SUPERMICRO®

SSE-X3648S Switch
SSE-X3648SR Switch

Installation Manual

Revison 1.0

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WARNING: HANDLING OF LEAD SOLDER MATERIALS USED IN THIS PRODUCT MAY EXPOSE YOU TO LEAD, A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS AND OTHER REPRODUCTIVE HARM.

SSE-X3648S/SSE-X3648SR Installation Manual
Release Date: June 24, 2015

Preface

About this Manual

This manual is written for professional system integrators, Information Technology professionals, service personnel, technicians and network administrators who are responsible for installing and setting up network equipment; consequently, it assumes a basic working knowledge of LANs (Local Area Networks). It provides information for the installation and use of the Supermicro's SSE-X3648S and SSE-X3648SR switches. Installation and maintenance should be performed by experienced professionals only.

Manual Organization

Chapter 1: Introduction

The first chapter provides an introduction to the switch.

Chapter 2: System Safety

You should familiarize yourself with this chapter for a general overview of safety precautions that should be followed when using the switch.

Chapter 3: Installation Requirements

This chapter covers installation requirements, notices and security warnings for the switches.

Chapter 4: Device Installation

Use this chapter for installation of the switches and connecting them to your systems.

Notes

Table of Contents

Chapter 1
Introduction

The SSE-X3648S and SSE-X3648SR switches are the latest generation of 10Gb Ethernet routing switches from Supermicro. They are based on 10Gb switching technology and are designed for aggregating connectivity to 40Gb servers in data centers – or for 40Gb access to backbone networks. Preloaded with Open Networking Installation Environment (ONIE), they are particularly suitable for use in an Open Networking environment.

The SSE-X3648S and SSE-X3648SR switches with advanced intelligent and secure features, can serve ideally as a distribution layer switch for campus networks, enterprise networks and HP networks; as well as a core layer switch for small to medium-sized networks.

1-1   Features and Benefits

- **Various Interfaces –** The SSE-X3648S/SSE-X3648SR switches provide 48 10Gb SFP+ and 6 40Gb QSFP+ ports. Each QSFP+ port can be split into 4 10Gb SFP+ ports.
- **Support 10Gb Ethernet –** 10Gb Ethernet adopts full-duplex technology instead of the half-duplex CSMA/CD protocol. 10Gb Ethernet can be deployed in star or ring topologies. With 10Gb Ethernet, the SSE-X3648S/SSE-X3648SR switches provide broad bandwidth and powerful processing capacity. Using the SSE-X3648S/ SSE-X3648SR switches, users can simplify network structures and reduce the overall cost of building a network.

1-2   Description of Hardware

Front Panel

The front panel descriptions of the SSE-X3648S/SSE-X3648SR switches are shown in the following table.

Table 1-1. Front Panel Descriptions of the SSE-X3648S/SSE-X3648SR Switch

Type	SFP+ Port	QSFP+ Port
SSE-X3648S	48	6

The front panel of the SSE-X3648S/SSE-X3648SR switches is shown below:

Figure 1-1. Front Panel of the SSE-X3648S/SSE-X3648SR Switches

SFP+ Ports   **QSFP+ Ports**
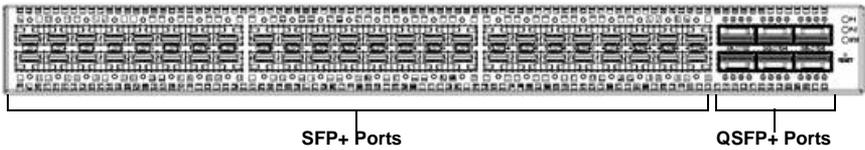
Back Panel

The SSE-X3648S/SSE-X3648SR switches provides an RJ-45 serial console port in the rear of the switch. Users perform the local and telnet configuration through this port.

The back panel of the SSE-X3648S/SSE-X3648SR switch also includes two redundant hot-swappable AC power supply modules, four fans and one rear panel card.

The console port supports asynchronous mode. To set this up just set the data bit as 8, the stop bit as 1, the parity bit as none, and the default baud rate as 115,200bps.

Table 1-2. Rear Panel Descriptions of the SSE-X3648S/SSE-X3648SR Switch

Type	10/100/1000Base-T Ethernet Port	Console Port	USB2.0 Interface
SSE-X3648S	1	1	1

Figure 1-2. Back Panel of the SSE-X3648S/SSE-X3648SR Switch

Fans   Fans

Power Supply   **Console Ports**   **USB Port**   **Power Supply**
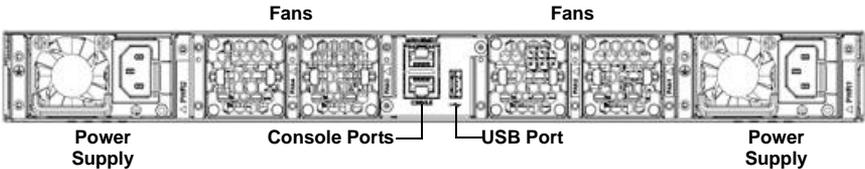
Cautions:

1. The USB port on the rear panel card only supports data transmission. It does not support power supply over USB.

2. The rear panel card does not support hot plug.

3. Replacement of the rear panel card must be done by a professional.

1-3   Status LEDs

There are indicator LEDs on the front panel of the SSE-X3648S/SSE-X3648SR switches. There are 48 SFP+ Port Indicator LEDs, 24 QSFP+ Port Indicator LEDs, two Power Supply Indicator LEDs, and a System Automatic Diagnosis LED. These LEDs are described below in Table 1-3, Table 1-4 and Table 1-5.

Table 1-3. Front Panel Status LEDs

Indicator Light	Front Panel Sign	State	Description
Power Supply Indicator Light	P-1/P-2	Green light always on	Power supply module operating normally.
		No Light	No power supply or error.
System Status Indicate Led	Start	Green light always on	The system is powered on and running normally.
		No Light	The system is powered off.

Table 1-4. Rear Panel Status LEDs

Indicator Light	Rear Panel Sign	State	Meanings
Fan Module Indicator Light	Fan1/Fan2/Fan3/Fan4	Green Light Always On	Fan module is operating normally.
		Red Light Always On	No fan module or fan speed is 0
		No Light	Fan module is powered off

Table 1-5. Port Indicator LEDs

Indicator Light	Panel Sign	State
Ethernet Port Link Light (Left)	Green Light Wink	The port is transmitting data.
	Put Out	There is no data transmitting on the port.
Ethernet Port Activity Light (Right)	Yellow Light Always On	The port is configured at 10m/100M speed
	Green Light Always On	The port is configured at 1000M speed
	Put Out	No connection or fail to connect.
Indicator Light Of SFP+ Port	Green Light Always On	The port is connected at 10G.
	Amber Light Always On	The port is connected at 1G.
	Wink	The port is transmitting data.
	Put Out	No connection or fail to connect.
Indicator Light Of QSFP+ Port	Green Light Always On	The port is connected at 40G.
	Amber Light Always On	The port is connected at 4X10G.
	Wink	The port is transmitting data.
	Red Light Always On	There is a fault on the port.
	Put Out	No connection or fail to connect.

1-4   Port Description

The SSE-X3648S/SSE-X3648SR provides 48 10Gb SFP+ ports and 6 40Gb QSFP+ ports.

The following SFP transceivers are supported:

• SFP-SX-L transceiver
• SFP-LX-L transceiver
• SFP-LX-20-L 20-km transceiver
• SFP-LX-40 40-km mid distance transceiver
• SFP-LH-70-L 70-km long distance transceiver
• SFP-LH-120-L 120-km long distance transceiver
• SFP-GT 1000 Base-T SFP interface cards module

Table 1-6 describes the ports.

