

# FortiSwitch 548D / 548D-FPOE

# Register for Support

Register your Fortinet product to receive:

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

Vous devez enregistrer le produit pour recevoir:

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

La reistrazione ti permette di usufruire di:

- Supporto Tecnico
- Nuove funzionalità
- Protezione dalle ultime minacce

Debe registrar el producto para recibir:

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

## 登録のお願い

本日、フォーティネット製品の登録をしてください。

登録すると次のメリットがあります。

テクニカルサポート・新機能の追加・新しい脅威への防御

## 请马上注册

您的飞塔产品

您在注册以后才能得到技术支持、新产品特点信息、最新威胁防护



November 16, 2016

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<https://support.fortinet.com>

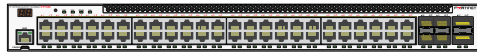
Toll free: 1 866 648 4638

Phone: 1 408 486 7899

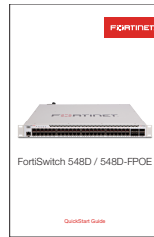
Fax: 1 408 235 7737

Email: [register@fortinet.com](mailto:register@fortinet.com)

## Box Includes



FortiSwitch 548D / 548D-FPOE



QuickStart Guide



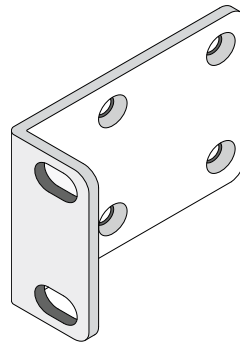
Power Cable



Console Cable



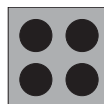
USB micro-B to RJ-45 port Cable



2 Rack-Mount Brackets



8 Bracket Screws



4 Rubber Feet

## Before You Begin

Write down details that you may need from your network administrator or ISP.

### DSL PPPoE

Username

Password

### Cable Modem DHCP

It is normal to not require a hostname, but your ISP may require it.

Hostname

### Static IP address

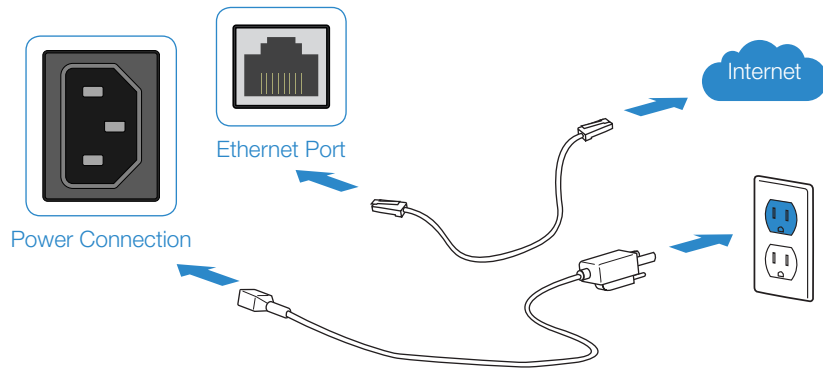
IP Address

Subnet Mask

Default Gateway

Primary/Secondary DNS

## 1 Basic Connections

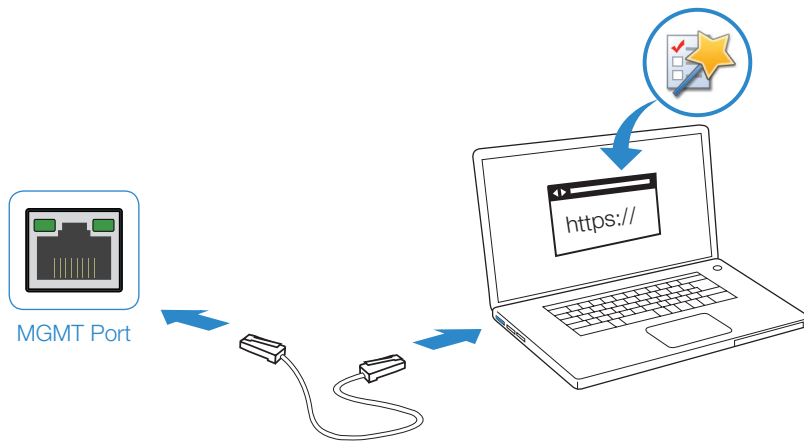


Connect your device to a [power outlet](#) and an [Internet connection](#). This is usually a modem, but could also be another device on your network.

