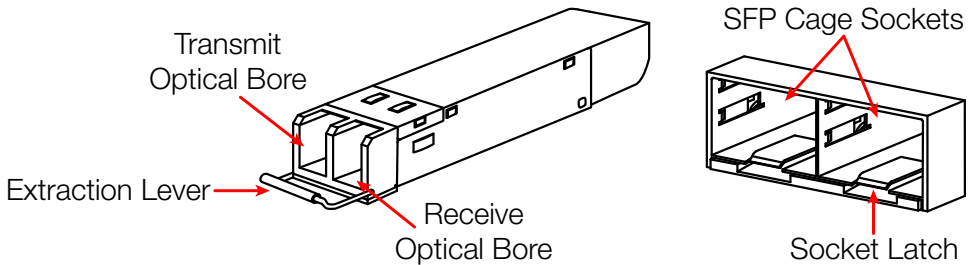
1. Ensure that the surface onto which the FortiGate unit to be installed is clean, level, and stable and that there is at least 1.5 inches (3.5cm) of clearance on all sides to allow for adequate airflow.
2. Attach the provided rubber feet to the bottom of the FortiGate unit.
3. Place the unit in the designated location.
4. Verify that the spacing around the FortiGate unit conforms to requirements and that the unit is level.



5. Using the provided power cables, plug the cables into the rear of the unit and then into an electrical outlet.

Note: If the unit has a redundant power supply, each power cable should be connected to a different power source. In this way, if one power source fails, the other may still be operational and the unit will not lose power.

SFP Transceivers



Caution: SFP transceivers are static sensitive devices. Use an ESD wrist strap or similar grounding device when handling transceivers.

Caution: Do not install or remove SFP transceivers while fiber-optic cables are still attached. This can cause damage to the cables, cable connectors, and the optical interfaces. It may also prevent the transceiver from latching correctly into the socket connector.

Note: Installing and removing SFP transceivers can shorten their useful life. Do not install or remove transceivers more than is necessary.

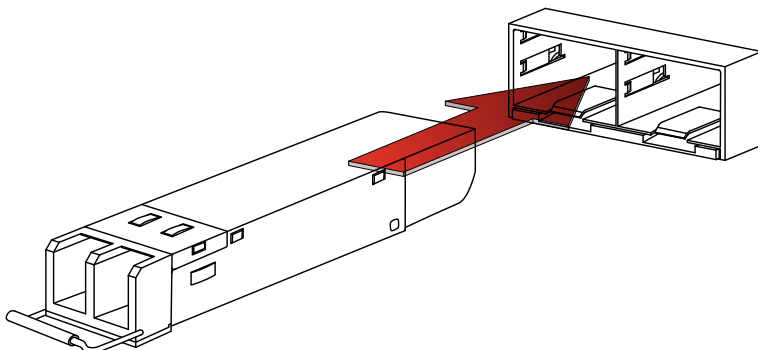
To install the SFP transceivers:

1. Ensure that you are properly grounded.
2. Remove the caps from SFP cage sockets on the front panel of the unit.
3. Position the SFP transceiver in front of the cage socket opening and ensure that the transceiver is correctly oriented.

When the transceiver is correctly oriented, the extraction lever will be level with the socket latch.

Note: SFP cage socket orientation may vary. Ensure that the SFP transceiver module is correctly oriented each time that you are inserting a transceiver.

4. Hold the sides of the SFP transceiver and slide it into the cage socket until it clicks into place.



Caution: Do not force the SFP transceivers into the cage slots. If the transceiver does not easily slide in and click into place, it may not be aligned correctly or may be upside down. If this happens, remove the SFP transceiver, realign it or rotate it and slide it in again.

5. Press the transceiver firmly into the cage socket with your thumb.
6. Verify that the transceiver is latched correctly by grasping the sides of the and trying to pull it out without lowering the extraction lever.

If the transceiver cannot be removed, it is installed and latched correctly.