Table 1-6. SSE-X3648S/SSE-X3648SR Switch Port Description

Port Mode	Spec
RJ-45 Port	• 10/100/1000Mbps Auto Negotiation • MDI/MDI-X Cable Mode Auto Negotiation
QSFP+	• 40GBASE-CR4 Transceiver, Copper, 7m • 40GBASE-SR4 Transceiver, 850nm, MMF, OM3/OM4, 100m

The SSE-X3648S/SSE-X3648SR switch provides six QSFP+ ports and supports QSFP+ cabling. Users can select from the cables in the Table 1-7 according to their need.

Table 1-7. Cables Supported by the SSE-X3648S/SSE-X3648SR Switch

Type	Manufacturer	Model	Standard
40G QSFP+ Cable	Tyco	2053638-3	30AWG, 3.0m
QSFP+ to 4Xsfp+ Cable	Amphenol	582410007	30AWG, 3.0m
QSFP to QSFP Cable Molex		747571051	30AWG, 0.5m
		747571101	30AWG, 1.0m
		747571301	30AWG, 3.0m

1-5   Power Supply Module

460W Power Module

Figure 1-3 shows the power supply module for the SSE-X3648S/SSE-X3648SR switch.

Figure 1-3. 460W Power Supply Module
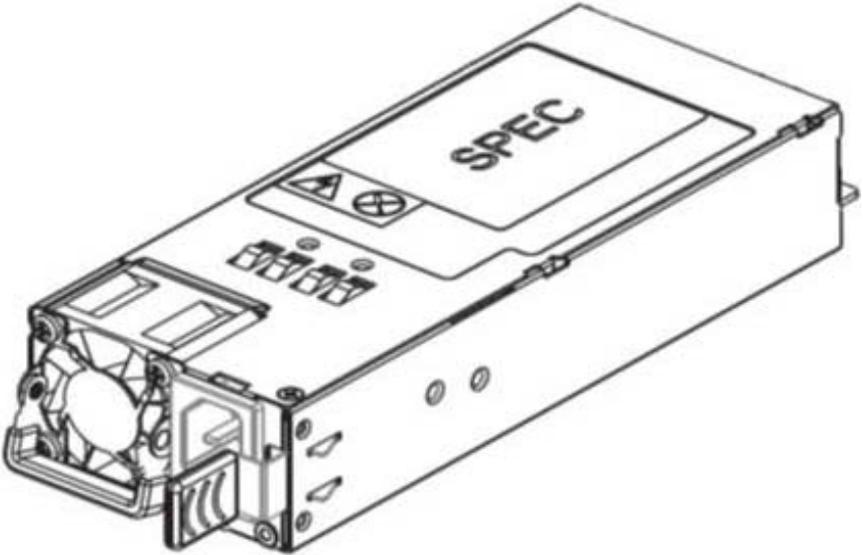
The SSE-X3648S/SSE-X3648SR switch has two power supply modules, thus providing redundancy. It provides airflow front to back (SSE-X3648S) or airflow back to front (SSE-X3648SR).

The maximum power is 460W, while the input is 100VAC~240VAC, and the output is 12V +/- 5%. There is a fan and a handle for inserting or removing the module on the back of the power supply. The power supply module supports hot-plug replacement.

1-6   Fan Module

Figure 1-4 shows the fan module for the SSE-X3648S/SSE-X3648SR switch.

Figure 1-4. Fan Module
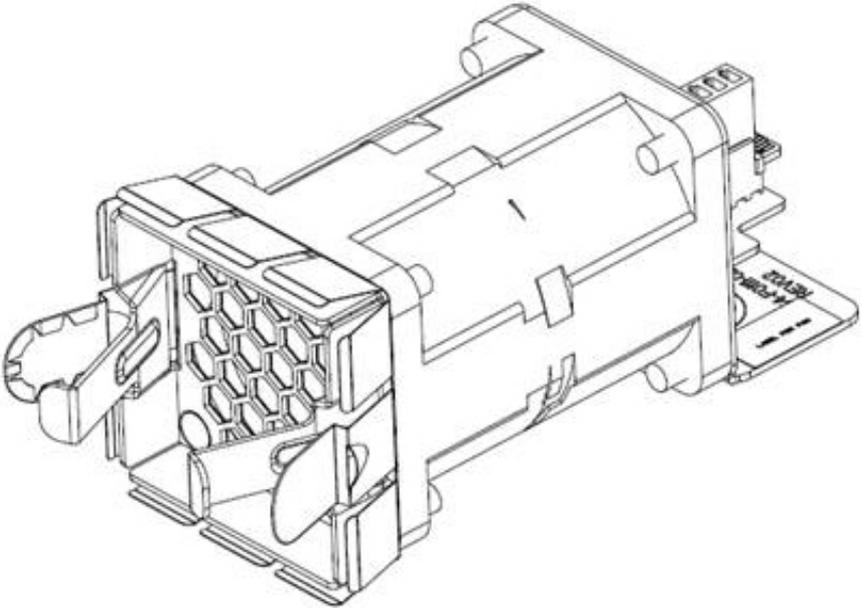
The SSE-X3648S/SSE-X3648SR switch has four fan modules in its standard configuration. The rotation speed of the fan self-adjusts to adapt to system temperature, and provides airflow front to back (SSE-X3648S) and airflow back to front (SSE-X3648SR).

Cautions:

1.   Different airflow fan modules cannot be mixed.

2.   Airflow for power modules must be the same as that used for fan modules.

1-7   System Specifications

System specifications are shown in Table 1-8 below.

Table 1-8. System Specifications

Specification	Description
Dimensions(W * H * D) (mm)	433.8 * 44 * 550
Weight	10.133 kg
Fixed Port	48 SFP+ ports; 6 QSFP+ ports
Management Port	1 RJ-45 serial console port
Power Input	100~240VAC(50~60Hz) 2.8A~5.6A
System Power Consumption	<400W
Operating Temperature	0°C~40°C
Storage Temperature	-40°C~75°C
Operating Relative Humidity	10%~90%, no condensate
Storage Relative Humidity	5%~95%, no condensate

Notes

Chapter 2
Standardized Warning Statements

2-1 About Standardized Warning Statements

The following statements are industry standard warnings, provided to warn the user of situations which have the potential for bodily injury. Should you have questions or experience difficulty, contact Supermicro's Technical Support department for assistance. Only certified technicians should attempt to install or configure components.

Read this appendix in its entirety before installing or configuring components in the Supermicro chassis.

These warnings may also be found on our web site at http:// www.supermicro.com/about/policies/safety_information.cfm.

Warning Definition

Warning!

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.

警告の定義

この警告サインは危険を意味します。

人身事故につながる可能性がありますので、いずれの機器でも動作させる前に、

電気回路に含まれる危険性に注意して、標準的な事故防止策に精通して下さい。

此警告符号代表危险。

您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾的声明号码找到此设备的安全性警告说明的翻译文本。

此警告符號代表危險。

您正處於可能身體可能會受損傷的工作環境中。在您使用任何設備之前，請注意觸電的危險，並且要熟悉預防事故發生的標準工作程序。請依照每一注意事項後的號碼找到相關的翻譯說明內容。

Warnung

WICHTIGE SICHERHEITSHINWEISE

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.

CONSERVEZ CES INFORMATIONS.

תקנון הצהרות אזהרה

הצהרות הבאות הן אזהרות על פי תקני התעשייה, על מנת להזהיר את המשתמש מפני חבלה פיזית אפשרית. במידה ויש שאלות או היתכלות בבעיה כלשהי, יש ליצור קשר עם מחלקת תמיכה טכנית של סופרמיקרו. טכנאים מוסמכים בלבד רשאים להתקין או להגדיר את הרכיבים.

יש לקרוא את הנספח במלואו לפני התקנת או הגדרת הרכיבים במארזי סופרמיקרו.

