

Installing the Module

Electrical Hazard: Only qualified personnel should perform installation procedures.

Use this Quick Reference to install or replace a 10-Gigabit IOM (Input/Output Module) into an available slot of an Enterasys G-Series switch. Refer to the *Enterasys G-Series Hardware Installation Guide*, available at the link below, for the procedure to disconnect power and remove the switch from a rack.

<http://www.enterasys.com/support/manuals>

Handling the IOM

Caution: The IOM can be damaged by electrostatic discharge.

To prevent electrostatic damage, observe the following guidelines:

- Attach an ESD wrist strap to your wrist.
- Remove the IOM from its packaging only when ready to install.
- Do not touch IOM pins, connectors, or components.
- Hold the IOM by its edges or front panel only.
- Store or transport the IOM only in anti-static packaging.

Tools

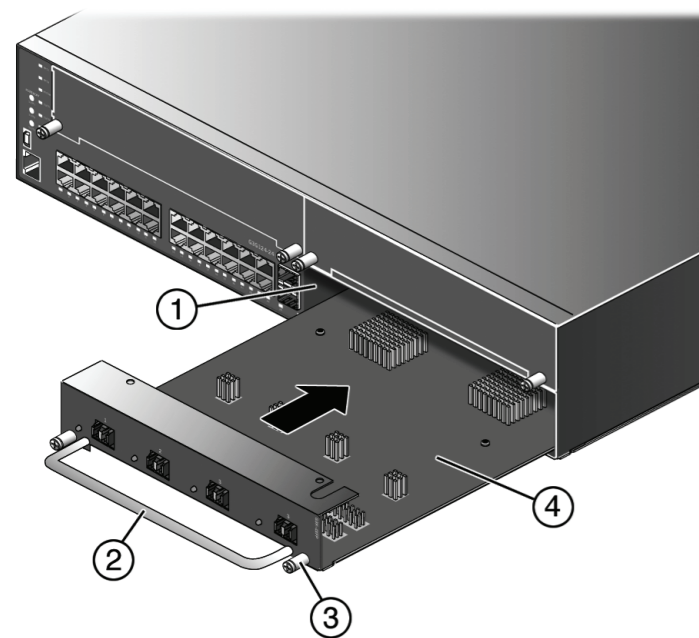
This installation requires a Phillips screwdriver.

Installing the IOM Card

Caution: If you are installing multiple IOMs into a switch that is running, wait until the previously installed IOM is completely initialized before attempting to install the next IOM. Initialization is complete when the slot's status LED turns solid green.

1. Remove the coverplate from the slot.
2. Insert the IOM in the guide rail of the slot. Gently slide the module into the slot, as shown in **Figure 1**, until the IOM engages the connector on the backplane and the module locks into place and is flush with adjoining coverplates.
3. Tighten the two captive screws.

Figure 1 Installing the IOM (G3K-4XFP into Slot 2 shown)



- | | |
|--------------|-----------------|
| 1 IOM slot 2 | 3 Captive screw |
| 2 IOM handle | 4 IOM |

4. To install additional modules, remove the coverplate(s) from the slot(s) and repeat the earlier steps. Save coverplates for optional future use.
5. After completing all module installation, be sure to install coverplate(s) over any unused IOM slot(s) to contain EMI radiation and ensure proper air circulation.

Removing an IOM Card

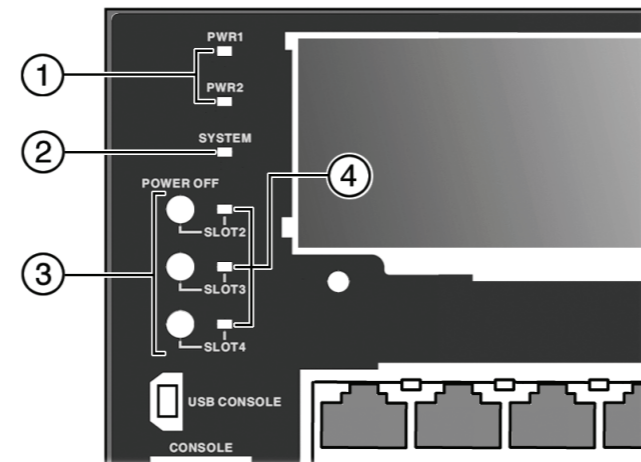
Caution: Do not attempt to remove an IOM from the G-Series switch when power is on to the switch without performing the following procedure.

1. Disconnect any cabling from the module.
2. Loosen the module's two captive screws.
3. Press and hold for **5 seconds** the POWER OFF button corresponding to the slot from which you want to remove the IOM card as shown in **Figure 2**. Slot's status LED flashes green.