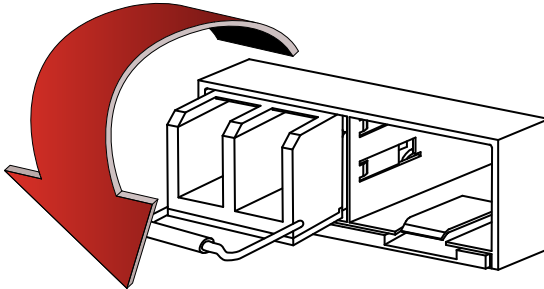
If the transceiver can be removed, reinsert it and press harder with your thumb.

If necessary, repeat this process until the transceiver is securely latched into the cage socket.

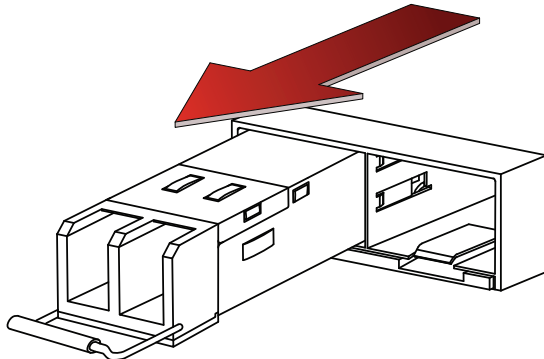
To remove the SFP transceivers:

1. Ensure that you are properly grounded.
2. If applicable, disconnect the fiber-optic cable from the transceiver connector and install a clean dust plug in the transceiver's optical bores.
3. Pull the extraction lever out and down to eject the transceiver.

If you are unable to use your finger to open the lever, use a small flat-head screwdriver or other similar tool to open the lever.



4. Hold the sides of the transceiver and carefully pull it away from the cage socket.



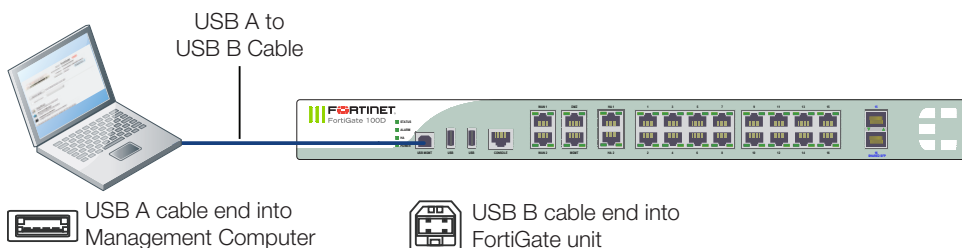
5. Replace the cap on the SFP cage socket and place the removed SFP transceiver into an antistatic bag.

Note: Follow proper fibre-optic handling procedures when installing and removing SFP transceivers to ensure the devices remain clean and are not damaged.

FortiExplorer

FortiExplorer provides a user-friendly tool that you can use to configure a FortiGate unit over a standard USB connection, rather than using a console cable or Ethernet connection.

Caution: Do not connect the USB cable until after FortiExplorer has been installed.



Note: When using FortiExplorer for the first time, ensure the FortiGate unit is using its factory default settings.

Installing FortiExplorer

FortiExplorer is available for Microsoft Windows XP, Vista, and 7. It is also available for Mac OS 10.6 and higher.

Microsoft Windows Install

1. Extract the ZIP file (if downloaded) and double-click the .msi, or .exe file and follow the instructions on-screen. If loading from the CD, select the appropriate version for your operating system.
2. Connect the USB cable to the FortiGate unit and then to the management computer.
3. The FortiExplorer Easy Configuration Utility opens when the USB cable is connected. Select *Install the hardware automatically* and select *Next*.
4. After a moment, FortiExplorer will launch.