## 2 Setup Options

- A Web Browser**  
Setup Wizard (p.8)
- B Terminal Emulation**  
With console cable (p.9)

## A Web Browser with Ethernet cable



### To Connect to the GUI

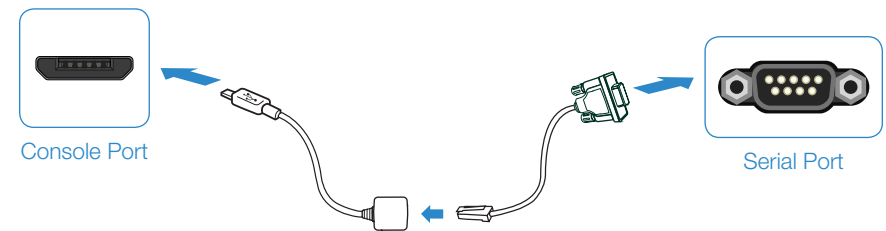
1. Connect an [Ethernet cable](#).
2. Configure the management computer to be on the same [subnet](#) as the internal interface as the FortiSwitch unit:

**IP address:** 192.168.1.XXX

**Netmask:** 255.255.255.0

3. Visit <https://192.168.1.99> in your web browser.
4. Login using username "[admin](#)" and [no password](#).
5. [Configure your device](#) and save your settings.
6. [Register your device](#) from the dashboard page.

## B Terminal Emulation with Console Cables



### To Connect to the CLI

1. Connect the device's [console port](#) to the management computer using the provided [USB micro-B to RJ-45 port](#) and [console cables](#).
2. Start a [terminal emulation program](#) on the management computer, select the [COM port](#), and use the following settings:

**Baud Rate:** 115200

**Data bits:** 8

**Parity:** None

**Stop bits:** 1

**Flow Control:** None

3. Press [Enter](#) on your keyboard to [connect to the CLI](#).
4. Login using username "[admin](#)" and no password. You can now proceed with configuring your device.

Get started by typing "[?](#)" for a list of available [commands](#).

Begin typing a command then type "[?](#)" for a list of available ways to complete. For example "[config ?](#)" will show the lowest level of configuration options.

### 3 Installation

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

*Please read "Cautions and Warnings" prior to installing your device.*

#### Caution:

Electrostatic discharge (ESD) can damage your Fortinet equipment.

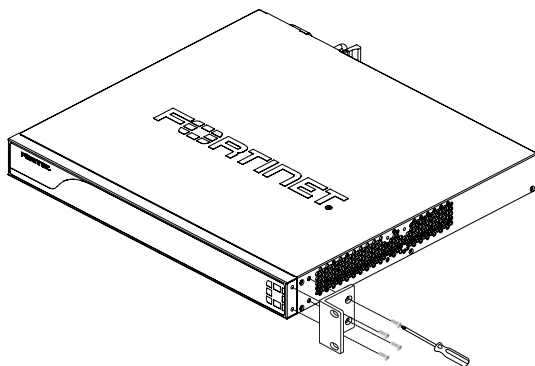
Do not place heavy objects on the unit.

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

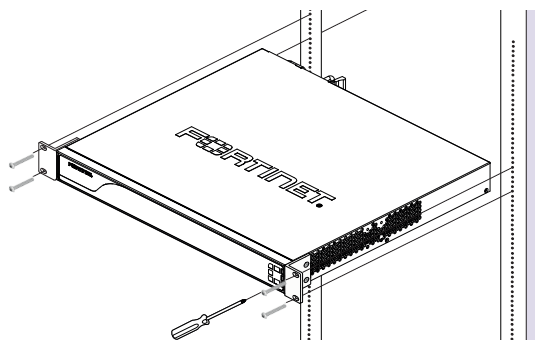
**Note:** If the unit has a redundant power supply, each power cable should be connected to a different power source. In this way, if one power source fails, the other may still be operational and the unit will not lose power.

#### To install the FortiSwitch unit into a rack

1. Ensure that the FortiSwitch 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 [bracket screws](#).



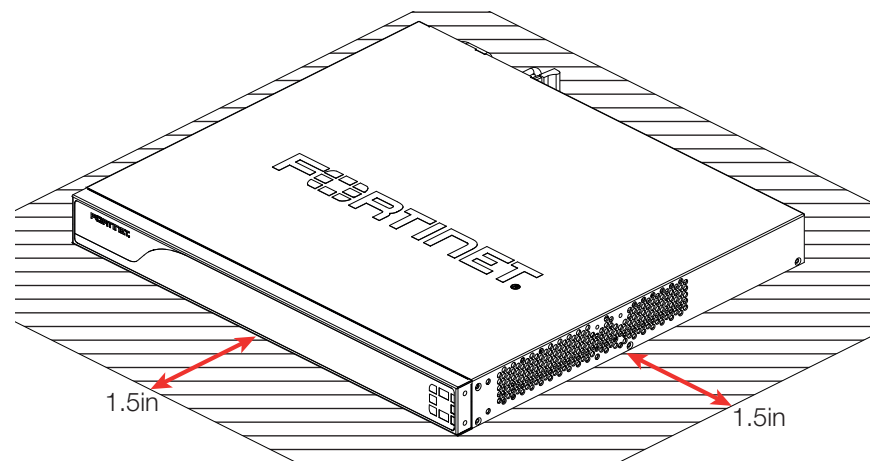
3. Position the FortiSwitch unit in the [rack](#). Ensure there is enough room around the unit to allow for sufficient air flow.