Caution: Do not attempt to power-down and remove more than one IOM at a time. You must complete the removal procedure outlined in this section before attempting to remove another IOM.

4. When the slot's POWER OFF status LED **turns amber**, gently slide the module out of the slot using the IOM's handle.

Figure 2 Chassis LEDs and POWER OFF Buttons



- | | |
|---------------------|--|
| 1 Power Supply LEDs | 3 IOM POWER OFF buttons (Slot 2, 3, 4) |
| 2 SYSTEM LED | 4 IOM POWER OFF status LEDs (Slot 2, 3, 4) |

5. Replace the slot's coverplate to contain EMI radiation and ensure proper air circulation.

Specifications

The G3K-2XFP and G3K-4XFP IOMs can be installed in any available slot of the G-Series Ethernet switch.

Interfaces

G3K-2XFP

Two 10-Gigabit Small Form Factor Pluggable (XFP) interfaces

G3K-4XFP

Four 10-Gigabit Small Form Factor Pluggable (XFP) interfaces

Dimensions

Size: 4.1 H x 20.5 W x 32 D cm (handle included)

Weight: 1.1 kg (2.42 lb)

Power Consumption and Mean Time Between Failure

Power: G3K-2XFP = 22 W - 76 BTU/HR

G3K-4XFP = 40 W - 136 BTU/HR

MTBF: G3K-2XFP = 343,139 hours; G3K-4XP = 246,568 hours

Temperature and Humidity

Operating: 0° to 50°C (32° to 122°F)

Storage: -40° to 70°C (-40° to 158°F)

Operating relative humidity: 5% to 95% (non-condensing)

XFP Fiber-Optic Specifications

Module	Wavelength	Max. Reach	Min. Reach ^a
10GBASE-LR-XFP	1310 nm DFB	10 km (6.21 mi)	2 m (6.6 ft)
10GBASE-ER-XFP	1550 nm EML	40 km (24.85 mi)	2 m (6.6 ft)
10GBASE-SR-XFP	850 nm VCSEL	300 m (1082.68 ft)	26 m (85.3 ft)

^aThe limitation is receiver saturation by the transmitter. When given a signal above saturation strength, the receiver cannot distinguish between pulses, though no hardware damage occurs.

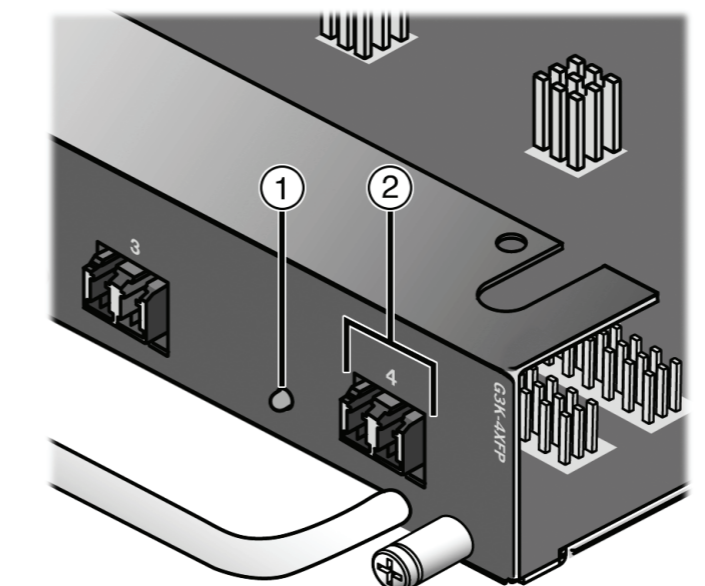
For more XFP specifications, see the *Enterasys G-Series Hardware Installation Guide*.

Port LEDs

The G-Series XFP IOMs provide one LED per port, as described in the following table and displayed in **Figure 3**.

Display	Status
Off	No link established.
Solid Green	Ethernet link established without activity.
Blinking Green	Ethernet link established with activity.

Figure 3 IOM LEDs (G3K-4XFP shown)



- | | |
|------------|------------|
| 1 Port LED | 2 XFP port |
|------------|------------|

Getting Help

World Wide Web	www.enterasys.com/services/support/
Phone	1-800-872-8440 (toll-free in U.S. and Canada) or 1-978-684-1000 To find the Enterasys Networks Support toll-free number in your country: www.enterasys.com/services/support/contact
Internet mail	support@enterasys.com To expedite your message, type [Switching] in the subject field of your message.
Latest image and release notes	www.enterasys.com/services/support/downloads/software
Documentation	www.enterasys.com/support/manuals/

To send comments concerning this document to the Technical Publications Department: techpubs@enterasys.com
Please include the document Part Number in your email message.