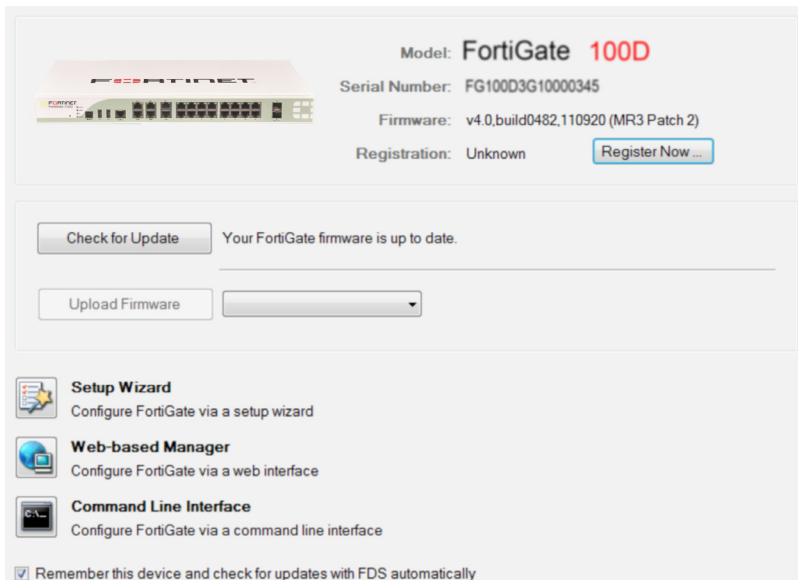
Mac OS Install

1. Double-click the .dmg file and drag the FortiExplorer program file into the Applications folder.
2. Connect the USB cable to the FortiGate unit and then to the management computer.
3. Double-click the FortiExplorer icon to launch the application.

Configuration Options

With FortiExplorer, you are provided a number of options on how to configure the FortiGate unit, depending on your level of comfort with various interfaces.

The below image shows the FortiExplorer Easy Configuration Wizard.



The screenshot displays the FortiExplorer Easy Configuration Wizard. At the top, there is a header section with a FortiGate 100D unit image on the left. To the right of the image, the following information is displayed: Model: **FortiGate 100D**, Serial Number: FG100D3G10000345, Firmware: v4.0.build0482.110920 (MR3 Patch 2), and Registration: Unknown. A blue button labeled "Register Now ..." is positioned to the right of the registration status. Below this header, there is a section for firmware updates. It includes a "Check for Update" button and the text "Your FortiGate firmware is up to date." Below this, there is an "Upload Firmware" button and a dropdown menu. At the bottom of the wizard, there are three configuration options, each with an icon and a description: "Setup Wizard" (Configure FortiGate via a setup wizard), "Web-based Manager" (Configure FortiGate via a web interface), and "Command Line Interface" (Configure FortiGate via a command line interface). A checkbox at the very bottom is checked and labeled "Remember this device and check for updates with FDS automatically".

Updating FortiExplorer and Firmware

FortiExplorer may be updated from time to time. To ensure you have the most recent FortiExplorer go to **Help > Check for Updates**.

You can also use FortiExplorer to check for new firmware for a FortiGate unit. To check for new firmware, select the FortiGate unit from the device list and select **Check for Update**.

Connecting to the FortiGate Unit

The FortiGate unit requires some basic configuration to add it to your network. These basic steps include assigning IP addresses, DNS settings, and the default gateway. Until these steps are completed traffic will not flow through the device.

In addition to FortiExplorer, the FortiGate unit can be configured using the Web-based Manager or the CLI.

This section will step you through both methods of connecting to the unit. Use whichever method you are most comfortable with.

To Connect to the Web-based Manager:

1. Connect the FortiGate unit MGMT1 port to a management computer using the provided Ethernet cable.
2. Configure the management computer to be on the same subnet as the internal interface of the FortiGate unit:
 - a. Browse to the *Network and Sharing Center > Change Adapter Settings > Local Area Connection Properties > Internet Protocol Version 4 (TCP/IPv4) Properties*.
 - b. Change the IP address of the management computer to 192.168.1.2 and the netmask to 255.255.255.0.
3. To access the FortiGate unit Web-based Manager, start a browser of your choice and browse to <https://192.168.1.99> (remember to include the “s” in https://).
4. Type `admin` in the *Name* field, leave the *Password* field blank, and select *Login*.

You can now proceed with configuring your FortiGate unit.

