

# AT-8600 Series Switch Installation and Safety Guide



AT-8624T/2M  
AT-8624PoE  
AT-8648T/2SP

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AT-8624T/2M  
AT-8624PoE  
AT-8648T/2SP

Download the complete document set from  
[www.alliedtelesis.com/support/software](http://www.alliedtelesis.com/support/software)



AT-8600 Installation & Safety Guide  
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## Models Covered by this Guide

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This document includes information about the following switches:

- AT-8624T/2M 24-port 10BASE-T/100BASE-TX
- AT-8624PoE 24-port 10BASE-T/100BASE-TX
- AT-8648T/2SP 48-port 10BASE-T/100BASE-TX

You can download updates to this document from [www.alliedtelesis.com/support](http://www.alliedtelesis.com/support).

## Package Contents

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The following items are shipped with each switch. Contact your authorised distributor or reseller if any are damaged or missing.

- One AC power cord
- One power cord retaining clip
- One serial cable for connecting the switch to a terminal or PC
- One 19-inch rack-mount kit
- One *AT-8600 Series Installation & Safety Guide* (which includes statutory and safety information)
- One warranty card

### Preinstalled AT-A65 expansion modules

You can order the AT-8624T/2M or AT-8624PoE switches with two AT-A65 expansion modules included. These will already be installed in the expansion bays of the switch.

For technical specifications for the AT-A65 expansion module, see the *AT-A65 Expansion Module Installation and Safety Guide* available from [www.alliedtelesis.com/support/software](http://www.alliedtelesis.com/support/software).

## Selecting a Site

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Before you install the switch, review the following considerations about its location.

- The switch requires an ambient temperature range of 0 ° C to 40° C (32° F to 104° F).
- There should be adequate airflow around the switch and its vents.
- The site should be dust-free and without moisture.
- Humidity can be from 5% to 80% non-condensing.
- You need a reliable and earthed (grounded) power supply source, preferably dedicated and filtered.
- Cabling must not be exposed to sources of electrical noise, such as radio transmitters, broadband amplifiers, power lines, electric motors, and fluorescent fixtures.
- Switch ports are suitable for connection to intra-building or non-exposed cabling is required.
- Related network devices can be connected to the switch but cannot exceed maximum cable lengths specified in the Hardware Reference.
- You may need to remove cabinet doors to accommodate cords and cables.
- Ensure easy access to the switch's power and cable connections.

## Installing the Switch

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Ports on the switch are suitable only for connections within buildings (intra-building) and with cables unexposed to the outside.

### Before you begin

- Read the safety information.

For your well-being and that of the equipment, read the safety information in this document. You can also download this document from the Documentation and Tools CD-ROM or from [www.alliedtelesis.com/support/software](http://www.alliedtelesis.com/support/software).

- Verify the package contents if you have not already done so.

See “[Package Contents](#)” on page 4. If any items are damaged or missing, contact your authorised distributor or reseller.

- Gather necessary tools and equipment:

- Phillips #2 screwdriver to loosen the blanking plate, if any
- 4 sets of rack-mount screws and nuts, and a suitable screwdriver

To install a DC version of the PSU, you need an appropriate DC power source, DC supply cable, ring connectors, and a crimp tool.

- Choose a suitable operating location.

You can install the switch either in a 19-inch rack, on a flat bench, or against a wall. Follow the guidelines in “[Selecting a Site](#)” on page 5 to choose a location.

- To ensure rack-mounted installations are earthed for compatibility with Network Equipment Building System (NEBS), do the following:

- Remove non-conductive coatings, such as lacquer and enamel, from the rack rail where hardware will contact it. Also remove coatings from unplated connectors, braided strap, and bus bars, and bring them to a bright finish. Then coat them with an antioxidant before connecting them. During installation, thread-forming screws with star washers may be used for this purpose
- All bare conductors must be coated with an appropriate antioxidant compound before making crimp connections.



**Warning** Both AC and DC versions of this equipment must be earthed through the power cables provided.

## Procedure

### 1. If you have any optional expansion modules, install them first.

The AT-8600 Series switches support the AT-A45/xx, AT-A46, AT-A47, and AT-A65 expansion modules. Install them by following the instructions in the relevant guide:

- *AT-A65 Expansion Module Installation and Safety Guide* for the AT-A65 module only.
- *AT-A45/xx Series, AT-A46, and AT-A47 Expansion Modules Installation Guide* for the other expansion modules.

These instructions ship with individual expansion modules, and are also available from [www.alliedtelesis.com/support/software](http://www.alliedtelesis.com/support/software).

Note that if you insert or remove a module when the switch is already powered on, you must restart the switch before you can use the module.

### 2. Place the switch in its operating location.

If installing the switch in a rack:

- Remove the rubber feet on the bottom of the switch with a flat-head screwdriver.
- Attach the two rack-mounting brackets to the switch with the screws provided in the rack-mount kit.

### 3. Mount the switch in the rack using rack-mount screws

Note that the screws are not provided with the switch.

### 4. Install any SFPs.

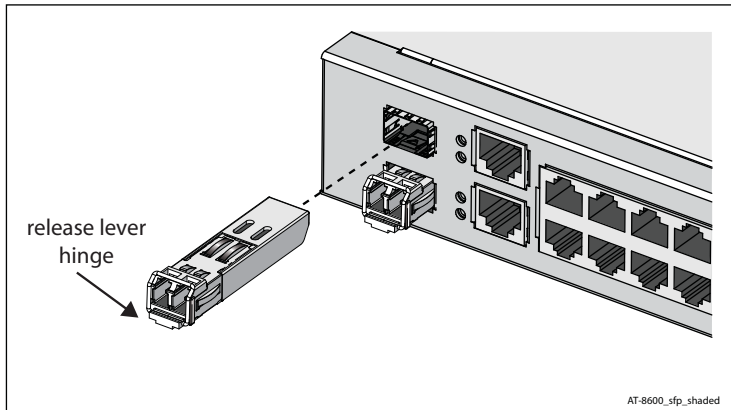
You can install optional SFP (Small Form-factor Pluggable) modules into the AT-8648T/2SP.



**Warning** Do **not** look into the optical ports of SFP cables or transceivers. Invisible laser radiation may be emitted from disconnected fibres or connectors.

In both SFP ports, the SFP transceivers must be inserted with the release lever hinge at the bottom. Use the following figure as a guide.





