

# **CES-PSU-AC** Power Supply



# **Install Guide**

33569 Rev. B

www.transition.com

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CES-PSU-AC Power SupplyInstall Guide, 33569 Rev. B

## **Contact Information**

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## **Revision History**

Rev	Date	Description
А	11/06/13	Initial release for CES-PSU-AC.
В	12/10/13	Updated with S4212 and S4224 information.

## **Cautions and Warnings**

### Definitions

Cautions indicate that there is the possibility of poor equipment performance or potential damage to the equipment. Warnings indicate that there is the possibility of injury to a person.

Cautions and Warnings appear here and may appear throughout this manual where appropriate. Failure to read and understand the information identified by this symbol could result in poor equipment performance, damage to the equipment, or injury to persons.

### Cautions



**Do not** ship or store devices near strong electrostatic, electromagnetic, magnetic, or radioactive fields.



**Caution**: When handling the S4xxx observe electrostatic discharge precautions. This requires proper grounding (i.e., wear a wrist strap).



**Caution**: Copper based media ports, e.g., Twisted Pair (TP) Ethernet, USB, RS232, RS422, RS485, DS1, DS3, Video Coax, etc., are intended to be connected to intra-building *(inside plant)* link segments that are not subject to lightening transients or power faults. They are **not** to be connected to inter-building *(outside plant)* link segments that are subject to lightening.



**Caution**: **Do not** install the S4xxx in areas where strong electromagnetic fields (EMF) exist. Failure to observe this caution could result in poor S4xxx performance.



**Caution**: Read the installation instructions before connecting the chassis to a power source. Failure to observe this caution could result in poor performance or damage to the equipment.



**Caution**: Only trained and qualified personnel should install or perform maintenance on the S4xxx. Failure to observe this caution could result in poor performance or damage to the equipment.



**Caution**: Do not let optical fibers come into physical contact with any bare part of the body since they are fragile, and difficult to detect and remove from the body.



**Caution**: Do not bend any part of an optical fiber/cable to a diameter that is smaller than the minimum permitted according to the manufacturer's specification (usually about 65 mm or 2.5 in)!

#### Warnings



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



**Warning**: Visible and invisible laser radiation when open. **Do not** look into the beam or view the beam directly with optical instruments. Failure to observe this warning could result in an eye injury or blindness.



**Warning**: DO NOT connect the power supply module to external power before installing it into the chassis. Failure to observe this warning could result in an electrical shock or death.



**Warning**: Select mounting bracket locations on the chassis that will keep the chassis balanced when mounted in the rack. Failure to observe this warning could allow the chassis to fall, resulting in equipment damage and/or possible injury to persons.



**Warning**: Do not work on the chassis, connect, or disconnect cables during a storm with lightning. Failure to observe this warning could result in an electrical shock or death.



Warning: Shock hazard exists if power supply is ejected while powered on.

See "Electrical Safety Warnings" on page 21 for Electrical Safety Warnings translated into multiple languages.

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# **1. Introduction**

The CES-PSU-AC is an AC power supply that provides power for various TN devices. The Power Supplies do not ship in the S4xxx chassis, but are ordered separately. The S4xxx models ship with one blank faceplate and one open power supply slot. The power supplies are "hot swappable".

## **Power Supply Description**

The CES-PSU-AC installs in TN models S4xxx, S4212 and S4224. The CES-PSU-AC power supply is described below.

Table 1: Power Supply Descript	tion
--------------------------------	------

Model	Description
AC P/S CES-PSU-AC	100-250VAC; 47-63 Hz, 1.2A. 100W, 8.3A max. Hot Swappable AC Power Supply. Fuse: 6.3A 250V SloBlo 5x20 mm.

## **Physical Specifications**

The CES-PSU-AC meets the following operating specifications (MEF certifications and safety certifications pending).