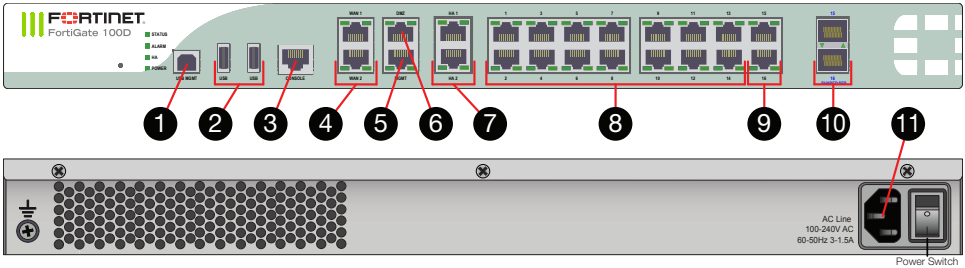
To Connect to the CLI:

You can configure all FortiGate configuration options from the CLI using *config* commands. The CLI also includes *get*, *show*, *diagnose*, and *execute* commands for performing various configuration and monitoring tasks.

1. Connect the FortiGate unit console port to the management computer using the provided console cable.
2. Start a terminal emulation program on the management computer. Use the following settings:
 - Baud Rate: 9600
 - Data bits: 8
 - Parity: None
 - Stop bits: 1
 - Flow Control: None
3. Press *Enter* on your keyboard to connect to the CLI.
4. Type `admin` in the *Name* field, leave the *Password* field blank, and press *Enter*.

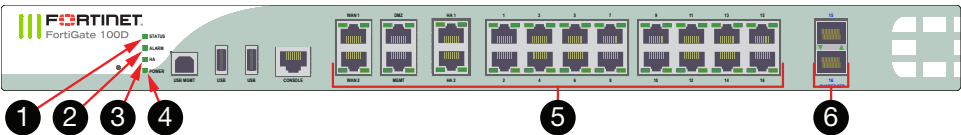
You can now proceed with configuring your FortiGate unit.

Technical Specifications



#	Interface	Type	Description
1	USB MGMT	USB-B	USB client port for management.
2	USB	USB-A	USB server ports for USB key, modem, or management functions.
3	Console	RJ-45	Optional connection to the management computer. Provides access to the CLI.
4	WAN1, 2	RJ-45	Standalone Gigabit Ethernet ports.
5	MGMT	RJ-45	Client port for management. The default IP address of MGMT is 192.168.1.99.
6	DMZ	RJ-45	Optional connection to a DMZ network/device.
7	HA1, 2	RJ-45	Optional connection to other FortiGate units for High Availability (HA).
8	Ethernet Ports 1 - 14	RJ-45	Switched Gigabit Ethernet ports for connection to your network and the Internet.
9	Ethernet Ports 15 - 16	RJ-45	Switched Gigabit Ethernet ports. Shared with SFP ports 15 to 16.
10	SFP Ports 15 - 16	SFP	1Gbps/auto, small form-factor pluggable transceiver. Shared with Ethernet ports 15 to 16.
11	Power		100-240V AC, 60-50Hz, 3-1.5A.

LED Specifications



#	LED	State	Description
1	STATUS	Green	The unit is operating normally.
		Red	The unit has an error.
		Off	The unit is off.
2	ALARM		Not in use.
3	HA	Green	The unit is operating in normal HA mode.
		Off	The unit is not operating in HA mode.
4	POWER	Green	The unit is on.
		Off	The unit is off.
5	Ethernet Ports Activity	Green	Port is active.
		Flashing Green	Port is transmitting and receiving data.
		Off	Port is not in use.
5	Ethernet Port Speed	Green	Port is connected at 1Gbps.
		Amber	Port is connected at 100Mbps.
		Off	Port is connected at 10Mbps or is not in use.
6	SFP Ports	Green	Port is active.
		Flashing Green	Port is transmitting and receiving data.
		Off	Port is not in use.

Cautions and Warnings

Please review the following cautions and warnings.

Environmental and mounting specifications

Operating temperature: 0 - 40°C (32 - 104°F)

Storage temperature: -25 - 70°C (-13 - 158°F)

Humidity: 20 to 90% non-condensing

Operating Altitude: <2250m (7400ft)

Elevated Operating Ambient: If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.

Reduced Air Flow: Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised. For free-standing installation, make sure that the appliance has at least 1.5 inches (3.75 cm) of clearance on each side to allow for adequate air flow and cooling.