Slide the transceiver into the SFP socket, and firmly press it until it engages. To remove it, first release it by gently pulling the release lever, and then pull it out of the socket. **Never** force a transceiver into or out of a socket.

When an SFP is installed into one of the two SFP ports, that SFP port takes precedence over its corresponding 10/100/1000T port. When the SFP is removed, the 10/100/1000T port is once again active.

5. Check the supply voltage and the switch's rated voltage

AT-8600 Series switches are fitted with a universal main power supply that functions from 100–240 VAC and 50–60 Hz.

Specific power supply requirements for the model are on the rear or underside of the switch. If the supply is outside the acceptable range, the switch may not operate or may be damaged.

6. Apply AC power to the switch.

Plug the power cord into the AC power connector. This is on the switch's rear panel, as shown in the below figures.

Figure 1: AT-8624T/2M front and rear panel with AC power inlet

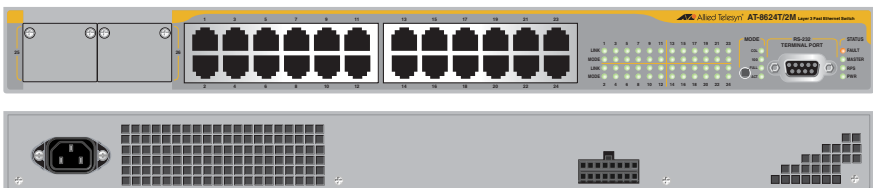


Figure 2: AT-8624PoE front and rear panel with AC power inlet

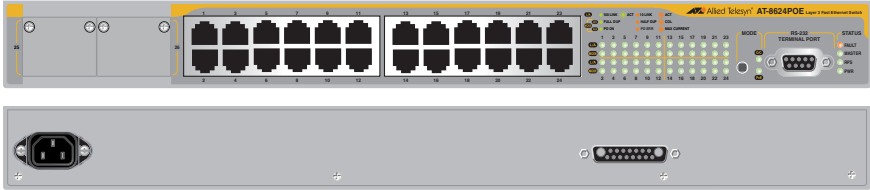
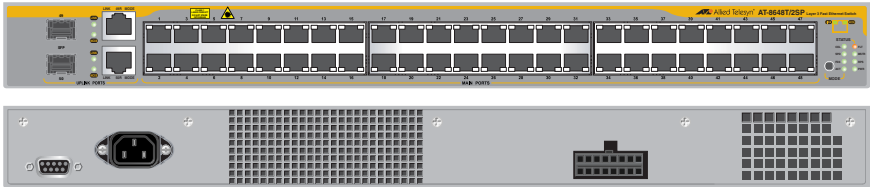


Figure 3: AT-8648T/2SP front and rear panel with AC power inlet



7. Check that the PWR LED on the switch's front panel is green.  
If the PWR (power) LED fails to light, refer to the *AT-8600 Series Hardware Reference* for troubleshooting information.
8. Connect the data cables.  
Make sure each cable connection is secure. The switch can now process basic Layer 2 switching functions.

## Connecting the Switch

---

Some configuration is necessary to enable the switch's advanced switching capabilities. This is achieved via the Command Line Interface (CLI). On the AT-8624T/2M, you can also use the Graphical User Interface (GUI).

### Using the CLI to configure a switch

1. Connect a terminal or PC to the terminal port (ASYN0).

Using the supplied RS-232 DB9 serial straight-through cable, connect your terminal or PC to the RS-232 port:

- For the AT-8624T/2M and AT-8624PoE, the RS-232 port is on the front panel.
- For the AT-8648T/2SP, the RS-232 port is on the back panel.

2. Set the communication parameters on your terminal or terminal emulation program to:

- Bit rate: 9600
- Data bits: 8
- Parity: None
- Stop bits: 1
- Flow control: None

3. Log in.

After the switch has booted, the login prompt appears. If it does not appear, press the Enter key several times.

When the switch starts for the first time, it automatically creates an account with manager privileges. The account has the login name **manager** and the password is **friend**.

At the login prompt, enter the login name and password:

```
Login: manager
Password: friend
```

The switch's command prompt appears, and you can now use the CLI to configure the switch.

4. Change the password.

A manager account left with the default password is a serious security risk. Remember the new password as there is no way to retrieve it if it is lost.

To change the account password, use the **set password** command.

## 5. Configure online help.

Before using online help, you must configure the help file by using the command:

```
set help=<filename>.hlp
```

Help files have an HLP extension. To see a list of help files loaded on your switch, use the command:

```
show files=*hlp
```

## 6. Configure the switch.

Refer to the Software Reference for more information about configuring the software. Alternatively, if you do not know the command syntax, use any of the following to help you:

- To display a list of help topics, use the **help** command.
- To display help on a specific topic, use the **help <topic>** command.
- To display a list of valid options, type a question mark or press the Tab key at the end of a partial command.
- To complete a parameter after you have typed enough letters to uniquely match the desired one, press the Tab key.

## 7. Save the configuration.

Save your configuration to a new file by using the command:

```
create config=<filename>.cfg
```

Then set the switch to load this file when it restarts by using the command:

```
set config=<filename>.cfg
```

For information about configuring the software, see the *AT-8600 Series Software Reference*.

## Using the GUI to configure the AT-8624T/2M switch

This section describes how to establish a connection to the AT-8624T/2M switch through the GUI so you can configure it before installing it in your LAN.

### 1. Select a PC to use and identify its subnet.

You can browse to the switch from any PC that is running a supported operating system with a supported browser installed. JavaScript must be enabled. If you are using a toolbar or plug-in on your browser to block pop-ups, disable it while using the GUI. The GUI displays detailed configuration options and information in pop-up windows.

2. Connect the PC to the switch.

Use an Ethernet cable to connect an Ethernet card on the PC to any one of the switch ports.

You can browse to the router through any VLAN, as long as you give that VLAN an IP address. These instructions assume you are using vlan 1. All switch ports belong to vlan 1 by default.

3. Access the switch's command line interface.

Access the CLI from the PC, as described in the previous section, [“Using the CLI to configure a switch” on page 10](#).

4. Enable IP.

```
enable ip
```

5. Assign the vlan 1 interface an IP address in the same subnet as the PC.

```
add ip interface=vlan1 ip=ipaddress mask=mask
```

6. Save the configuration and set the switch to use it on bootup.

```
create config=your-name.cfg
```

```
set config=your-name.cfg
```

7. On the PC's web browser, bypass the HTTP proxy server, if necessary.
8. Point your Web browser at IP address for vlan 1.
9. At the login prompt, enter the user name and password.

```
User Name: manager <the default>
```

```
Password: friend
```

The System Status page is displayed. Select options from the sidebar menu to configure and manage the switch.