Specification	Description
IEEE Standards & other network standards	IEEE 802.3 <sup>™</sup> -2008
Regulatory Compliance for Emission	EN55022 Class A
Regulatory Compliance for Immunity	EN55024
Safety Compliance	UL listed, CE mark
Power Consumption (see Table 2)	36W
Size (Power Supply) Size (PS in carton)	1-5/8" H x x 3" W x 9-3/4" D (42 x 78 x 246 mm) 2" H x 3-1/2" W x 11" D (50 x 90 x 278 mm)
Weight	AC supply: 15 oz.
Operating Temperature	0 to 50 deg. C
Storage Temperature	-40 to +70°C
Altitude	0-10,000 feet (with de-rating)
Operating Humidity	5% to 95% (non-condensing) or 10 % to 95 % relative humidity, non condensing

## **Feature Descriptions**

### **Power Savings Features**

Adaptive fan control

## **Document Overview**

The purpose of this manual is to provide the information needed to install the S4xxx to the point of operation. A printed Product Documentation postcard is shipped with each S4xxx device. A substantial set of technical documents, white papers, case studies, etc. are available on the Transition Networks web site at <u>www.transition.com</u>. Note that this manual may provide links to third party web sites for which Transition Networks, Inc. is not responsible.

## **Related Manuals and Online Help**

This manual is one of several related manuals which include:

- Product Documentation Postcard, 33504
- S4140/S4212/S4224 Install Guide (33534)
- S4140 Web User Guide (33535), CLI Rference (33536)
- S4212 Web User Guide (33555), CLI Rference (33556)
- S4224 Web User Guide (33558), CLI Rference (33559)
- CES-PSU-AC Install Guide (33569) (this manual)
- CES-PSU-DC Install Guide (33570)
- Converge<sup>™</sup> EMS Install Guide -Ubuntu Linux (33543), Install Guide -Windows (33548), Admin Procedures (33544)
- Release Notes (version specific)

Context-sensitive Help screens are built into the Web interface (click ]) and the CLI (type ? or Help).

Check the TN web site at <u>http://www.transition.com/</u> for additional white papers, application notes, etc.

#### Check the S4xxx landing page at

http://www.transition.com/TransitionNetworks/Landing/S4xxx/S4xxx.aspx for Product Information, Application Notes, etc.

Check the S4xxx product page at

http://www.transition.com/TransitionNetworks/Products2/Family.aspx?Name=S4xxx for access to the latest S4xxx datasheet, features, applications, specs, SKUs, etc.

# 2. Installation

This section describes how to unpack and install the CES-PSU-AC into the S4xxx chassis.

## Safety

Before installing the CES-PSU-AC, read the "Safety Cautions and Warnings" on pages 3-4 of this manual and ensure that the requirements noted are met. See "Electrical Safety Warnings" on page 21 for Electrical Safety Warnings translated into multiple languages.

## Unpacking

- 1. Carefully unpack all CES-PSU-AC contents.
- 2. Verify receipt of all CES-PSU-AC components; see "Ship Kit Contents" on page 9.
- 3. Place the CES-PSU-AC and related materials in the desired install location (e.g., Rack-mount or Table top). See "Installing S4xxx Hardware" on page 33.



Figure 1: S4xxx Unpacking

4. Save the CES-PSU-AC shipping carton and packing materials for future use.

Note: the shipping label is printed on the bottom of the shipping carton:

ITEM	AC P/S CARTI	ON
SIZE	9% x3% x11	A DOWN
STYLE	D/C	MAT'L EC 32 B
QUOTE	10	12/19/2012
PAC		OUTION SERVICES, INC

## **Ship Kit Contents**

The CES-PSU-AC shipps with several standard components. Make sure you have received the following:

- One CES-PSU-AC Power Supply
- One printed Product Documentation postcard
- One cardboard insert
- Two foam endcaps

Power supplies do not ship in the S4xxx chassis, but are ordered separately. A blank faceplate ships installed on each S4xxx ordered. The power supplies are "hot swappable".

### **Tools Required**

Installation requires a #4 Phillips screwdriver.

Additional tools and equipment required for cleaning connectors may include dust caps, isopropyl alcohol (solvent for contaminants), and tissues (soft multi-layered fabric made from non-recycled cellulose).

Use industry standard procedures for cleaning connectors. If applicable, follow your organizations process and procedure for copper and fiber cable cleaning and maintenance.