تحذير!هذا الرمز يعني خطر انك في حالة يمكن أن تتسبب في اصابة جسدية . قبل أن تعمل على أي معدات،كن على علم بالمخاطر الناجمة عن الدوائر الكهربائية
وكن على دراية بالممارسات الوقائية لمنع وقوع أي حوادث
استخدم رقم البيان المنصوص في نهاية كل تحذير للعثور ترجمتها

안전을 위한 주의사항

경고 !

이 경고 기호는 위험이 있음을 알려 줍니다 . 작업자의 신체에 부상을 야기 할 수 있는 상태에 있게 됩니다 . 모든 장비에 대한 작업을 수행하기 전에 전기회로와 관련된 위험 요소들을 확인하시고 사전에 사고를 방지할 수 있도록 표준 작업절차를 준수해 주시기 바랍니다 .

해당 번역문을 찾기 위해 각 경고의 마지막 부분에 제공된 경고문 번호를 참조하십시오

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

Dit waarschuwings symbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij een elektrische installatie betrokken risico's en dient u op de hoogte te zijn van de standaard procedures om ongelukken te voorkomen. Gebruik de nummers aan het eind van elke waarschuwing om deze te herleiden naar de desbetreffende locatie.

BEWAAR DEZE INSTRUCTIES

Installation Instructions

Warning!

Read the installation instructions before connecting the system to the power source.

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告
将此系统连接电源前 , 请先阅读安装说明。
警告

將系統與電源連接前,請先閱讀安裝說明。

Warnung

Vor dem Anschließen des Systems an die Stromquelle die Installationsanweisungen lesen.

¡Advertencia!

Lea las instrucciones de instalación antes de conectar el sistema a la red de alimentación.

Attention

Avant de brancher le système sur la source d'alimentation, consulter les directives d'installation.

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오 .

Waarschuwing

Raadpleeg de installatie-instructies voordat u het systeem op de voedingsbron aansluit.

Circuit Breaker

Warning!

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 250 V, 20 A.

サーキット・ブレーカー

この製品は、短絡（過電流）保護装置がある建物での設置を前提としています。

保護装置の定格が 250 V、20 A を超えないことを確認下さい。

警告
此产品的短路 (过载电流) 保护由建筑物的供电系统提供 , 确保短路保护设备的额定电流不大于 250V, 20A。

警告

此產品的短路（過載電流）保護由建築物的供電系統提供 , 確保短路保護設備的額定電流不大於 250V, 20A。

Warnung

Dieses Produkt ist darauf angewiesen, dass im Gebäude ein Kurzschluss- bzw. Überstromschutz installiert ist. Stellen Sie sicher, dass der Nennwert der Schutzvorrichtung nicht mehr als: 250 V, 20 A beträgt.

¡Advertencia!

Este equipo utiliza el sistema de protección contra cortocircuitos (o sobrecorrientes) del edificio. Asegúrese de que el dispositivo de protección no sea superior a: 250 V, 20 A.

Attention

Pour ce qui est de la protection contre les courts-circuits (surtension), ce produit dépend de l'installation électrique du local. Vérifiez que le courant nominal du dispositif de protection n'est pas supérieur à :250 V, 20 A.

מוצר זה מסתמך על הגנה המותקנת במבנים למניעת קצר חשמלי. יש לוודא כי המכשיר המגן מפני הקצר החשמלי הוא לא יותר מ- A 20 ,V 250

هذا المنتج يعتمد على معدات الحماية من الدوائرالقصيرة التي تم تثبيتها في المبنى
تأكد من أن تقييم الجهاز الوقائي ليس أكثر من: 20A, 250V

경고 !

이 제품은 전원의 단락 (과전류) 방지에 대해서 전적으로 건물의 관련 설비에 의존합니다 . 보호장치의 정격이 반드시 250V(볼트), 20A(암페어) 를 초과하지 않도록 해야 합니다 .

Waarschuwing

Dit product is afhankelijk van de kortsluitbeveiliging (overspanning) van uw electrische installatie. Controleer of het beveiligde aparaat niet groter gedimensioneerd is dan 220V, 20A.

Power Disconnection Warning

Warning!

The system must be disconnected from all sources of power and the power cord removed from the power supply module(s) before accessing the chassis interior to install or remove system components.

電源切断の警告

システムコンポーネントの取り付けまたは取り外しのために、シャーシー内部にアクセスするには、

システムの電源はすべてのソースから切断され、電源コードは電源モジュールから取り外す必要があります。

警告

在你打开机箱并安装或移除内部器件前 , 必须将系统完全断电 , 并移除电源线。

警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

Warnung

Das System muss von allen Quellen der Energie und vom Netzanschlusskabel getrennt sein, das von den Spg.Versorgungsteilmodulen entfernt wird, bevor es auf den Chassisinnenraum zurückgreift, um Systemsbestandteile anzubringen oder zu entfernen.

¡Advertencia!

El sistema debe ser disconnected de todas las fuentes de energía y del cable eléctrico quitado de los módulos de fuente de alimentación antes de tener acceso el interior del chasis para instalar o para quitar componentes de sistema.

Attention

Le système doit être débranché de toutes les sources de puissance ainsi que de son cordon d'alimentation secteur avant d'accéder à l'intérieur du chassis pour installer ou enlever des composants de systéme.

אזהרה מפני ניתוק חשמלי

אזהרה !

יש לנתק את המערכת מכל מקורות החשמל ויש להסיר את כבל החשמלי מהספק לפני גישה לחלק הפנימי של המארז לצורך התקנת או הסרת רכיבים.

يجب فصل النظام من جميع مصادر الطاقة وإزالة سلك الكهرباء من وحدة امداد الطاقة قبل
الوصول إلى المناطق الداخلية للهيكل لتثبيت أو إزالة مكونات الجهاز

경고 !

시스템에 부품들을 장착하거나 제거하기 위해서는 섀시 내부에 접근하기 전에 반드시 전원 공급장치로부터 연결되어있는 모든 전원과 전기코드를 분리해주어야 합니다 .

Waarschuwing

Voordat u toegang neemt tot het binnenwerk van de behuizing voor het installeren of verwijderen van systeem onderdelen, dient u alle spanningsbronnen en alle stroomkabels aangesloten op de voeding(en) van de behuizing te verwijderen.

Equipment Installation

Warning!

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

機器の設置

トレーニングを受け認定された人だけがこの装置の設置、交換、またはサービスを許可されています。

警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

Warnung

Das Installieren, Ersetzen oder Bedienen dieser Ausrüstung sollte nur geschultem, qualifiziertem Personal gestattet werden.

¡Advertencia!

Solamente el personal calificado debe instalar, reemplazar o utilizar este equipo.

Attention

Il est vivement recommandé de confier l'installation, le remplacement et la maintenance de ces équipements à des personnels qualifiés et expérimentés.

<div dir="rtl">

אזהרה !

צוות מוסמך בלבד רשאי להתקין, להחליף את הציוד או לתת שירות עבור הציוד.

</div>

<div dir="rtl">

يجب أن يسمح فقط للموظفين المؤهلين والمدربين لتركيب واستبدال أو خدمة هذا الجهاز

</div>

경고 !

훈련을 받고 공인된 기술자만이 이 장비의 설치 , 교체 또는 서비스를 수행할 수 있습니다 .

Waarschuwing

Deze apparatuur mag alleen worden geïnstalleerd, vervangen of hersteld door geschoold en gekwalificeerd personeel.

Restricted Area

Warning!

This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security. (This warning does not apply to workstations).