For context-sensitive online help, click the Help button at the top of the sidebar menu or on any pop-up page.

## Checking LEDs

The following tables outline how the switch and expansion modules report faults and operational activities. Expansion modules are optional and can be purchased separately.

### System LEDs

LED	State	Description
FAULT	Off	Switch operation is normal.
	Red	The switch or management software is malfunctioning.
	1 flash	A switch fan has failed.
	3 flashes	The main PSU has failed and the RPS is now providing power.
	4 flashes	The RPS Monitor is set to ON, and the RPS is not functioning, either because it has failed or has been switched off.
	5 flashes	The RPS Monitor is set to ON, but the RPS is not connected.
	7 flashes	For the AT-8624T/2M and AT-8624PoE switches: An expansion module has been inserted or removed while the switch is powered on.
MASTER	Off	This LED is not supported.
RPS	Green	An optional redundant power supply is connected to the switch.
	Off	There is no optional redundant power supply connected to the switch.
PWR	Green	The switch is receiving power and the voltage is within the acceptable range.
	Off	The switch is not receiving power.

Use the Mode Select button to toggle the Mode LEDs to the desired state. Toggling the Mode Selection button does not affect the normal operations of the switch.

**Link and Mode LEDs for the AT-8624T/2M switch**

<b>LED</b>	<b>State</b>	<b>Description</b>
LINK	Off	There is no link between the port and the end-node.
	Green	A valid link has been established between the port and the end-node.
Mode - COL	Off	No data collisions are occurring on the port.
	Flashing Green	Data collisions are occurring on the port.
Mode - 100	Off	The port is operating at 10 Mbps.
	Green	The port is operating at 100 Mbps.
Mode - FULL	Off	The port is operating in half-duplex mode.
	Green	The port is operating in full-duplex mode.
Mode - ACT	Off	There is no activity on the port.
	Flashing Green	There is activity on the port. It is transmitting and/or receiving data.

**Link and Mode LEDs for the AT-8624PoE switch**

<b>LED</b>	<b>State</b>	<b>Description</b>
L/A Status (Top LED)	Off	There is no link between the port and the end-node.
	Green	The port is operating at 100 Mbps.
	Flashing Green	There is activity on the port. It is transmitting and/or receiving data at 100 Mbps.
	Red	The port is operating at 10 Mbps.
	Flashing Red	There is activity on the port. It is transmitting and/or receiving data at 10 Mbps.
Mode LEDs (Bottom LED)	Off	Either DC Mode or PoE Mode.
D/C Mode	Off	There is no link between the port and the end-node.
	Green	The port is operating in full duplex mode.
	Red	The port is operating in half-duplex mode.
	Flashing Red	The port is operating in half-duplex mode and data collisions are occurring on the port.
PoE Mode	Off	There is no powered device detected.
	Green	The end-node is a powered device and the port is providing power to it.
	Red	The port is experiencing a problem providing PoE to the end-node.
	Flashing Red	The port is connected to a powered device but providing power to it would exceed the maximum PoE power budget of the switch.



**Link and Mode LEDs for the AT-8648T/2SP switch**

<b>LED</b>	<b>State</b>	<b>Description</b>
LINK	Off	There is no link between the port and the end-node.
	Green	A valid link has been established between the port and the end-node.
Mode - COL	Off	No data collisions are occurring on the port.
	Flashing Green	Data collisions are occurring on the port.
Mode - SPD	Off	The port is operating at 10 Mbps.
	Green	The port is operating at 100 Mbps.
Mode - FDX	Off	The port is operating in half-duplex mode.
	Green	The port is operating in full-duplex mode.
Mode - ACT	Off	There is no activity on the port
	Flashing Green	There is activity on the port.

**SFP and 10/100/1000Base-T LEDs for the AT-8648T/2SP switch**

<b>LED</b>	<b>State</b>	<b>Description</b>
LINK	Off	There is no link between the port and the end-node.
	Green	A valid link has been established between the port and the end-node.
Mode - COL	Off	No data collisions are occurring on the port.
	Flashing Green	Data collisions are occurring on the port.
Mode - SPD	Off	The port is operating at 10/100 Mbps.
	Green	The port is operating at 1000 Mbps.
Mode - FDX	Off	The port is operating in half-duplex mode.
	Green	The port is operating in full-duplex mode.
Mode - ACT	Off	There is no activity on the port
	Flashing Green	There is activity on the port.

## Obtaining Documentation and Resources

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The complete document set for the AT-8600 Series switches includes:

- This *Installation & Safety Guide*, which also provides safety and statutory information for the AT-8600 Series switch and its expansion options.
- The *AT-8600 Series Hardware Reference*, which provides detailed information on the switch unit and its hardware features.
- The *AT-8600 Series Software Reference*, which provides detailed information on configuring the switch unit and its software.
- The *AT-A65 Expansion Module Installation and Safety Guide* which outlines the procedure for installing the AT-A65 expansion module and provides technical specifications for the module.
- The *ATA45/xx Series, ATA46, and ATA47 Expansion Modules Installation Guide*, which outlines the procedure for installing these expansion modules, and provides technical specifications for the modules.

You can download these documents and updates from [www.alliedtelesis.com/support/software](http://www.alliedtelesis.com/support/software).

You need Adobe® Acrobat® Reader® software to view, search, or print these documents. You can download it from [www.adobe.com](http://www.adobe.com).

### Other resources

How-To Notes describe a range of standard Allied Telesis solutions, and include technical tips and guides to configuring specific hardware and software features. You can download the latest How-To Notes from [www.alliedtelesis.com/resources/literature/howto.aspx](http://www.alliedtelesis.com/resources/literature/howto.aspx).

MIBs supported by Allied Telesis products can be downloaded from [www.alliedtelesis.com/support/software](http://www.alliedtelesis.com/support/software).

Microsoft® Visio® stencils for Allied Telesis products can be downloaded from [www.alliedtelesis.com/resources/images/visio.aspx](http://www.alliedtelesis.com/resources/images/visio.aspx).