## **Installation Overview**

- 1. Review the Safety section above (see Safety on page 8).
- 2. Unpack the CES-PSU-AC (see Unpacking on page 8).
- 3. Perform the S4xxx desktop or rack mount install procedure (see the related manual).
- 4. Perform grounding (see Grounding the S4xxx (Rack Mount) on page 14).
- 5. Install the Power Suppy (ies) ("Installing the AC Power Supply" on page 12).
- 6. Connect Power (see "Connecting to the AC Power Supply" on page 14).
- 7. Monitor the S4xxx LEDs (see "S4xxx Front Panel Connectors and LEDs" on page 10).
- 8. If the install was <u>successful</u>, continue with the *S4xxx User Guide* or the *S4xxx CLI Reference* manual.

If the install was <u>unsuccessful</u>, refer to the Troubleshooting section in the online *S4xxx User Guide* manual.

## **S4xxx Front Panel Connectors and LEDs**

The S4xxx front panel connectors and LEDs are shown and described below.



Figure 2: Front Panel Connectors and LEDs

### Front Panel

- 1. Power input for Power Supply 1.
- 2. Fan for Power Supply 1.
- **3**. Power input for Power Supply 2.
- **4**. Fan for Power Supply 2.

### 5. LEDs P1 - P4 Fiber LEDs:

Half duplex TP Link / Activity: Full duplex TP Link / Activity: Yellow ON = link, Off = no link, Blinking = activity Green ON = link, Off = no link, Blinking = activity

When first connected, the Port 1-4 LEDS turn yellow while a link is established. After about 15 seconds, the LED turns green when the S4xxx and the target device have established a fiber link. If this LED remains Off, the target device may not be powered on, or there may be a cable problem, or a problem with the adapter installed in the target device. See the Troubleshooting section of the online S4xxx User Guide manual for more information.

6. **PORT 1** - **PORT 4**: Four Ethernet 10 GE SFP+ ports. Four RJ-45 connectors with two LEDs each for twisted pair (copper) connections.

- Use a straight-through, twisted 4-pair, Category 6 or 6E to connect to servers, workstations, access points, and routers.
- Use a cross-over, twisted 4-pair, Category 6 or 6E cable to connect to switches, hubs or repeaters.

The S4xxx supports 1Gbps, but the behavior is different than a normal 1G SFP port (no SFP detect).



Primary Secondary Green ON = power on to device; Green Green



8. S1 LED (System Status LED) and S2 LED - Power Source LED.

S1 - System Status LED. During normal boot up this LED will be amber.

Once the device is fully booted it will turn green.

During firmware upgrade this LED will flash green. When a fatal condition is logged, S1 flashes amber.

S1 LED Color	S1 LED Description
Yellow	During boot up
Green	Normal operation
Flashing Green	Firmware upgrade
Flashing Yellow	Fatal condition logged



### S2 - Power Source LED.

*Green*: Primary power source active. *Amber*: Secondary Power Source active.

With both AC and DC connected, LED S2 is green and AC is Primary. If AC is removed, LED S2 becomes AMBER indicating that the S4xxx is operating with a Secondary

power supply and will send out the trap as "entConfigChange".

S2 LED Color	S2 LED Description
Green	Primary Power input
Yellow	Secondary Power Input

## S4xxx Back Panel

The S4xxx back panel is shown and described below.



Figure 3: Back Panel

### Connections

The S4xxx back panel connectors are described in the table below.

Connector	Description
	<b>C. GND (</b> Common Ground) screws; two optional threaded common ground connections are provided.

## **Power Supply Installation**

This section covers installing the CES-PSU-AC power supply. After the S4xxx has been unpacked, install the CES-PSU-AC Power Supply. Note that this can be done at initial S4xxx installation or as a field upgrade. For information on the CES-PSU-DC, see the the related install guide manual.



Figure 4: AC Power Supply (AC P/S)



You can insert and remove a power supply, while another power supply is powering the switch, however, the supply being inserted/removed cannot be connected to a power source while it's being inserted / removed from the switch.

In other words: a power source should only be applied to a power supply after the supply has been installed in the chassis, and that power source should be disconnected from a power supply before the power supply is removed from the chassis.

## Installing the AC Power Supply

After the S4xxx has been unpacked, install the AC Power Supply.



Warning: Risk of electrical shock.



Figure 5: AC Power Connection

Warning: Shock hazard exists if power supply is ejected while powered on.