アクセス制限区域

このユニットは、アクセス制限区域に設置されることを想定しています。

アクセス制限区域は、特別なツール、鍵と錠前、その他のセキュリティの手段を用いてのみ出入りが可能です。

警告

此部件应安装在限制进出的场所，限制进出的场所指只能通过使用特殊工具、锁和钥匙或其它安全手段进出的场所。

警告

此裝置僅限安裝於進出管制區域，進出管制區域係指僅能以特殊工具、鎖頭及鑰匙或其他安全方式才能進入的區域。

Warnung

Diese Einheit ist zur Installation in Bereichen mit beschränktem Zutritt vorgesehen. Der Zutritt zu derartigen Bereichen ist nur mit einem Spezialwerkzeug, Schloss und Schlüssel oder einer sonstigen Sicherheitsvorkehrung möglich.

¡Advertencia!

Esta unidad ha sido diseñada para instalación en áreas de acceso restringido. Sólo puede obtenerse acceso a una de estas áreas mediante la utilización de una herramienta especial, cerradura con llave u otro medio de seguridad.

Attention

Cet appareil doit être installée dans des zones d'accès réservés. L'accès à une zone d'accès réservé n'est possible qu'en utilisant un outil spécial, un mécanisme de verrouillage et une clé, ou tout autre moyen de sécurité.

אזור עם גישה מוגבלת

אזהרה !
יש להתקין את היחידה באזורים שיש בהם הגבלת גישה. הגישה ניתנת בעזרת
כלי אבטחה בלבד (מפתח, מנעול וכד׳).

تم تخصيص هذه الوحدة لتركيبها في مناطق محظورة .
يمكن الوصول إلى منطقة محظورة فقط من خلال استخدام أداة خاصة،
قفل ومفتاح أو أي وسيلة أخرى للالأمان

경고 !

이 장치는 접근이 제한된 구역에 설치하도록 되어있습니다 . 특수도구 , 잠금 장치 및 키 , 또는 기타 보안 수단을 통해서만 접근 제한 구역에 들어갈 수 있습니다 .

Waarschuwing

Dit apparaat is bedoeld voor installatie in gebieden met een beperkte toegang. Toegang tot dergelijke gebieden kunnen alleen verkregen worden door gebruik te maken van speciaal gereedschap, slot en sleutel of andere veiligheidsmaatregelen.

Battery Handling

Warning!

There is the danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

電池の取り扱い

電池交換が正しく行われなかった場合、破裂の危険性があります。交換する電池はメーカーが推奨する型、または同等のものを使用下さい。使用済電池は製造元の指示に従って処分して下さい。

警告

电池更换不当会有爆炸危险。请只使用同类电池或制造商推荐的功能相当的电池更换原有电池。请按制造商的说明处理废旧电池。

警告

電池更換不當會有爆炸危險。請使用製造商建議之相同或功能相當的電池更換原有電池。請按照製造商的說明指示處理廢棄舊電池。

Warnung

Bei Einsetzen einer falschen Batterie besteht Explosionsgefahr. Ersetzen Sie die Batterie nur durch den gleichen oder vom Hersteller empfohlenen Batterietyp. Entsorgen Sie die benutzten Batterien nach den Anweisungen des Herstellers.

Attention

Danger d'explosion si la pile n'est pas remplacée correctement. Ne la remplacer que par une pile de type semblable ou équivalent, recommandée par le fabricant. Jeter les piles usagées conformément aux instructions du fabricant.

¡Advertencia!

Existe peligro de explosión si la batería se reemplaza de manera incorrecta. Reemplazar la batería exclusivamente con el mismo tipo o el equivalente recomendado por el fabricante. Desechar las baterías gastadas según las instrucciones del fabricante.

אזהרה !

קיימת סכנת פיצוץ של הסוללה במידה והוחלפה בדרך לא תקינה. יש להחליף את הסוללה בסוג התואם מחברת יצרן מומלצת.

סילוק הסוללות המשומשות יש לבצע לפי הוראות היצרן.

هناك خطر من انفجار في حالة استبدال البطارية بطريقة غير صحيحة فعليك استبدال البطارية
فقط بنفس النوع أو ما يعادلها كما أوصت به الشركة المصنعة
تخلص من البطاريات المستعملة وفقا لتعليمات الشركة الصانعة

경고 !

배터리가 올바르게 교체되지 않으면 폭발의 위험이 있습니다 . 기존 배터리와 동일하거나 제조사에서 권장하는 동등한 종류의 배터리로만 교체해야 합니다 . 제조사의 안내에 따라 사용된 배터리를 처리하여 주십시오 .

Waarschuwing

Er is ontploffingsgevaar indien de batterij verkeerd vervangen wordt. Vervang de batterij slechts met hetzelfde of een equivalent type die door de fabrikant aanbevolen wordt. Gebruikte batterijen dienen overeenkomstig fabrieksvoorschriften afgevoerd te worden.

Comply with Local and National Electrical Codes

Warning!

Installation of the equipment must comply with local and national electrical codes.

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

La instalacion del equipo debe cumplir con las normas de electricidad locales y nacionales.

Attention

L'équipement doit être installé conformément aux normes électriques nationales et locales.

תיאום חוקי החשמל הארצי

אזהרה !
התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمتثل للقوانين المحلية والوطنية المتعلقة
بالكهرباء

경고 !

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다 .

Waarschuwing

Bij installatie van de apparatuur moet worden voldaan aan de lokale en nationale elektriciteitsvoorschriften.

Product Disposal

Warning!

Ultimate disposal of this product should be handled according to all national laws and regulations.

製品の廃棄

この製品を廃棄処分する場合、国の関係する全ての法律・条例に従い処理する必要があります。

警告
本产品的废弃处理应根据所有国家的法律和规章进行。
警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

Die Entsorgung dieses Produkts sollte gemäß allen Bestimmungen und Gesetzen des Landes erfolgen.

¡Advertencia!

Al deshacerse por completo de este producto debe seguir todas las leyes y reglamentos nacionales.

Attention

La mise au rebut ou le recyclage de ce produit sont généralement soumis à des lois et/ou directives de respect de l'environnement. Renseignez-vous auprès de l'organisme compétent.

סילוק המוצר

אזהרה !
סילוק סופי של מוצר זה חייב להיות בהתאם להנחיות וחוקי המדינה.

عند التخلص النهائي من هذا المنتج ينبغي التعامل معه وفقا لجميع القوانين واللوائح الوطنية

경고 !

이 제품은 해당 국가의 관련 법규 및 규정에 따라 폐기되어야 합니다 .

Waarschuwing

De uiteindelijke verwijdering van dit product dient te geschieden in overeenstemming met alle nationale wetten en reglementen.

Power Cable and AC Adapter

Warning!

When installing the product, use the provided or designated connection cables, power cables and AC adaptors. Using any other cables and adaptors could cause a malfunction or a fire. Electrical Appliance and Material Safety Law prohibits the use of UL or CSA -certified cables (that have UL/CSA shown on the code) for any other electrical devices than products designated by Supermicro only.

電源コードと AC アダプター

製品を設置する場合、提供または指定された接続ケーブル、電源コードと AC アダプターを使用下さい。他のケーブルやアダプタを使用すると故障や火災の原因になることがあります。電気用品安全法は、UL または CSA 認定のケーブル (UL/CSE マークがコードに表記) を Supermicro が指定する製品以外に使用することを禁止しています。

警告

安装此产品时 , 请使用本身提供的或指定的连接线 , 电源线和电源适配器 . 使用其它线材或适配器可能会引起故障或火灾。除了 Supermicro 所指定的产品 , 电气用品和材料安全法律规定禁止使用未经 UL 或 CSA 认证的线材。(线材上会显示 UL/CSA 符号)。

警告

安裝此產品時 , 請使用本身提供的或指定的連接線 , 電源線和電源適配器 . 使用其它線材或適配器可能會引起故障或火災。除了 Supermicro 所指定的產品 , 電氣用品和材料安全法律規定禁止使用未經 UL 或 CSA 認證的線材。(線材上會顯示 UL/CSA 符號)。

Warnung

Bei der Installation des Produkts, die zur Verfügung gestellten oder benannt Anschlusskabel, Stromkabel und Netzteile. Verwendung anderer Kabel und Adapter kann zu einer Fehlfunktion oder ein Brand entstehen. Elektrische Geräte und Material Safety Law verbietet die Verwendung von UL-oder CSA-zertifizierte Kabel, UL oder CSA auf der Code für alle anderen elektrischen Geräte als Produkte von Supermicro nur bezeichnet gezeigt haben.