AT-TFTP Server for Windows is a TFTP (*Trivial File Transfer Protocol*) server for transferring software versions, configuration scripts and other files between a PC and the switch. You download AT-TFTP Server from [www.alliedtelesis.com/support/software](http://www.alliedtelesis.com/support/software).

### Contacting us

With locations covering all of the established markets in North America, Latin America, Europe, Asia, and the Pacific, Allied Telesis provides localized sales and technical support worldwide. To find the representative nearest you, visit us on the Web at [www.alliedtelesis.com](http://www.alliedtelesis.com).

# Standards

Where applicable, the products in this document meet the following standards:

Category	Approval Agency and Requirement
	UL60950-1 CAN/CSA-C22.2 No. 60950-1-03 EN60950-1 EN60825-1
Electromagnetic Compliance	FCC CFR47 Part 15 Class A EN55022 Class A EN61000-3-2 EN61000-3-3 VCCI Class A AS/NZS CISPR22 Class A
Immunity	EN55024

**U.S. Federal Communications Commission**

**RADIATED ENERGY**

Note: 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 not installed and used in accordance with this instruction manual, 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.

**Canadian Department of Communications**

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.  
Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

## Safety

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**WARNING:** In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.



**WARNING:** Class I Laser product.



**WARNING:** Do not stare into the laser beam.



**CAUTION:** Use of controls or adjustments of performance or procedures other than those specified herein may result in hazardous radiation exposure.



### ELECTRICAL NOTICES

#### **WARNING: ELECTRIC SHOCK HAZARD**

To prevent ELECTRIC shock, do not remove the cover. No user-serviceable parts inside. This unit contains HAZARDOUS VOLTAGES and should only be opened by a trained and qualified technician.



### LIGHTNING DANGER

**DANGER: DO NOT WORK** on equipment or CABLES during periods of LIGHTNING ACTIVITY.



**CAUTION: POWER CORD IS USED AS A DISCONNECTION DEVICE. TO DE-ENERGIZE EQUIPMENT,** disconnect the power cord.



### ELECTRICAL - TYPE CLASS I EQUIPMENT

**THIS EQUIPMENT MUST BE EARTHED.** Power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place hazardous voltages on accessible metal parts.



**PLUGGABLE EQUIPMENT,** the socket outlet shall be installed near the equipment and shall be easily accessible.



**CAUTION:** Air vents must not be blocked and must have free access to the room ambient air for cooling.



**OPERATING TEMPERATURE:** This product is designed for a maximum ambient temperature of 40 degrees C.



### ELECTRICAL - AC MAINS CIRCUIT OVERLOADING

When installing product, consideration must be given to the accumulative nameplate ratings when connecting the equipment to the AC supply wiring.



**CAUTION: MECHANICAL LOADING -** Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven loading.



Lithium Battery - Should only be changed by authorised service personnel.  
CAUTION: Danger of explosion if battery incorrectly replaced. Replace only with Lithium Battery, type CR2032, and dispose of in accordance with the manufacturer's recommendations and all local codes.



ALL COUNTRIES: Install product in accordance with local and National Electrical Codes.



WARNING: Only trained and qualified personnel are allowed to install or replace this equipment.



CAUTION: This unit does not contain serviceable components. Please return damaged units for servicing.



CAUTION: The AT-8624PoE Ethernet ports are only intended for installation in Environment A as defined in IEEE 802.3af. All interconnected equipment must be contained in the same building including the interconnected equipment's associated LAN connections.



CAUTION: The surface-mount fuses F1 to F24 on the Power over Ethernet daughterboard in the AT-8624PoE switch are 60V, max 2A fuses. These fuses are not field-replaceable, and should only be serviced by a trained Allied Telesis service technician.

## Sicherheit

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WARNUNG: Bei Verwendung zu Hause kann dieses Produkt Funkstörungen hervorrufen. In diesem Fall müßte der Anwender angemessene Gegenmaßnahmen ergreifen.



WARNUNG Laserprodukt der Klasse I.



WARNUNG Nicht direkt in den Strahl blicken.



ACHTUNG: GEFÄHRLICHE SPANNUNG

Das Gehäuse nicht öffnen. Das Gerät enthält keine vom Benutzer wartbaren Teile. Das Gerät steht unter Hochspannung und darf nur von qualifiziertem technischem Personal geöffnet werden.



GEFAHR DURCH BLITZSCHLAG

GEFAHR: Keine Arbeiten am Gerät oder an den Kabeln während eines Gewitters ausführen.



**VORSICHT: DAS NETZKABEL DIENST ZUM TRENNEN DER STROMVERSORGUNG. ZUR TRENnung VOM NETZ, KABEL AUS DER STECKDOSE ZIEHEN.**



**GERÄTE DER KLASSE I**  
DIESE GERÄTE MÜSSEN GEERDET SEIN. Der Netzstecker darf nur mit einer vorschriftsmäßig geerdeten Steckdose verbunden werden. Ein unvorschriftsmäßiger Anschluß kann die Metallteile des Gehäuses unter gefährliche elektrische Spannungen setzen.



**STECKBARES GERÄT:** Die Anschlußbuchse sollte in der Nähe der Einrichtung angebracht werden und leicht zugänglich sein."



**VORSICHT**  
Die Entlüftungsöffnungen dürfen nicht versperrt sein und müssen zum Kühlen freien Zugang zur Raumluft haben.



**BETRIEBSTEMPERATUR:** Dieses Produkt wurde für den Betrieb in einer Umgebungstemperatur von nicht mehr als 40° C entworfen.



**NETZSICHERUNG**  
Bei der Installation muß der auf dem Typenschild angezeigte Nennwert des Gerätes für den Anschluß an das Netz beachtet werden.



**VORSICHT: RAHMENEINBAU**  
Die Geräte müssen so in den Rahmen montiert werden, daß keine Gefahren durch unebenen inbau des Rahmens verursacht werden.



Lithium-Batterie - Sollte nur von einem geschulten qualifizierten Techniker ausgetauscht werden.  
**VORSICHT:** Explosionsgefahr bei unsachgemäßem Austausch der Batterie. Nur mit einer gleichen Batterie oder einem gleichwertigen Batterietyp nach Empfehlung des Herstellers ersetzen. Gebrauchte Batterien nach Anweisungen des Herstellers beseitigen.