4. Line up the [rack-mount bracket holes](#) to the [holes on the rack](#) and ensure that the FortiSwitch unit is [level](#).
5. Finger tighten [four rack-mount screws](#) to attach the unit to the [rack](#).
6. Verify that the spacing around the FortiSwitch unit conforms to requirements and that the unit is [level](#), then tighten the [rack-mount screws](#) with an appropriate [screwdriver](#).
7. Plug the provided [power cable](#) into the rear of the unit, and then into a [grounded electrical outlet](#) or a separate power source such as an [uninterruptible power supply \(UPS\)](#) or a [power distribution unit \(PDU\)](#).

#### To install the unit on a flat surface

1. Ensure that the surface onto which the FortiSwitch unit to be installed is clean, level, and stable and that there is at least [1.5in \(3.8cm\)](#) of clearance on all sides to allow for adequate airflow.
2. Attach the provided [rubber feet](#) to the bottom of the FortiSwitch unit.
3. Place the unit in the designated location.
4. Verify that the spacing around the FortiSwitch unit conforms to requirements and that the unit is [level](#).



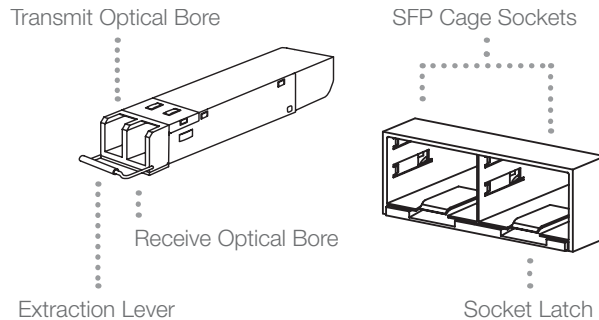
5. Plug the provided [power cable](#) into the rear of the unit, and then into a [grounded electrical outlet](#) or a separate power source such as an [uninterruptible power supply \(UPS\)](#) or a [power distribution unit \(PDU\)](#).

# SFP Transceivers

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

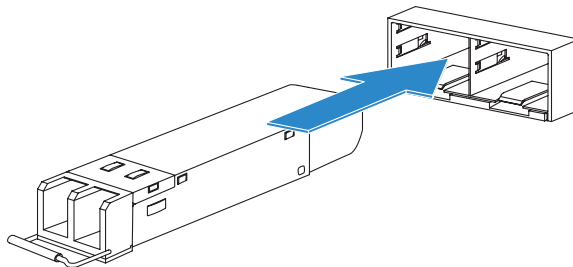
Do not install or remove SFP transceivers while fiber-optic cables are still attached. This can cause damage to the cables, cable connectors, and the optical interfaces. It may also prevent the transceiver from latching correctly into the socket connector.

**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

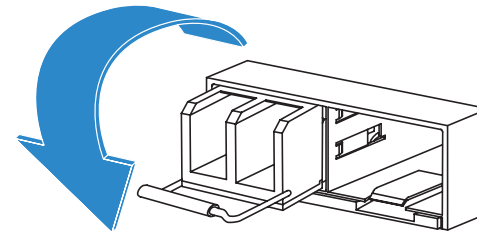
1. Ensure that you are properly grounded.
2. Remove the **caps** from the **SFP cage sockets** on the front panel of the unit.
3. Position the **SFP transceiver** in front of the **cage socket opening** and ensure that the transceiver is correctly oriented. When the **transceiver** is correctly oriented,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



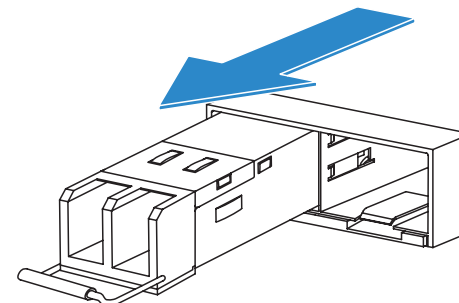
5. Press the **transceiver** firmly into the **cage socket** with your thumb.
6. Verify that the **transceiver** is latched correctly by grasping the sides of the **transceiver** and trying to pull it out without lowering the **extraction lever**.  
If the **transceiver** cannot be removed, it is installed 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**.