¡Advertencia!

Al instalar el producto, utilice los cables de conexión previstos o designados, los cables y adaptadores de CA. La utilización de otros cables y adaptadores podría ocasionar un mal funcionamiento o un incendio. Aparatos Eléctricos y la Ley de Seguridad del Material prohíbe el uso de UL o CSA cables certificados que tienen UL o CSA se muestra en el código de otros dispositivos eléctricos que los productos designados por Supermicro solamente.

Attention

Lors de l'installation du produit, utilisez les bables de connection fournis ou désigné. L'utilisation d'autres cables et adaptateurs peut provoquer un dysfonctionnement ou un incendie. Appareils électroménagers et de loi sur la sécurité Matériel interdit l'utilisation de UL ou CSA câbles certifiés qui ont UL ou CSA indiqué sur le code pour tous les autres appareils électriques que les produits désignés par Supermicro seulement.

חשמליים ומתאמי AC

! אזהרה
כאשר מתקינים את המוצר, יש להשתמש בכבלים, ספקים ומתאמים AC אשר
נועדו וסופקו לשם כך. שימוש בכל כבל או מתאם אחר יכול לגרום לתקלה או
קצר חשמלי. על פי חוקי שימוש במכשירי חשמל וחוקי בטיחות, קיים איסור
להשתמש בכבלים המוסמכים ב- UL או ב- CSA (כשאר מופיע עליהם קוד של
UL/CSA) עבור כל מוצר חשמלי אחר שלא צוין על ידי סופרקמיקרו בלבד.

عند تركيب الجهاز يجب استخدام كابلات التوصيل،والكابلات الكهربائية
ومحولات التيار المتردد
التي . أن استخدام أي كابلات ومحولات أخرى يتسبب في حدوث عطل أو حريق.
تم توفيرها لك مع المنتج
الأجهزة الكهربائية ومواد قانون السلامة يحظر استخدام الكابلات CSA أو UL
معتمدة من قبل
لأي أجهزة كهربائية أخرى غير المنتجات المعينة من قبل Supermicro
(التي تحمل علامة UL/CSA)

경고 !

제품을 설치할 때에는 제공되거나 지정된 연결케이블과 전원케이블 , AC 어댑터를 사용 해야 합니다 . 그 밖의 다른 케이블들이나 어댑터들은 고장 또는 화재의 원인이 될 수 있 습니다 . 전기용품안전법 (Electrical Appliance and Material Safety Law) 은 슈퍼마 이크로에서 지정한 제품들 외에는 그 밖의 다른 전기 장치들을 위한 UL 또는 CSA 에서 인증한 케이블 (전선 위에 UL/CSA 가 표시) 들의 사용을 금지합니다 .

Waarschuwing

Bij het installeren van het product, gebruik de meegeleverde of aangewezen kabels, stroomkabels en adapters. Het gebruik van andere kabels en adapters kan leiden tot een storing of een brand. Elektrisch apparaat en veiligheidsinformatiebladen wet verbiedt het gebruik van UL of CSA gecertificeerde kabels die UL of CSA die op de code voor andere elektrische apparaten dan de producten die door Supermicro alleen.

Chapter 3
Installation Requirements

To ensure the proper operation of the SSE-X3648S/SSE-X3648SR switch and your physical security, please read carefully the following installation guide.

3-1   Environmental Requirements

- The switch must be installed in a clean area. Otherwise, the switch may be damaged by electrostatic discharge.
- Maintain the temperature within 0 to 40 °C and the humidity within 10% to 90%, non-condensing.
- The switch must be put in a dry and cool place. Leave sufficient space around the switch for good air circulation.
- The switch must work in the range of AC power input: 100 ~ 240VAC (50/60Hz).
- The switch must be well grounded in order to avoid ESD damage and physical injury of people.
- The switch should avoid exposure to direct sunlight. Keep the switch away from heat sources and strong electromagnetic interference sources.
- The switch must be mounted to a standard nineteen inch rack or placed on a clean level desktop.

3-2   Dust and Particles

Dust is harmful to the safe operation of the SSE-X3648S/SSE-X3648SR switch. Dust can lead to electrostatic discharge, especially likely under low relative humidity, causing poor contact of metal connectors or contacts. Electrostatic discharge will result in not only reduced product lifespan, but also increased chance of communication failures. The recommended value for dust content and particle diameter in the site is shown below:

Table 3-1. Environmental Requirements: Dust

Max Diameter (µm)	0.5	1	3	5
Max Density (particles/m³)	1.4×105	7×105	2.4×105	1.3×105

In addition, salt, acid and sulfide in the air are harmful to the switch. Such harmful gases will aggravate metal corrosion and the aging of some parts. The site should avoid harmful gases, such as SO_2, H_2S, NO_2, NH_3 and Cl_2, etc. The table below details the threshold value.

Table 3-2. Environmental Requirements: Particles

Gas	Average (mg/m³)	Max (mg/m³)
SO_2	0.2	1.5
H_2S	0.006	0.03
NO_2	0.04	0.15
NH_3	0.05	0.15
Cl_2	0.01	0.3

3-3   Temperature and Humidity

Although the switch is designed to use 4 fans, the site should still maintain a desirable temperature and humidity. High-humidity conditions can cause electrical resistance degradation or even electric leakage, degradation of mechanical properties and corrosion of internal components. Extreme low relative humidity may cause the insulation spacer to contract, making the fastening screw insecure. Furthermore, in dry environments, static electricity is liable to be produced and cause harm to internal circuits. Temperature extremes can cause reduced reliability and premature aging of insulation materials, thus reducing the switch's working lifespan. In the hot summer, it is recommended to use air-conditioners to cool down the site. And the cold winter, it is recommenced to use heaters.

The recommended temperature and humidity are shown below:

Table 3-3. Environmental Requirements: Temperature and Humidity

Temperature		Relative humidity	
Long term condition	Short term condition	Long term condition	Short term condition
15 ~ 30°C	0 ~ 40°C	40 ~ 65%	10 ~ 90%

Caution! A sample of ambient temperature and humidity should be taken at 1.5m above the floor and 0.4m in front of the switch rack, with no protective panel covering the front and rear of the rack. Short term working conditions refer to a maximum of 48 hours of continued operation and an annual cumulative total of less than 15 days. Excessive operating conditions refers to the ambient temperature and relative humidity values that may occur during an air-conditioning system failure - normal operation conditions should be recovered within 5 hours.

3-4   Power Supply

Before powering on the power supply, please check the power input to ensure proper grounding of the power supply system. The input source for the switch should be reliable and secure; a voltage adaptor can be used if necessary. The building's circuit protection system should include in the circuit a fuse or circuit-breaker of no greater than 240 V, 5A. It is recommended to use a UPS for more reliable power supplying.

Caution! Improper power supply system grounding, extreme fluctuation of the input source, and transients (or spikes) can result in larger error rates, or even hardware damage!

Caution! Disconnect power supply cords before servicing!

3-5   Preventing Electrostatic Discharge Damage

Static electric discharges can cause damage to internal circuits, even the entire switch. Follow these guidelines for avoiding ESD damage:

• Ensure proper earth grounding of the device;
• Perform regular cleaning to reduce dust;
• Maintain proper temperature and humidity;
• Always wear an ESD wrist strap and anti-static uniform when in contact with circuit boards.