**ALLE LÄNDER:** Installation muß örtlichen und nationalen elektrischen Vorschriften entsprechen.



Maschinenlärminformations-Verordnung - 3. GPSGV, der höchste Schalldruckpegel beträgt 70dB(A) oder weniger gemäss EN ISO 7779

## Sikkerhed

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**ADVARSEL:** I et hjemligt miljø kunne dette produkt forårsage radio forstyrrelse. Bliver det tilfældet, påkræves brugeren muligvis at tage tilstrækkelige foranstaltninger.



**ADVARSEL** Laserprodukt av klasse I.



**ADVARSEL** Stirr ikke på strålen.



**ELEKTRISKE FORHOLDSREGLER**

**ADVARSEL: RISIKO FOR ELEKTRISK STØD**

For at forebygge ELEKTRISK stød, undlad at åbne apparatet. Der er ingen indre dele, der kan repareres af brugeren. Denne enhed indeholder LIVSFARLIGE STRØMSPÆNDINGER og bør kun åbnes af en uddannet og kvalificeret tekniker.



**FARE UNDER UVEJR**

**FARE: UNDLAD** at arbejde på udstyr eller KABLER i perioder med LYNAKTIVITET.



**ADVARSEL: DEN STRØMFØRENDE LEDNING BRUGES TIL AT AFBRYDE STRØMMEN. SKAL STRØMMEN TIL APPARATET AFBRYDES, tages ledningen ud af stikket.**



**ELEKTRISK - KLASSE I-UDSTYR**

**DETTE UDSTYR KRÆVER JORDFORBINDELSE.** Stikket skal være forbundet med en korrekt installeret jordforbunden stikkontakt. En ukorrekt installeret stikkontakt kan sætte livsfarlig spænding til tilgængelige metaldele.



**UDSTYR TIL STIKKONTAKT,** stikkontakten bør installeres nær ved udstyret og skal være lettilgængelig.



**ADVARSEL:** Ventilationsåbninger må ikke blokeres og skal have fri adgang til den omgivende luft i rummet for afkøling.



**BETJENINGSTEMPERATUR:** Dette apparat er konstrueret til en omgivende temperatur på maksimum 40 grader C.



**ELEKTRISK-OVERBELASTNING AF SPÆNDINGSKREDSLØBET**

Ved installation af produktet, bør der tages hensyn til den kumulative kapacitet der angives på navneskiltet, når udstyret forbindes med vekselstrømsledningen.



**ADVARSEL: MEKANISK OPSTILLING-**Udstyret skal opstilles i stativet, på en sådan måde, at der ikke opstår fare p.g.a. ujævn opstilling.





Lithium batteri - Bør kun udskiftes af uddannet og kvalificeret tekniker.  
 ADVARSEL : Eksplosionsfare, hvis batteriet udskiftes ukorrekt. Udskift kun med samme eller en tilsvarende type der anbefales af producenten. Kassér brugte batterier i overensstemmelse med producentens instruktioner.



ALLE LANDE: Installation af produktet skal ske i overensstemmelse med lokal og national lovgivning for elektriske installationer.

## Veiligheid

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WAARSCHUWING: Binnenshuis kan dit product radiostoring veroorzaken, in welk geval de gebruiker verplicht kan worden om gepaste maatregelen te nemen.



WAARSHUWING Klasse-I laser produkt.



WAARCHUWING Neit in de straal staren.



WAARSCHUWINGEN MET BETREKKING TOT ELEKTRICITEIT  
 WAARSCHUWING: GEVAAR VOOR ELEKTRISCHE SCHOKKEN  
 Verwijder het deksel niet, teneinde ELEKTRISCHE schokken te voorkomen.  
 Binnenin bevinden zich geen onderdelen die door de gebruiker onderhouden kunnen worden. Dit toestel staat onder GEVAARLIJKE SPANNING en mag alleen worden geopend door een daartoe opgeleide en bevoegde technicus.



GEVAAR VOOR BLIKSEMINSLAG  
 GEVAAR: NIET aan toestellen of KABELS WERKEN bij BLIKSEM.



WAARSCHUWING: HET TOESTEL WORDT UITGESCHAKELD DOOR DE STROOMKABEL TE ONTROPPELEN. OM HET TOESTEL STROOMLOOS TE MAKEN: de stroomkabel ontkoppelen.



ELEKTRISCHE TOESTELLEN VAN KLASSE I  
 DIT TOESTEL MOET GEAARD WORDEN. De stekker moet aangesloten zijn op een juist geaarde contactdoos. Een onjuist geaarde contactdoos kan de metalen onderdelen waarmee de gebruiker eventueel in aanraking komt onder gevaarlijke spanning stellen.



AAN TE SLUITEN APPARATUUR, de contactdoos wordt in de nabijheid van de apparatuur geïnstalleerd en is gemakkelijk te bereiken.”



OPGELET: De ventilatiegaten mogen niet worden gesperd en moeten de omgevingslucht ongehinderd toelaten voor afkoeling.



**BEDRIJFSTEMPERATUUR:** De omgevingstemperatuur voor dit produkt mag niet meer bedragen dan 40 graden Celsius.



**ELEKTRISCH: OVERBELASTING VAN WISSELSTROOM HOOFDCIRCUIT**

Tijdens de installatie van het produkt dient men rekening te houden met de gecombineerde waarden op de naamplaatjes bij het aansluiten van het toestel op de wisselstroom-voedingsdraden.



**LOPGELET: MECHANISCH LADEN** - De montage van het toestel in het rek dient zo uitgevoerd te worden dat geen gevaar ontstaat door een ongelijke lading.



Lithium batterij. Mag alleen worden vervangen door een daartoe opgeleide en bevoegde technicus.

**OPGELET:** Gevaar voor ontploffing indien de batterij verkeerd wordt vergangen. Alleen vervangen door hetzelfde of een gelijkwaardig, door de fabrikant aanbevolen type.



**ALLE LANDEN:** het toestel installeren overeenkomstig de lokale en nationale elektrische voorschriften.

## Sécurité

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**MISE EN GARDE :** dans un environnement domestique, ce produit peut provoquer des interférences radioélectriques. Auquel cas, l'utilisateur devra prendre les mesures adéquates.



**ATTENTION** Producit laser di classe I.



**ATTENTION** Ne pas fixer le faisceau des yeux.



**INFORMATION SUR LES RISQUES ÉLECTRIQUES**

**AVERTISSEMENT: DANGER D'ÉLECTROCUTION**

Pour éviter toute ÉLECTROCUTION, ne pas ôter le revêtement protecteur du matériel. Ce matériel ne contient aucun élément réparable par l'utilisateur. Il comprend des TENSIONS DANGEREUSES et ne doit être ouvert que par un technicien dûment qualifié.