**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.

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

### Power

- Green: Power supply normal
- Amber: Power supply fault
- Off: No power supply present

### System

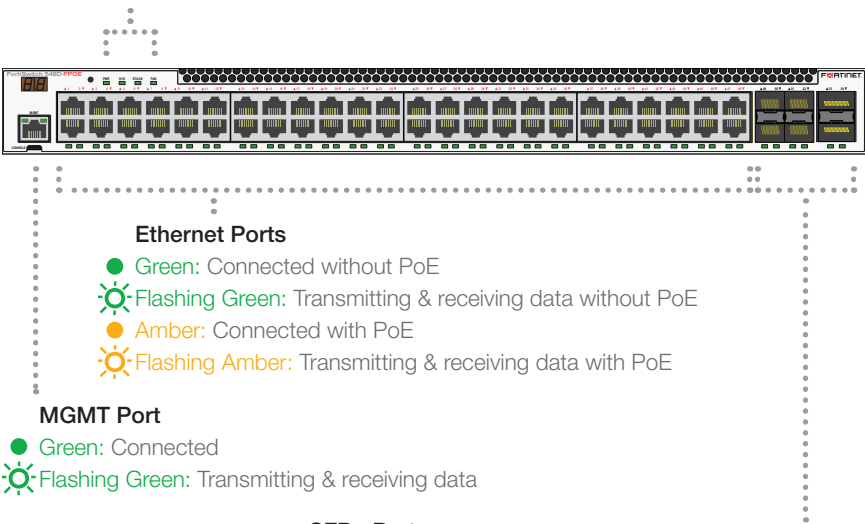
- Green: System diagnostic okay
- Flashing Green: System diagnostic in progress
- Amber: System diagnostic failed

### Stack

- Green: Unit is the master in the stack
- Amber: Unit is a slave in the stack
- Off: Unit is in inconsistent/error state

### Fan

- Green: Fan operating normally
- Amber: Fan has failed



### Ethernet Ports

- Green: Connected without PoE
- Flashing Green: Transmitting & receiving data without PoE
- Amber: Connected with PoE
- Flashing Amber: Transmitting & receiving data with PoE

### MGMT Port

- Green: Connected
- Flashing Green: Transmitting & receiving data

### SFP+ Ports

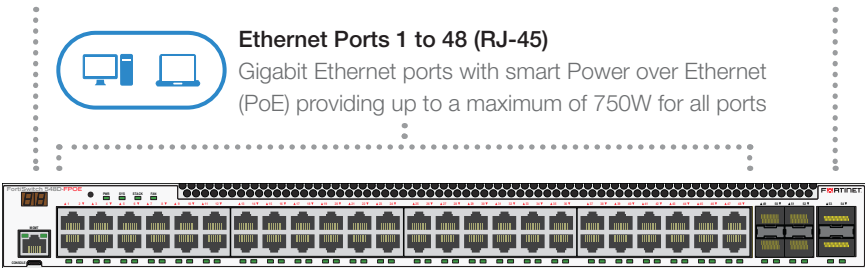
- Green: Connected at 10Gbps
- Flashing Green: Transmitting & receiving data at 10Gbps
- Amber: Connected at 1Gbps
- Flashing Amber: Transmitting & receiving data at 1Gbps
- Off: No link established

### QSFP Ports

- Green: Connected at 40Gbps
- Flashing Green: Transmitting & receiving data at 40Gbps
- Amber: Connected at 10Gbps
- Flashing Amber: Transmitting & receiving data at 10Gbps
- Off: No link established

### Stacking ID

The stacking ID of the unit, in decimal



### Ethernet Ports 1 to 48 (RJ-45)

Gigabit Ethernet ports with smart Power over Ethernet (PoE) providing up to a maximum of 750W for all ports

### MGMT (RJ-45)

Client port for management  
Default IP address is 192.168.1.99

### Console (USB micro-B)

USB client port connection

### QSFP Ports 53 to 54

40Gbps quad small form-factor pluggable transceiver ports

### SFP+ Ports 49 to 52

10Gbps small form-factor pluggable transceiver ports

### Power

100-240V AC, 13-6.5A max, 50-60Hz





## Power

- Green: Power supply normal
- Amber: Power supply fault
- Off: No power supply present