3-6   Anti-interference

All sources of interference, whether from the device/system itself or the outside environment, will affect operations in various ways, such as capacitive coupling, inductive coupling, electromagnetic radiation, common impedance (including the grounding system) and cables/lines (power cables, signal lines, and output lines). The following should be noted:

• Precautions should be taken to prevent power source interruptions;
• Provide the system with a dedicated grounding, rather than sharing the grounding with the electronic equipment or lightning protection devices;
• Keep away from high power radio transmitters, radar transmitters, and high frequency strong circuit devices;
• Provide electromagnetic shielding if necessary.

3-7   Rack Configuration

The SSE-X3648S/SSE-X3648SR switches are designed to be mounted on a standard nineteen inch rack – please ensure good ventilation for the rack.

- Every device in the rack will generate heat during operation, therefore venting and fans must be provided for an enclosed rack, and devices should not be stacked closely.
- When mounting devices in an open rack, care should be taken to prevent the rack frame from obstructing the switch ventilation openings. Be sure to check the positioning of the switch after installation to avoid the aforementioned.

Caution! If a standard nineteen inch rack is not available, the SSE-X3648S/SSE-X3648SR switches can be placed on a clean level desktop; leave a clearance of 100mm around the switch for ventilation, and do not place anything on top of the switch.

3-8   Installation Notice

When installing the SSE-X3648S/SSE-X3648SR switches do the following:

- Read through the installation instruction carefully before operating the system. Make sure the installation materials and tools are prepared. And make sure the installation site is well prepared.
- During the installation, users must use the brackets and screws provided in the accessory kit. Users should use the proper tools to perform the installation. Users should always wear an anti-static uniform and ESD wrist straps. Users should use standard cables and connectors.
- After the installation, users should clean the site. Before powering on the switch, users should ensure the switch is well grounded. Users should maintain the switch regularly to extend the lifespan of the switch.
- A statement indicating a readily accessible disconnect device should be incorporated in the building installation wiring.

3-9   Security Warnings

Read and follow the following security warnings:

- When using a SFP/SFP+/QSFP+ transceiver, do not stare directly at the fiber bore when the switch is in operation. Otherwise the laser may hurt your eyes.
- Do not attempt to conduct operations which can damage the switch or which can cause physical injury.
- Do not install or move the switch and its modules when the switch is in operation.
- Do not open the switch shell.
- Do not drop metals into the switch. It can cause a short-circuit.
- Do not touch the power plug and power socket.
- Do not configure the switch alone in a dangerous situation,
- Use standard power sockets which have overload and leakage protection.
- Inspect and maintain the site and the switch regularly.
- Have an emergency power switch on the site. In case of emergency, switch off the power immediately.

Caution! Potential risks include: Electric leakage, Power supply arcing, Power line breakage, Imperfect ground, Overload circuit and Electrical short circuit. If an electric shock, fire, or electrical short circuit occurs, please cut off the electricity supply and raise an alarm rapidly. Rescue any injured person, give the injured person proper first aid treatment according to the injury, and seek help from the Medical Emergency personnel.

Notes

Chapter 4
Device Installation

4-1   Installation Preparation

In order to prepare for installation of the SSE-X3648S/SSE-X3648SR switch, you must verify the package contents and use the required tools and utilities.

Verify the Package Contents

Please unpack the shipping package and verify carefully the contents inside.:

• Switch
• Power Cords (2)
• Shelf Brackets (2)
• Rails (2)
• Console Cable
• Misc. Screws

Required Tools and Utilities

The required tools and utilities are shown below:

• Cross screwdrivers
• Flat-blade screwdriver
• ESD wrist strap
• Anti-static uniform

Caution! Users should prepare the required tools and utilities by themselves.

4-2   Device Installation

To install the SSE-X3648S/SSE-X3648SR switch use the following sections.

Installing the Switch in a Shelf Rack

Figure 4-1. The SSE-X3648S/SSE-X3648SR Switches Installed in a Shelf Rack
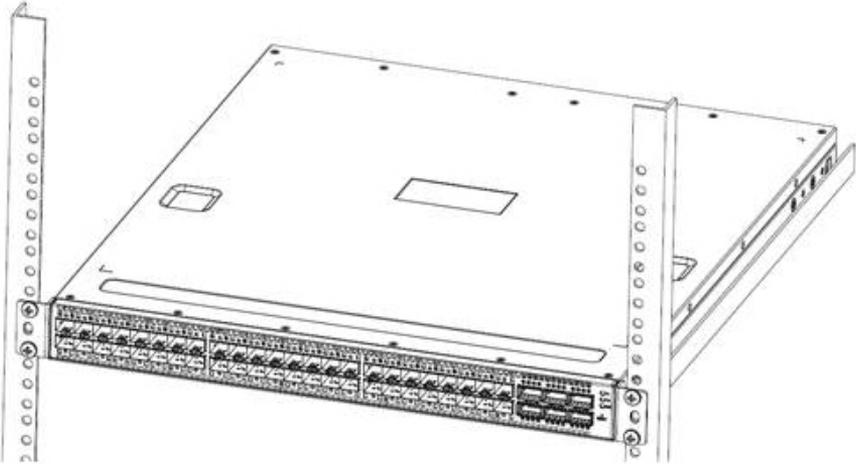
Please mount the SSE-X3648S/SSE-X3648SR switches on the nineteen inch shelf rack as follows:

Installing the SSE-X3648S/SSE-X3648SR Switches into a Shelf Rack

1. Attach the two shelf brackets on the SSE-X3648S/SSE-X3648SR switch with screws provided in the accessory kit.

2. Lift the switch up using two people or a mechanical lift (because of the weight and size of the switch, installation should not be attempted by a single person).

3. Put the bracket-mounted switch smoothly into a standard nineteen inch shelf rack. Fasten the SSE-X3648S/SSE-X3648SR switch to the rack with the screws provided. Leave enough space around the switch for good air circulation.

Caution! The brackets are used to fix the switch on the rack. They are not intended to be load bearing. Please place a rack shelf under the switch. Do not place anything on top of the switch. Do not block the exhaust holes on the switch to ensure the proper operation of the switch.

Installing the Switch into a Rail Rack

Figure 4-2. SSE-X3648S/SSE-X3648SR Switches Installed in a Rail Rack
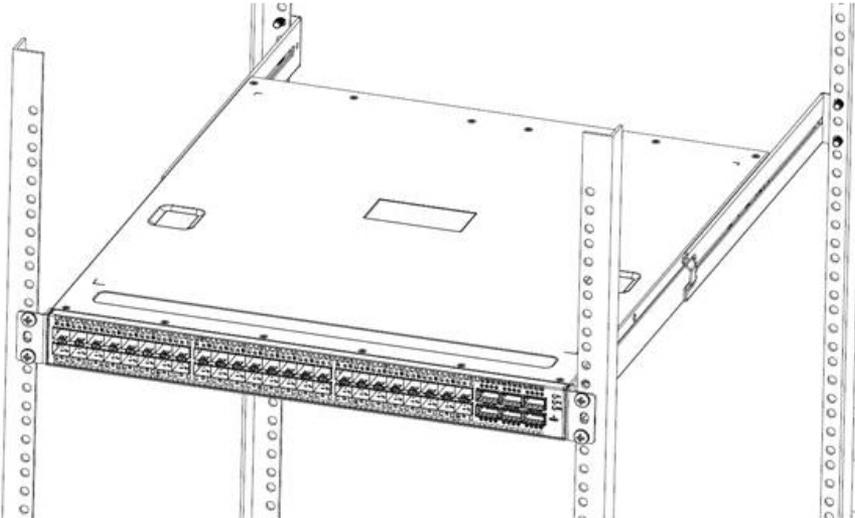
Alternately the SSE-X3648S/SSE-X3648SR switches can be installed in a rail rack with the rails provided. For this type of installation, do the following:

Installing the SSE-X3648S/SSE-X3648SR Switches into a Rail Rack

1. Locate the two screws protruding from each side of the switch.

2. Slide a rail along each side of the switch so that the two screws slide into the slot in middle of each rail. Be sure when installing the rails that the tab at the front end of each rail is mounted so it faces outward.