**DANGER DE Foudre**

**DANGER: NE PAS MANIER** le matériel ou les CÂBLES lors d'activité orageuse.



**ATTENTION: LE CORDON D'ALIMENTATION SERT DE MISE HORS**

**CIRCUIT. POUR COUPER L'ALIMENTATION DU MATÉRIEL**, débrancher le cordon.

**ÉQUIPEMENT DE CLASSE I ÉLECTRIQUE**

CE MATÉRIEL DOIT ÊTRE MIS A LA TERRE. La prise de courant doit être branchée dans une prise femelle correctement mise à la terre car des tensions dangereuses risqueraient d'atteindre les pièces métalliques accessibles à l'utilisateur.



EQUIPEMENT POUR BRANCHEMENT ELECTRIQUE, la prise de sortie doit être placée près de l'équipement et facilement accessible".



ATTENTION: Ne pas bloquer les fentes d'aération, ceci empêcherait l'air ambiant de circuler librement pour le refroidissement.



TEMPÉRATURE DE FONCTIONNEMENT: Ce matériel est capable de tolérer une température ambiante maximum de ou 40 degrés Celsius.

**SURCHARGE DES CIRCUITS PRINCIPAUX DE COURANT ALTERNATIF ÉLECTRIQUE**

Lors de l'installation du matériel, il faut prendre en compte la somme des puissances indiquées sur les étiquettes au moment de connecter le matériel à une source de courant alternatif.



ATTENTION : RÉPARTITION DE LA CHARGE MÉCANIQUE - Le montage du matériel dans le bâti doit être effectué de telle manière que la répartition de la charge mécanique ne pose aucun danger.



Pile en Lithium-Doit uniquement être remplacée par un technicien dûment qualifié

ATTENTION : Un danger d'explosion existe en cas de remplacement incorrect de la pile. Remplacer uniquement avec une pile du même type ou d'un type recommandé par le fabricant. Mettre au rebut les piles usagées conformément aux instructions du fabricant).



POUR TOUS PAYS: Installer le matériel conformément aux normes électriques nationales et locales.

## Turvallisuus

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VAROITUS: Kotiolosuhteissa tämä laite voi aiheuttaa radioaaltojen häiriötä, missä tapauksessa laitteen käyttäjän on mahdollisesti ryhdyttävä tarpeellisiin toimenpiteisiin.



VAROITUS Luokan I Lasertuote.



VAROITUS Älä katso säteeseen.

**SÄHKÖÖN LIITTYVIÄ HUOMAUTUKSIA****VAROITUS: SÄHKÖISKUVAARA**

Estääksesi SÄHKÖISKUN älä poista kantta. Sisällä ei ole käyttäjän huollettavissa olevia osia. Tämä laite sisältää VAARALLISIA JÄNNITTEITÄ ja sen voi avata vain koulutettu ja pätevä teknikko.

**SALAMANISKUVAARA**

**HENGENVAARA: ÄLÄ TYÖSKENTELE** laitteiden tai KAAPELEIDEN KANSSA SALAMOINNIN AIKANA.

**HUOMAUTUS: VIRTajoHTOA KÄYTETÄÄN**

**VIRRANKATKAISULAITTEENA.** VIRTA KATKAISTAAN irrottamalla virtajohto.

**SÄHKÖ - TYYPPILUOKAN I LAITTEET**

**TÄMÄ LAITE TÄYTY MAADOITTAA.** Pistoke täytyy liittää kunnollisesti maadoitettuun pistorasiaan. Virheellisesti johdotettu pistorasia voi altistaa metalliosat vaarallisille jännitteille.



**PISTORASIAAN KYTKETTÄVÄ LAITE;** pistorasia on asennettava laitteen lähelle ja siihen on oltava esteetön pääsy.”



**HUOMAUTUS:** Ilmavaihtoreikiä ei pidä tukkia ja niillä täytyy olla vapaa yhteys ympäröivään huoneilmaan, jotta ilmanvaihto tapahtuisi.



**KÄYTTÖLÄMPÖTILA:** Tämä tuote on suunniteltu ympäröivän ilman maksimilämpötilalle 40°C.

**SÄHKÖ-VAIHTORVIRTASÄHKÖPIIRIN YLIKUORMITUS**

Tuotetta asennettaessa on otettava huomioon osien nimikilvissä osoitettu teho silloin kun osat liitetetään vaihtovirtaverkkoon.



**HUOMAUTUS: MEKAANINEN KUORMITUS--**Osien asennuksen alustaan tulee tapahtua siten, että epätasainen kuormitus ei aiheuta vaaraa.



Litiumparisto - Vaihdon voi suorittaa vain koulutettu ja pätevä teknikko.

Varoitus: Räjähdyksivaara, jos paristo on vaihdettu väärin. Vaihda vain samaan tai vastaavaan tyyppiin, jota valmistaja suosittelee. Hävitä käytetyt paristot valmistajan ohjeiden mukaan.



**KAIKKI MAAT:** Asenna tuote paikallisten ja kansallisten sähköturvallisuusmääräysten mukaisesti.

## Norme di Sicurezza

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**AVVERTENZA:** in ambiente domestico questo prodotto potrebbe causare radio interferenza. In questo caso potrebbe richiedersi all'utente di prendere gli adeguati provvedimenti.



**AVVERTENZA** Prodotto laser di Classe I.



**AVERTENZA** Non fissare il raggio con gli occhi.



**AVVERTENZE ELETTRICHE**

**ATTENZIONE: PERICOLO DI SCOSSE ELETTRICHE**

Per evitare **SCOSSE ELETTRICHE** non asportare il coperchio. Le componenti interne non sono riparabili dall'utente. Questa unità ha **TENSIONI PERICOLOSE** e va aperta solamente da un tecnico specializzato e qualificato.



**PERICOLO DI FULMINI**

**PERICOLO: NON LAVORARE** sul dispositivo o sui CAVI durante **PRECIPITAZIONI TEMPORALESCH**.



**ATTENZIONE: IL CAVO DI ALIMENTAZIONE È USATO COME DISPOSITIVO DI DISATTIVAZIONE. PER TOGLIERE LA CORRENTE AL DISPOSITIVO** staccare il cavo di alimentazione.