- 1. Unplug S4xxx POWER, CONSOLE and PORT connections if desired.
- 2. Remove the blank faceplate or use the one open power supply slot.



- 3. Fasten the AC Power Supply with the slotted retaining screw.
- 4. Insert the AC Power plug into the AC Power Block receptacle (power inlet).
- 5. Refer to the "Grounding the S4xxx" section below.

## Grounding the S4xxx (Rack Mount)

**C. GND (Chassis Ground) Note**: a device bonded to metallic shelf that houses S4xxx jacks should be bonded directly by either **1)** and independent conductor to the central office ground via rack ground bar, or **2)** connection to the rack itself, or **3)** other metal-to-metal bond to ground. To connect the S4xxx to a ground point on the rack, follow your organization's or IT department's standard procedure or the US NFPA 70<sup>®</sup>: National Electrical Code.

## **Connecting to the AC Power Supply**

Use the procedure below to connect the S4xxx to the provided DC power supply (see Figure 13 above).



Warning: Risk of electrical shock.

- 1. Insert the installed Power Supply plug into the S4xxx front panel.
- 2. Plug the AC power plug into a live AC outlet.
- 3. Note that the S4xxx front panel **P** (power) LED lights, and a startup sequence of LEDs light momentarily. When the sequence stops, only the **P**ower LED remains lit.
- 4. Continue with the "Software Install Process" below.

### **Power Supply "Hot Swap" Feature**

After the Power Supply module(s) are installed (previous sections), you can replace a Power Supply module without powering down the S4xxx. This allows you to change the configuration or repair a module without interrupting S4xxx overall operation.



Warning: Risk of electrical shock.

You can insert and remove a power supply, while another power supply is powering the switch, however, the supply being inserted/removed cannot be connected to a power source while it's being inserted / removed from the switch.

In other words: a power source should only be applied to a power supply after the supply has been installed in the chassis, and that power source should be disconnected from a power supply before the power supply is removed from the chassis.

### **Checking Power Supply Status**

After the Power Supply module(s) are installed (previous sections) and the Software Install Process is done (next section) you can use the CLI or web GUI to verify Power Supply module status.

Via the CLI: use the "system power" command to display PS module status. For example:

```
>system powerPower SupplyPresentPoweredTypeFanRPMTemp------------------------------------1YesYesAC443127 C2YesNoDC456627 C
```

See the S4xxx CLI Reference manual for details.

<u>Via the GUI</u>: navigate to the **Monitor** > **System** > **Information** page to verify that the PS modules (PS 1 and/or PS 2) are Present, Powered, the Type (AC or DC), whether Active, the current Fan RPM, and the current fan Temperature).

Power Supplies			
	PS 1	PS 2	
Present	Yes	Yes	
Powered	Yes	No	
Туре	AC	DC	
Fan RPM	4421	4566	
Temperature	27 C	27 C	

See the S4xxx Web User Guide manual for details.

## **Appendix A: Service, Warranty & Compliance Information**

## Service

#### **Direct Contact Numbers:**

Domestic:	+ 1 800-260-1312
International:	+ 1 952-358-3601
Fax	+1 952-941-2322
Email:	techsupport@transition.com

#### Service Hours:

USA: 7 AM until 8 PM CST Monday to Friday. China: 8 AM until 4 PM China Central Standard Time Monday to Friday.

Out of Hours the calls will be answered by an on-call engineer.

Live Help Online Support: Chat live with a Transition Networks representative at <a href="http://www.livehelpnow.net/lhn/lcv\_custom.aspx?d=0&ms=&zzwindow=0&lhnid=4085&custom1=&custom2=&custom3=&time=9/19/2011%202:07:14%20PM">http://www.livehelpnow.net/lhn/lcv\_custom.aspx?d=0&ms=&zzwindow=0&lhnid=4085&custom1=&custom2=&custom3=&time=9/19/2011%202:07:14%20PM</a>.

## Warranty

This warranty is your only remedy. No other warranties, such as fitness for a particular purpose, are expressed or implied. Transition Networks is not liable for any special, indirect, incidental or consequential damages or losses, including loss of data, arising from any cause or theory. Authorized resellers are not authorized to extend any different warranty on transition networks' behalf.