3. Lift the switch up using two people or a mechanical lift (because of the weight and size of the switch, do not attempt installation in a rack by a single person).

4. Attach the front tabs of the rails to the rack.

5. Slide the switch forward on the rails until the front of the switch is in front of the rack.

6. Attach the two shelf brackets to the sides of the front of the switch using the screws provided.

7. Slide the switch back into the rack so that the tabs of the shelf brackets are positioned next to the rack.

8. Fasten the shelf brackets to the rack.

### Installing the Power Supply Module

The SSE-X3648S/SSE-X3648SR switches support two power supplies.

Please install the power supply module according to the following procedure.

Installing the Power Supply Module

1. The golden finger of the power supply should be inserted end downwards. Once secure, you can hear the lock sound "click".

2. Force the lock on the side of AC cable socket to the direction of fan when taking out the power supply module. Then you can easily withdraw the power supply.

Figure 4-3. Installing the Power Supply Module
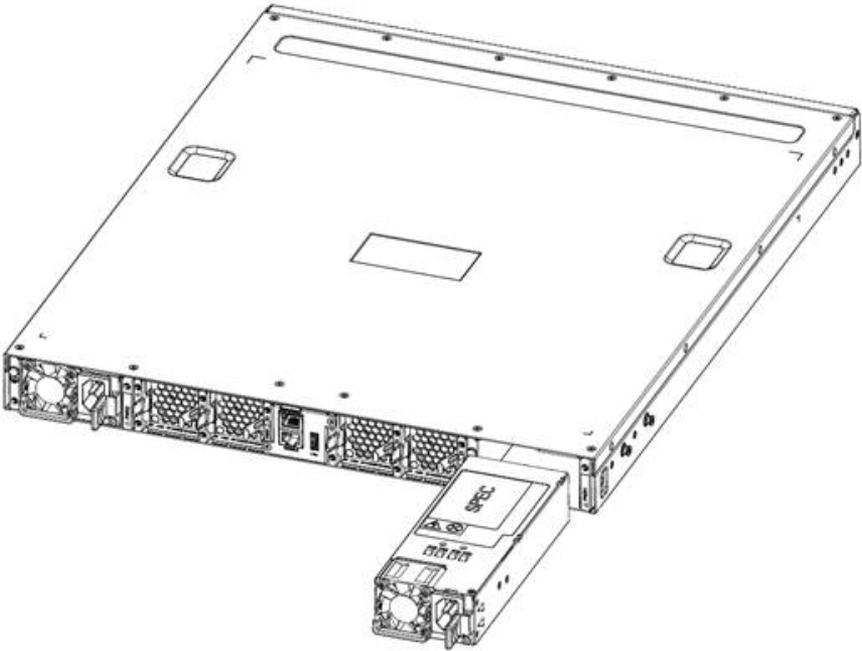
Installing the Fan

The SSE-X3648S/SSE-X3648SR switches have four fans in a standard configuration.

Figure 4-4. Installing a Fan in the Switch
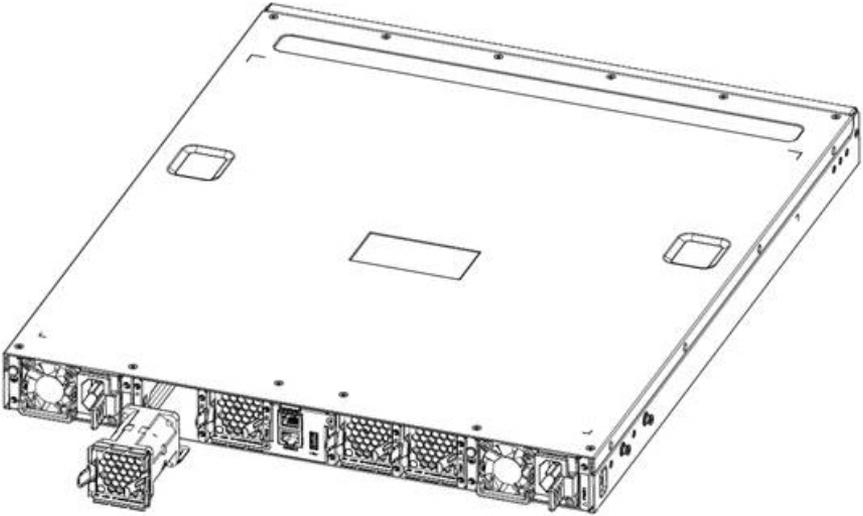
Please install the fan module according to the following approach:

Installing a Fan into the Switch

1. The golden fingers should be positioned inward and on the back of the switch. After proper insertion you can hear the lock sound of "click".

2. Pinch the sheet metal inward and draw the fan module forth when taking out it.

Caution! The sheet metal edge of the fan is thin, please watch your fingers when you pinch, press, insert and pull it.

WARNING: Hazardous moving parts. Keep away from moving fan blades.

Connecting the Console

The SSE-X3648S/SSE-X3648SR switches provide a serial console port on the rear of the switch. The connection procedure for this port is listed below:

Connecting the Console to the Switch

1. Find the console cable provided in the accessory kit. Attach the console cable end to console port in the rear of the switch.

2. Connect the other side of the console cable to a character terminal (PC).

3. Power on the switch and the character terminal. Configure the switch through the character terminal.

Figure 4-5. Connecting the Console to the Switch
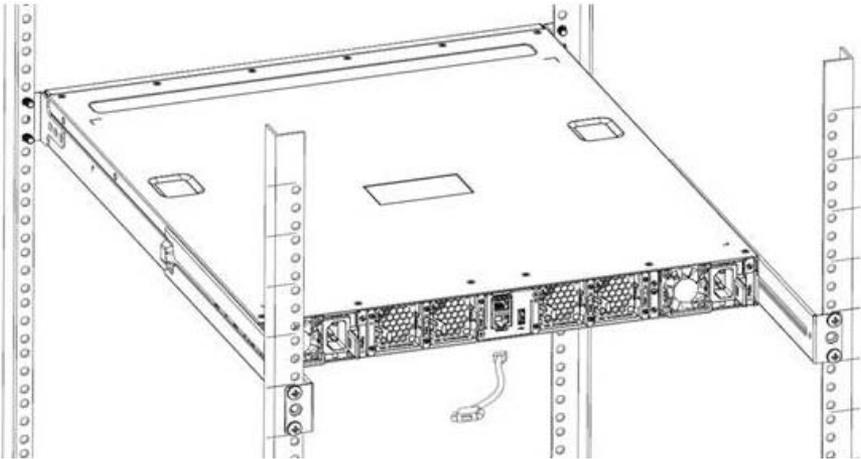
SFP/SFP+/QSFP+ Transceiver Installation

The SSE-X3648S/SSE-X3648SR switches provide forty-eight SFP+ and six QSFP+ ports. The procedure for installing a SFP/SFP+/QSFP+ transceiver is shown below.

Installing the SFP/SFP+/QSFP+ Transceiver

1. Put on a ESD wrist strap (or anti-static gloves)

2. Insert the SFP/SFP+/QSFP+ transceiver to the guide rail inside the SFP/SFP+/QSFP+ port. Do not insert the SFP/SFP+/QSFP++ transceiver upside-down.

3. Push the SFP/SFP+/QSFP+ transceiver along the guide rail gently until you feel the transceiver snap into place at the bottom of the SFP/SFP+/QSFP+ port.

NOTE: The SFP/SFP+/QSFP+ transceivers are hot swappable.

Caution! Do not stare directly at the 2 fiber bore in the SFP/SFP+/QSFP+ transceiver when the switch is in operation, otherwise the laser may hurt your eyes.