## System

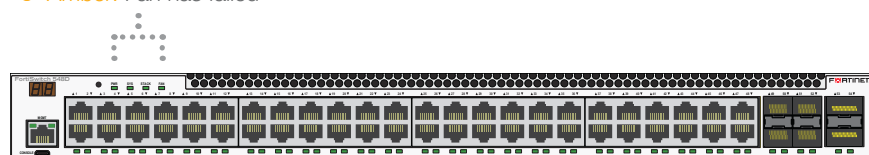
- Green: System diagnostic okay
- Flashing Green: System diagnostic in progress
- Amber: System diagnostic failed

## Stack

- Green: Unit is the master in the stack
- Amber: Unit is a slave in the stack
- Off: Unit is in inconsistent/error state

## Fan

- Green: Fan operating normally
- Amber: Fan has failed



## Ethernet Ports

- Green: Connected
- Flashing Green: Transmitting & receiving data

## MGMT Port

- Green: Connected
- Flashing Green: Transmitting & receiving data

## SFP+ Ports

- Green: Connected at 10Gbps
- Flashing Green: Transmitting & receiving data at 10Gbps
- Amber: Connected at 1Gbps
- Flashing Amber: Transmitting & receiving data at 1Gbps
- Off: No link established

## QSFP Ports

- Green: Connected at 40Gbps
- Flashing Green: Transmitting & receiving data at 40Gbps
- Amber: Connected at 10Gbps
- Flashing Amber: Transmitting & receiving data at 10Gbps
- Off: No link established

## Stacking ID

The stacking ID of the unit, in decimal



## Ethernet Ports 1 to 48 (RJ-45)

Gigabit Ethernet network connections



## MGMT (RJ-45)

Client port for management

Default IP address is 192.168.1.99

## Console (USB micro-B)

USB client port connection

## QSFP Ports 53 to 54

40Gbps quad small form-factor pluggable transceiver ports

## SFP+ Ports 49 to 52

10Gbps small form-factor pluggable transceiver ports

## Power

100-240V AC, 3-1.5A max, 50-60Hz



## CCautions and Warnings

### Environmental Specifications

Ambient operating temperature: 0C to 40C

Rack Mount Instructions - The following or similar rack-mount instructions are included with the installation instructions:

Instructions de montage en rack - Les instructions de montage en rack suivantes ou similaires sont incluses avec les instructions d'installation:

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 (Tma) specified by the manufacturer.

Température ambiante élevée – S'il est installé dans un rack fermé ou à unités multiples, la température ambiante de fonctionnement de l'environnement du rack peut être supérieure à la température ambiante de la pièce. Par conséquent, il est important d'installer le matériel dans un environnement respectant la température ambiante maximale (Tma) stipulée par le fabricant.

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.

Ventilation réduite – Installation de l'équipement dans un rack doit être telle que la quantité de flux d'air nécessaire au bon fonctionnement de l'équipement n'est pas compromise.

Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading. Chargement Mécanique – Montage de l'équipement dans le rack doit être telle qu'une situation dangereuse n'est pas lié à un chargement mécanique inégal.

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.

Surtenstion – Il convient de prendre l'ensemble des précautions nécessaires lors du branchement de l'équipement au circuit d'alimentation et être particulièrement attentif aux effets de la suralimentation sur le dispositif assurant une protection contre les courts-circuits et le câblage. Ainsi, il est recommandé de tenir compte du numéro d'identification de l'équipement.

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).

Fiabilité de la mise à la terre– Fiabilité de la mise à la terre de l'équipement monté en rack doit être maintenue. Une attention particulière devrait être accordée aux connexions d'alimentation autres que les connexions directes au circuit de dérivation (par exemple de l'utilisation de bandes de puissance).

*Refer to specific Product Model Data Sheet for Environmental Specifications (Operating Temperature, Storage Temperature, Humidity, and Altitude)*

*Référez à la Fiche Technique de ce produit pour les caractéristiques environnementales (Température de fonctionnement, température de stockage, humidité et l'altitude).*

### Safety

Caution: This equipment is to be used in a Network Environment 0 per IECTR 62101. This product is connected only to PoE networks without routing to the outside plant.

Attention: Ce matériel doit être utilisé dans un Environnement Réseau 0 par IECTR 62101. Ce produit est uniquement connecté aux réseaux PoE sans installation externe de routage.

Caution: Disconnect power supply cords before servicing

Attention: Débranchez les cordons de la source d'alimentation avant tout entretien.

## Regulatory Compliance

### 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 Regula-tions of the Canadian Department of Communications.

Cet 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.

### 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.



### Product Safety Electrical Appliance & Material (PSE) - Japan

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### Bureau of Standards Metrology and Inspection (BSMI) – Taiwan

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