Limited Lifetime Warranty	Effective for products shipped May 1, 1999 and after. Every Transition Networks' labeled product purchased after May 1, 1999 will be free from defects in material and workmanship for its lifetime. This warranty covers the original user only and is not transferable.
What the Warranty Does Not Cover	This warranty does not cover damage from accident, acts of God, neglect, contamination, misuse or abnormal conditions of operation or handling, including over-voltage failures caused by use outside the product's specified rating, or normal wear and tear of mechanical components. If the user is unsure of the proper means of installing or using the equipment, contact Transition Networks' free technical support services.

Establishing Original Ownership	To establish original ownership and provide date of purchase, please complete and return the registration card accompanying the product or register the product on-line on our product registration page.
	Transition Networks will at its option:
	Repair the defective product to functional specifications at no charge
	<ul> <li>Replace the product with an equivalent functional product</li> </ul>
	Refund the purchase price of a defective product
Who to Contact for Returns	To return a defective product for warranty coverage, contact Transition Networks' technical support department for a return authorization number. Transition's technical support department can be reached through any of the following means:
	Service Hours
	Mon thru Fri 7 AM - 6 PM CST: Contact Tech Support via telephone at 800-260-1312 or 952-941-7600 Fax 952-941-2322
	Email <u>techsupport@transition.com</u> Live web chat: <u>Transition Now</u>
	Any Other Time:
	Voice Mail 800-260-1312 x 579 or 952-941-7600 x 579
How and Where to Send Returns	Send the defective product postage and insurance prepaid to the following address:
	Transition Networks, Inc.
	10900 Red Circle Drive
	Minnetonka, MN 55343 USA
	Attn: RETURNS DEPT: CRA/RMA #
	Failure to properly protect the product during shipping may void this warranty. The return authorization number must be written on the outside of the carton to ensure its acceptance. We cannot accept delivery of any equipment that is sent to us without a CRA or RMA number.
	CRA's are valid for 60 days from the date of issuance. An invoice will be generated for payment on any unit(s) not returned within 60 days.
	Upon completion of a demo/ evaluation test period, units must be returned

or purchased within 30 days. An invoice will be generated for payment on any unit(s) not returned within 30 days after the demo/ evaluation period has expired.

The customer must pay for the non-compliant product(s) return transportation costs to Transition Networks for evaluation of said product(s) for repair or replacement. Transition Networks will pay for the shipping of the repaired or replaced in-warranty product(s) back to the customer (any and all customs charges, tariffs, or/and taxes are the customer's responsibility).

Before making any non-warranty repair, Transition Networks requires a \$200.00 charge plus actual shipping costs to and from the customer. If the repair is greater than \$200.00, an estimate is issued to the customer for authorization of repair. If no authorization is obtained, or the product is deemed 'not repairable', Transition Networks will retain the \$200.00 service charge and return the product to the customer not repaired. Non-warranted products that are repaired by Transition Networks for a fee will carry a 180-day limited warranty. All warranty claims are subject to the restrictions and conventions set forth by this document.

Transition Networks reserves the right to charge for all testing and shipping incurred, if after testing, a return is classified as "No Problem Found."

THIS WARRANTY IS YOUR ONLY REMEDY. NO OTHER WARRANTIES, SUCH AS FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSED OR IMPLIED. TRANSITION NETWORKS IS NOT LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, ARISING FROM ANY CAUSE OR THEORY. AUTHORIZED RESELLERS ARE NOT AUTHORIZED TO EXTEND ANY DIFFERENT WARRANTY ON TRANSITION NETWORKS'S BEHALF.

Customer Pays Non-<br/>Compliant ReturnThe customer must pay the non-compliant product(s) return transportation<br/>cost to Transition Networks for evaluation of said product(s) for repair or<br/>replacement. Transition Networks will pay for shipping the repaired or<br/>replaced in-warranty product(s) back to the customer (any and all customs<br/>charges, tariffs, or/and taxes are the customer's responsibility).