Mechanical Loading: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Earthing: Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

Federal Communication Commission (FCC) – USA

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received; including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

WARNING: Any changes or modifications to this product not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

Industry Canada Equipment Standard for Digital Equipment (ICES) – Canada

CAN ICES-3 (A) / NMB-3 (A)

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Voluntary Control Council for Interference (VCCI) – Japan

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Bureau of Standards Metrology and Inspection (BSMI) – Taiwan

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

China

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European Conformity (CE) - EU

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Grounding

Ensure your Fortinet product is connected and properly grounded to a lightning and surge protector. WAN or LAN connections that enter the premises from outside the building should be connected to an Ethernet CAT5 (10/100 Mb/s) surge protector.

Shielded Twisted Pair (STP) Ethernet cables should be used whenever possible rather than Unshielded Twisted Pair (UTP).

Do not connect or disconnect cables during lightning activity to avoid damage to your Fortinet product or personal injury.

Electrostatic discharge (ESD) can damage Fortinet equipment. Only perform the procedures described in this document from an ESD workstation. If no such station is available, you can provide some ESD protection by wearing an anti-static wrist strap and attaching it to an available ESD connector or other bare metal object.

Documentation and Links

The following Fortinet web pages provide information and resources for your Fortinet product:

1. Customer Service & Support: <https://support.fortinet.com>

On this page you can create a support account with Fortinet, register and manage your products, download updates, firmware images and release notes, and create technical support tickets.

2. Technical Documentation: <http://docs.fortinet.com>

This page provides the most up-to-date versions of Fortinet publications for the entire family of Fortinet products. The following guides more information on the installation and configuration of your FortiGate unit:

- **Hardware Guide:** This guide describes how to mount your FortiGate unit, hardware acceleration, and configuring Redundant Array of Independent Disks (RAID).
- **System Administration Guide:** This guide describes initial configuration of your FortiGate unit, centralized management, tightening security, best practices, and configuration examples.
- **Fundamentals Guide:** This guide describes NAT versus Transparent mode, packet flow and inspection, firewall components, virtual IPs, security policies, UTM profiles, and troubleshooting traffic.
- **UTM Guide:** This guide includes examples and step-by-step instructions for the UTM features available on your FortiGate unit, such as AntiVirus, intrusion prevention system (IPS), web and email filtering, Data Leak Prevention (DLP), and application control.
- **Troubleshooting Guide:** This guide describes the troubleshooting process and best practice concepts, how Fortinet Support operates, and diagnostic commands in the CLI.

3. Knowledge Base: <http://kb.fortinet.com>

This page provides Fortinet technical documentation, such as troubleshooting, how-to articles, example configurations, FAQs, technical notes, and more.

4. Technical Discussion Forums: <https://support.fortinet.com/forum>

This page allows you to communicate with other customers and Fortinet partners about Fortinet products, services, and configuration issues in a forum environment.

5. Training Services: <http://training.fortinet.com>

This page provides course descriptions, availability, schedules, and locations of training programs in your area.

6. FortiGuard Threat Research and Response: <http://www.fortiguard.com>

This page provides up-to-date information on vulnerabilities and threats, and includes a virus scanner, Internet Protocol (IP) signature look-up, web filtering tools, and related information.

Tools and Documentation CD

The tools and documents on this CD are current as of shipping time.

Comments on Technical Documentation

Please send comments or information about any errors or omissions in this or any Fortinet technical documents to techdoc@fortinet.com.

Register Your Product

If you did not register your Fortinet product using the FortiExplorer wizard, please register your product now.

Register

Register your Fortinet product in order to receive:

- Technical Support
- New product features
- Protection from new threats

Enregistrer

Vous devez enregistrer le produit pour recevoir:

- Support technique
- Nouvelles fonctionnalités du produit
- Protection contre de nouvelles menaces

Registra

La reistrazione ti permette di usufruire di:

- Supporto Tecnico
- Nuove funzionalita
- Protezione dalle ultime minacce

Registrar

Debe registrar el producto para recibir:

- Apoyo técnico
- Nuevas funcionalidades del producto
- Protección contra ataques

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When a “work that uses the Library” uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not.

Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.) Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a “work that uses the Library” with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for your own use and reverse engineering for debugging such modifications. You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable “work that uses the Library”, as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user’s computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the “work that uses the Library” must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable. It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

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a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

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