Copper Cable/Fiber Cable Connection

Copper cables should be connected as described below.

Connecting Copper Cables

1. Insert one end of the Ethernet cable to the RJ-45 Ethernet port in the switch copper port;

2. Insert the other end of the Ethernet cable to the RJ-45 Ethernet port of other device;

3. Check all status indicators for the corresponding ports; a lighted LED indicates that the link has been established, otherwise the link is not ready and the cable should be examined.

Caution! Please verify the sign above the port to ensure using the right port. Connecting to wrong ports might damage the switch.

Fiber cables should be connected as described below.

Connecting Fiber Cables

1. Remove the protective plug from the SFP/SFP+/QSFP+ fiber transceiver bore; Remove the protective cap from one end of the fiber cable. Keep the fiber end clean and neat.

2. Attach one end of the fiber cable to the SFP/SFP+/QSFP+ transceiver, and attach the other end to the transceiver of the corresponding devices.

NOTE: The SFP/SFP+/QSFP+ transceiver's TX port should be connected to the RX port of the corresponding device, and vice versa.

3. Check the fiber port status indicator, a lighted LED indicates that the link has been established; otherwise the link is not ready and should be examined.

Caution! Please verify the sign above the port to ensure using the other ports. Connecting to wrong ports might damage the transceiver or the other ports. When connecting other devices through a fiber cable to the switch, the output power of the fiber cable must not exceed the maximum received power of the corresponding modules. Otherwise, it will damage the fiber transceiver. Do not stare at the fiber bore when the switch is in operation. That may hurt your eyes.

Figure 4-6. Connecting a DAC Cable to the Switch
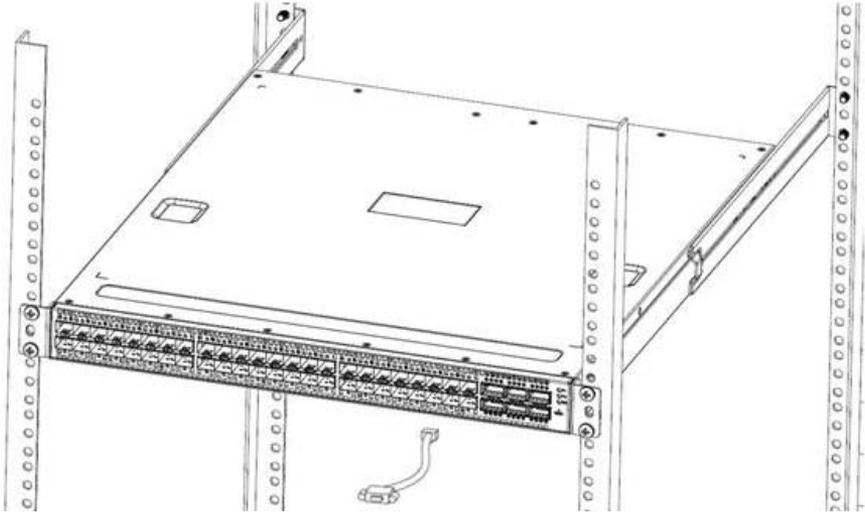
Connecting the DAC cable is described below.

Connecting the DAC Cable

1. Connect the two sides of the DAC cable to the SFP/SFP+/QSFP+ port of the SSE-X3648S/SSE-X3648SR switches.

2. Check out the indicator light state of the light port. If the LINK light is bright, it means the link is connection. If the LINK light is out, it means the lines have trouble – please check out the line connection.

AC Power Supply Connection

The SSE-X3648S/SSE-X3648SR switch uses a 220VAC power supply by default. Please read the power input specification for detailed information.

Figure 4-7. Connecting the Power Supply Cable to the Switch
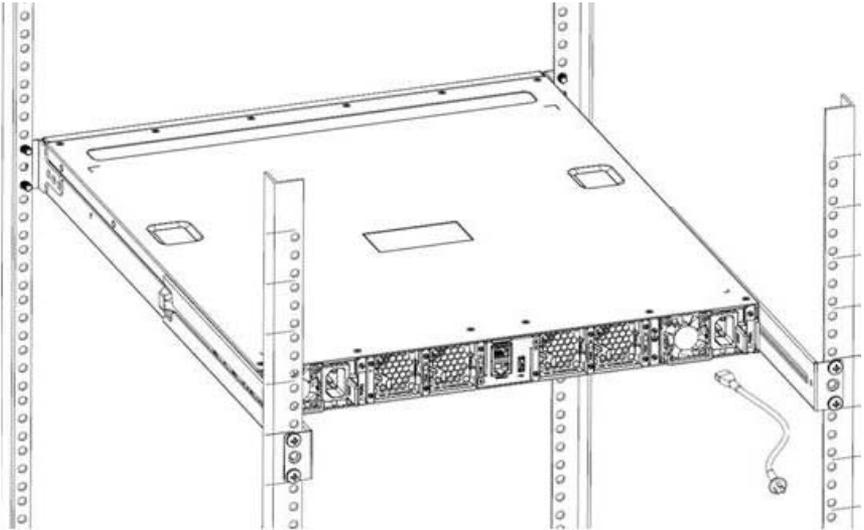
AC Power supply connection procedure is described below.

Connecting the AC Power Supply

1. Insert one end of the power cable provided in the accessory kit into the power source socket, and the other end to the power socket (with overload and leakage protection) on the switch power supply.

2. Check the power status indicator in the front panel of the switch. The corresponding PWR indicator should light. The SSE-X3648S is self-adjusting for the input voltage. As soon as the input voltage is in the range printed on the switch surface, the switch can operate correctly.

3. When the switch is powered on, it executes a self-test procedure and starts up.

Caution! The input voltage must be within the required range, otherwise the switch can be damaged or malfunction. Do not open the switch shell without permission. It can cause physical injury.

NOTE: Disconnect all power supply cords before servicing.

Grounding Cable Connection

Figure 4-8. Connect the Grounding Cable to the Switch
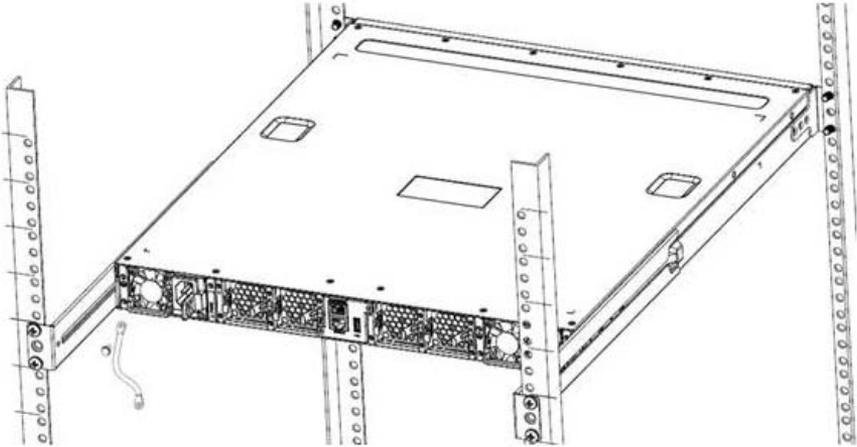
Please connect the grounding cable according to the following procedure.

Connecting the Grounding Cable

1. Cover one side of the grounding cable to the earthing pillar of the back panel.

2. Take out the screw from accessories, put and screw down the fixed nut on the grounding pillar of the switch,.

3. Connect another side of the grounding cable to the grounding side.

Caution! The unit must be permanently connected to ground.

Checking the Switch

After installing and setting up the switch, verify the following:

• Whether the used power corresponds to the power of the sign.

• Whether the ground cable is connected.

• Whether the Console cable is connected to the console port.

• If there are cables at the outside, please ensure the cable is well connected with lightning protection devices.

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