**ELETTRICITÀ - DISPOSITIVI DI CLASSE I**

**QUESTO DISPOSITIVO DEVE AVERE LA MESSA A TERRA.** La spina deve essere inserita in una presa di corrente specificamente dotata di messa a terra. Una presa non cablata in maniera corretta rischia di scaricare una tensione pericolosa su parti metalliche accessibili.



**APPARECCHIATURA COLLEGABILE**, la presa va installata vicino all'apparecchio per risultare facilmente accessibile”.



**ATTENZIONE:** le prese d'aria non vanno ostruite e devono consentire il libero ricircolo dell'aria ambiente per il raffreddamento.



**TEMPERATURA DI FUNZIONAMENTO:** Questo prodotto è concepito per una temperatura ambientale massima di 40 gradi centigradi.



**ELETTRICITÀ - SOVRACCARICO DEL CIRCUITO DI RETE A C.A.**

Durante l'installazione ed il collegamento del dispositivo alla rete di alimentazione a corrente alternata, è necessario tenere in considerazione le capacità cumulative riportate sulla targhetta.



**ATTENZIONE: CARICAMENTO MECCANICO** - Il montaggio del dispositivo sul supporto va effettuato in maniera tale da evitare qualsiasi potenziale condizione di pericolo eventualmente dovuta al montaggio irregolare.



Batteria al litio - Va sostituita solo da un tecnico specializzato e qualificato. **ATTENZIONE:** l'errata sostituzione della batteria può causare pericolo di esplosioni. Sostituire solamente con lo stesso tipo o con uno equivalente raccomandato dal produttore. Eliminare le batterie usate secondo le istruzioni del produttore.



**TUTTI I PAESI:** installare il prodotto in conformità delle vigenti normative elettriche nazionali.

## Sikkerhet

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**ADVARSEL:** Hvis dette produktet benyttes til privat bruk, kan produktet forårsake radioforstyrrelse. Hvis dette skjer, må brukeren ta de nødvendige forholdsregler.



**ADVARSEL** Laserprodukt av klasse I.



**ADVARSEL** Stirr ikke på strålen.



**ELEKTRISITET**

**ADVARSEL: FARE FOR ELEKTRISK SJOKK**

For å unngå **ELEKTRISK** sjokk, må dekslet ikke tas av. Det finnes ingen deler som brukeren kan reparere på innsiden. Denne enheten inneholder **FARLIGE SPENNINGER**, og må kun åpnes av en faglig kvalifisert tekniker.



**FARE FOR LYNNEDSLAG**

**FARE: ARBEID IKKE** på utstyr eller **KABLER** i **TORDENVÆR**.



**FORSIKTIG: STRØMLEDNINGEN BRUKES TIL Å FRAKOBLE UTSTYRET. FOR Å DEAKTIVISERE UTSTYRET, må strømforsyningen kobles fra.**



**ELEKTRISK - TYPE I- KLASSE UTSTYR**

**DETTE UTSTYRET MÅ JORDES.** Strømkontakten må være tilkopleet en korrekt jordet kontakt. En kontakt som ikke er korrekt jordet kan føre til farlig spenninger i lett t ilgjengelige metaldeler.



**UTSTYR FOR STIKKONTAKT.** Stikkontakten skal monteres i nærheten av utstyret og skal være lett tilgjengelig.”



**FORSIKTIG:** Lufteventilene må ikke blokkeres, og må ha fri tilgang til luft med romtemperatur for avkjøling.



**DRIFTSTEMPERATUR:** Dette produktet er konstruert for bruk i maksimum romtemperatur på 40 grader celsius.



**ELEKTRISK OVERBELASTNING PÅ AC HOVEDKRETSLØP**

Når produktet installeres, må de samlede navneplateverdierne kontrolleres nøye når strøm påsettes.



**FORSIKTIG: MEKANISK LASTNING** Installering av utstyret på hyllen må utføres på en slik måte at ingen farlige situasjoner oppstår som en følge av ujevn lastning.



Litiumbatteri — Må kun byttes ut av en faglig kvalifisert tekniker.

**FORSIKTIG:** Eksplosjonsfare hvis batteriet feilinnsettes. Batteriet må bare erstattes med samme type eller en tilsvarende type som er anbefalt av fabrikanten. Batteriene må kasseres i samsvar med fabrikantens instruksjoner.



**ALLE LAND:** Produktet må installeres i samsvar med de lokale og nasjonale elektriske koder.

## Segurança

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**AVISO:** Num ambiente doméstico este produto pode causar interferência na radiorrecepção e, neste caso, pode ser necessário que o utente tome as medidas adequadas.



**AVISO** Produto laser de classe I



**AVISO** Não olhe fixamente para o raio.



**AVISOS SOBRE CARACTERÍSTICAS ELÉTRICAS**

**ATENÇÃO: PERIGO DE CHOQUE ELÉTRICO**

Para evitar **CHOQUE ELÉTRICO**, não retire a tampa. Não contém peças que possam ser consertadas pelo usuário. Este aparelho contém **VOLTAGENS PERIGOSAS** e só deve ser aberto por um técnico qualificado e treinado.



**PERIGO DE CHOQUE CAUSADO POR RAIOS**

**PERIGO: NÃO TRABALHE** no equipamento ou nos **CABOS** durante períodos suscetíveis a **QUEDAS DE RAIOS**.



**CUIDADO:** O **CABO DE ALIMENTAÇÃO** É UTILIZADO COMO UM **DISPOSITIVO DE DESCONEXÃO**. PARA **DESELETRIFICAR O EQUIPAMENTO**, desconecte o cabo de **ALIMENTAÇÃO**.



**ELÉTRICO - EQUIPAMENTOS DO TIPO CLASSE I**  
DEVE SER FEITA LIGAÇÃO DE FIO TERRA PARA ESTE EQUIPAMENTO. O plugue de alimentação deve ser conectado a uma tomada com adequada ligação de fio terra. Tomadas sem adequada ligação de fio terra podem transmitir voltagens perigosas a peças metálicas expostas.



**EQUIPAMENTO DE LIGAÇÃO**, a tomada eléctrica deve estar instalada perto do equipamento e ser de fácil acesso.”



**CUIDADO:** As aberturas de ventilação não devem ser bloqueadas e devem ter acesso livre ao ar ambiente para arrefecimento adequado do aparelho.



**TEMPERATURA DE FUNCIONAMENTO:** Este produto foi projetado para uma temperatura ambiente máxima de 40 graus centígrados.