Non-Warranty Repair Costs	Before making any non-warranty repair, Transition Networks requires a \$200 charge, plus actual shipping costs to and from the customer. If the repair is greater than \$200, an estimate is issued to the customer for authorization before making the repair. If no authorization is obtained, or the product is deemed not repairable, Transition Networks will retain the \$200 service charge and return the product to the customer not repaired.
Repaired Non- Warranty Products	Non-warranted products repaired by Transition Networks for a fee will carry a 180-day limited warranty. All warranty claims are subject to the restrictions and conventions set forth by this document.
	Transition Networks reserves the right to charge for all testing and shipping incurred, if after testing, a return is classified as "No Problem Found."

## **Compliance Information**

Standards:

CISPR22/EN55022 Class A, CE Mark

#### FCC Regulations:

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 the 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.

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numériqué de la classe A est conformé à la norme NMB-003 du Canada.

#### **CE Marking**

This is a Class A product. In a domestic environment, this product could cause radio interference; as a result, the customer may be required to take adequate preventative measures.

#### **UL Recognized**

Tested and recognized by the Underwriters Laboratories, Inc.

# European Regulations WARNING:

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

### Achtung !

Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten. In diesem Fäll ist der Benutzer für Gegenmaßnahmen verantwortlich.

### Attention !

Ceci est un produit de Classe A. Dans un environment domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilsateur de prende les measures spécifiques appropriées.



In accordance with European Union Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003, Transition Networks will accept post usage returns of this product for proper disposal. The contact information for this activity can be found in the 'Contact Us' portion of this document.



CAUTION: RJ connectors are NOT INTENDED FOR CONNECTION TO THE PUBLIC TELEPHONE NETWORK. Failure to observe this caution could result in damage to the public telephone network.

Der Anschluss dieses Gerätes an ein öffentlickes Telekommunikationsnetz in den EG-Mitgliedstaaten verstösst gegen die jeweligen einzelstaatlichen Gesetze zur Anwendung der Richtlinie 91/263/EWG zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Telekommunikationsendeinrichtungen einschliesslich der gegenseitigen Anerkennung ihrer Konformität.

## **Declaration of Conformity**

< To be supplied.>

## **Electrical Safety Warnings**

### **Electrical Safety**

**IMPORTANT**: This equipment must be installed in accordance with safety precautions.

### Elektrische Sicherheit

**WICHTIG**: Für die Installation dieses Gerätes ist die Einhaltung von Sicherheitsvorkehrungen erforderlich.

### Elektrisk sikkerhed

**VIGTIGT**: Dette udstyr skal nstallers I overensstemmelse med sikkerhedsadvarslerne.

#### Elektrische veiligheid

**BELANGRIJK**: Dit apparaat moet in overeenstemming met de veiligheidsvoorschriften worden geïnstalleerd.

### Sécurité électrique

**IMPORTANT** : Cet équipement doit être utilisé conformément aux instructions de sécurité.

### Sähköturvallisuus

TÄRKEÄÄ : Tämä laite on asennettava turvaohjeiden mukaisesti.

### Sicurezza elettrica

**IMPORTANTE**: questa apparecchiatura deve essere installata rispettando le norme di sicurezza.

### Elektrisk sikkerhet

**VIKTIG**: Dette utstyret skal nstallers I samsvar med sikkerhetsregler.

#### Segurança eléctrica

**IMPORTANTE**: Este equipamento tem que ser instalado segundo as medidas de precaução de segurança.

### Seguridad eléctrica

**IMPORTANTE**: La instalación de este equipo deberá llevarse a cabo cumpliendo con las precauciones de seguridad.

### Elsäkerhet

**OBS!** Alla nödvändiga försiktighetsåtgärder måste vidtas när denna utrustning används

## **Safety Instructions for Rack Mount Installations**

The instructions below (or similar) are intended for S4xxx rackmount installation environments:

1. Elevated Operating Ambient: if installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may exceed room ambient. Install the equipment in an environment compatible with the maximum ambient temperature (Tma) specified.

2. Reduced Air Flow: install the equipment in a rack so that the amount of air flow required for safe operation is not compromised.

3. Mechanical Loading: Mount the equipment in the rack so that a hazardous condition does not occur due to uneven mechanical loading (weight distribution/rack balance).

4. Circuit Overloading: give consideration 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. Consider all equipment nameplate ratings when addressing this concern.

5. Reliable Earthing: maintain reliable earthing of rack-mounted equipment; pay particular attention to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

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**CES-PSU-AC** Install Guide



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