**ELÉTRICO - SOBRECARGA DA REDE DE CORRENTE ALTERNADA (AC)**  
Antes de instalar o produto, verifique o efeito cumulativo da conexão de diversos aparelhos à rede de corrente alternada através das etiquetas que indicam potência ou amperagem.



**CUIDADO: CARREGAMENTO** - O equipamento deverá ser montado no suporte de montagem de forma tal que não cause perigo devido a carregamento não uniforme.



Bateria de lítio - Só deve ser trocada por técnico qualificado e treinado.  
**CUIDADO:** Se a bateria não for devidamente instalada há perigo de explosão. Substitua somente pelo mesmo tipo ou equivalente, conforme recomendado pelo fabricante. Descarte baterias usadas, de acordo com as instruções fornecidas pelo fabricante.



**TODOS OS PAÍSES:** Instale o produto de acordo com as normas nacionais e locais para instalações eléctricas.



## Seguridad

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**ADVERTENCIA:** en un entorno doméstico, este producto puede causar radiointerferencias, en cuyo caso, puede requerirse del usuario que tome las medidas que sean convenientes al respecto.



¡ADVERTENCIA! Producto láser Clase I.



¡ADVERTENCIA! No mirat fijamente el haz.



**AVISOS ELECTRICOS**

**ADVERTENCIA: PELIGRO DE ELECTROCHOQUE**

Para evitar un **ELECTROCHOQUE**, no quite la tapa. No hay ningún componente en el interior al cual puede prestar servicio el usuario. Esta unidad contiene **VOLTAJES PELIGROSOS** y sólo deberá abrirla un técnico entrenado y calificado.



**PELIGRO DE RAYOS**

**PELIGRO: NO REALICE NINGUN TIPO DE TRABAJO O CONEXION** en los equipos o en **LOS CABLES** durante **TORMENTAS ELECTRICAS**.



**ATENCION: EL CABLE DE ALIMENTACION SE USA COMO UN DISPOSITIVO DE DESCONEXION. PARA DESACTIVAR EL EQUIPO**, desconecte el cable de alimentación.



**ELECTRICO - EQUIPO DEL TIPO CLASE I**

**ESTE EQUIPO TIENE QUE TENER CONEXION A TIERRA.** El cable tiene que conectarse a un enchufe a tierra debidamente instalado. Un enchufe que no está correctamente instalado podría ocasionar tensiones peligrosas en las partes metálicas que están expuestas.



**EQUIPO CONECTABLE**, el tomacorriente se debe instalar cerca del equipo, en un lugar con acceso fácil”.



**ATENCION:** Las aberturas para ventilación no deberán bloquearse y deberán tener acceso libre al aire ambiental de la sala para su enfriamiento.



**TEMPERATURA REQUERIDA PARA LA OPERACIÓN:** Este producto está diseñado para una temperatura ambiental máxima de 40 grados C.



**ELECTRICO - SOBRECARGA DEL CIRCUITO PRIMARIO DE CORRIENTE ALTERNA**

Al instalarse el producto deberán considerarse las potencias nominales acumulativas, cuando se conecta el equipo al cable de alimentación de corriente alterna.



**ATENCION: CARGA MECANICA** - El montaje del equipo en el bastidor debe realizarse de manera tal que no cause una condición peligrosa debido a la distribución desigual del peso.



Batería de litio - Sólo deberá ser cambiada por un técnico entrenado y calificado. **ATENCION: Peligro de explosión** si la batería no se reemplaza en forma correcta. Reemplace sólo con el mismo tipo o equivalente que recomienda el fabricante. Deseche las baterías usadas según las instrucciones del fabricante.



**PARA TODOS LOS PAÍSES:** Monte el producto de acuerdo con los Códigos Eléctricos locales y nacionales.

## Säkerhet

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**WARNING:** Denna produkt kan ge upphov till radiostörningar i hemmet, vilket kan tvinga användaren till att vidtaga erforderliga åtgärder.



**WARNING!** Laserprodukt av klass I.



**WARNING!** Laserstrålning när enheten är öppen.



**TILLKÄNNAGIVANDEN BETRÄFFANDE ELEKTRICITETSRIK:**  
**RISK FÖR ELEKTRISK STÖT**För att undvika **ELEKTRISK** stöt, ta ej av locket. Det finns inga delar inuti som behöver underhållas. Denna apparat är under **HÖGSPÄNNING** och får endast öppnas av en utbildad kvalificerad tekniker.



**FARA FÖR BLIXTNEDSLAG**  
**FARA: ARBETA EJ** på utrustningen eller kablarna vid **ÅSKVÄDER**.



**WARNING: NÄTKABELN ANVÄNDS SOM STRÖMBRYTARE FÖR ATT KOPPLA FRÅN STRÖMMEN**, dra ur nätkabeln.



**ELEKTRISKT - TYP KLAS I UTRUSTNING**  
**DENNA UTRUSTNING MÅSTE VARA JORDAD.** Nätkabeln måste vara ansluten till ett ordentligt jordat uttag. Ett felaktigt uttag kan göra att närliggande metalldelar utsätts för högspänning. Apparaten skall anslutas till jordat uttag, när den ansluts till ett nätverk.



**UTRUSTNING MED PLUGG.** Uttaget skall installeras i utrustningens närhet och vara lättåtkomligt”.



**WARNING:** Luftventilerna får ej blockeras och måste ha fri tillgång till omgivande rumsluft för avsvälning.



**DRIFTSTEMPERATUR:** Denna produkt är konstruerad för rumstemperatur ej överstigande 40 grader Celsius.



**ELEKTRISKT - ÖVERBELASTNING AV VÄXELSTRÖMSNÄTET:** När produkten installeras bör den sammanlagda effekten på namnplåten beaktas när apparaten ansluts till växelströmsnätet.



**VARNING: MEKANISK BELASTNING:** Utrustningen ska installeras i chassit på så sätt att fara inte uppstår p g a ojämn belastning.



Litium batteri - Får endast bytas av utbildade och kvalificerade tekniker.  
**VARNING:** Risk för explosion om felaktigt batteri används. Byt endast mot samma eller likvärdig typ batteri, rekommenderat av tillverkaren. Kassera använda batterier i enlighet med tillverkarens instruktioner.



**ALLA LÄNDER:** Installera produkten i enlighet med lokala och statliga bestämmelser för elektrisk utrustning.

## Free Manuals Download Website

<http://myh66.com>

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