Related Documents

The latest documentation is located online at <http://www.enterasys.com/support/manuals>.

Notice

Enterasys Networks reserves the right to make changes in specifications and other information contained in this document and its web site without prior notice. The reader should in all cases consult Enterasys Networks to determine whether any such changes have been made.

The hardware, firmware, or software described in this document is subject to change without notice.

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Regulatory Compliance Information

Federal Communications Commission (FCC) Notice

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

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 uses, generates, and can radiate radio frequency energy and if not installed in accordance with the operator's manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference in which case the user will be required to correct the interference at his own expense.

WARNING: Changes or modifications made to this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Industry Canada Notice

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

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

Class A ITE Notice

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

Clase A. Aviso de ITE

ADVERTENCIA: Este es un producto de Clase A. En un ambiente doméstico este producto puede causar interferencia de radio en cuyo caso puede ser requerido tomar medidas adecuadas.

Klasse A ITE Anmerkung

WARNHINWEIS: Dieses Produkt zählt zur Klasse A (Industriebereich). In Wohnbereichen kann es hierdurch zu Funkstörungen kommen, daher sollten angemessene Vorkehrungen zum Schutz getroffen werden.

VCCI Notice

This is a class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

BSMI EMC Statement — Taiwan

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

警告使用者：

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

AS/NZS CISPR 22



Hazardous Substances

This product complies with the requirements of European Directive, 2002/95/EC, Restriction of Hazardous Substances (RoHS) in Electrical and Electronic Equipment.

European Waste Electrical and Electronic Equipment (WEEE) Notice



In accordance with Directive 2002/96/EC of the European Parliament on waste electrical and electronic equipment (WEEE):

- The symbol above indicates that separate collection of electrical and electronic equipment is required and that this product was placed on the European market after August 13, 2005, the date of enforcement for Directive 2002/96/EC.
- When this product has reached the end of its serviceable life, it cannot be disposed of as unsorted municipal waste. It must be collected and treated separately.
- It has been determined by the European Parliament that there are potential negative effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment.
- It is the users' responsibility to utilize the available collection system to ensure WEEE is properly treated.

For information about the available collection system, please go to

www.enterasys.com/services/support/ or contact Enterasys Customer Support at 353 61 705586 (Ireland).

产品说明书附件 Supplement to Product Instructions

部件名称 (Parts)	有毒有害物质或元素 (Hazardous Substance)					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr ⁶⁺)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
金属部件 (Metal Parts)	×	○	○	○	○	○
电路模块 (Circuit Modules)	×	○	○	○	○	○
电缆及电缆组件 (Cables & Cable Assemblies)	×	○	○	○	○	○
塑料和聚合物部件 (Plastic and Polymeric parts)	○	○	○	○	○	○
电路开关 (Circuit Breakers)	○	○	○	○	○	○

○：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。
Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T 11363-2006 standard.

×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求。
Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T 11363-2006 standard.

对销售之日的所售产品，本表显示，
凯创供应链的电子产品信息产品可能包含这些物质。注意：在所售产品中可能会也可能不会含有所有列出的部件。
This table shows where these substances may be found in the supply chain of Enterasys' electronic information products, as of the date of sale of the enclosed product. Note that some of the component types listed above may or may not be a part of the enclosed product.

除非另外特别的标注，此标志为针对所涉及产品的环保使用期限标志。某些零部件会有一个不同的环保使用期限(例如，电池单元模块)贴在其产品上。
此环保使用期限只适用于产品是在产品手册中所规定的条件下工作。
The Environmentally Friendly Use Period (EFUP) for all enclosed products and their parts are per the symbol shown here, unless otherwise marked. Certain parts may have a different EFUP (for example, battery modules) and so are marked to reflect such. The Environmentally Friendly Use Period is valid only when the product is operated under the conditions defined in the product manual.



Safety Information Class 1 Laser Transceivers

The single mode interface modules use Class 1 laser transceivers. Read the following safety information before installing or operating these modules.

The Class 1 laser transceivers use an optical feedback loop to maintain Class 1 operation limits. This control loop eliminates the need for maintenance checks or adjustments. The output is factory set, and does not allow any user adjustment. Class 1 Laser transceivers comply with the following safety standards:

- 21 CFR 1040.10 and 1040.11 U.S. Department of Health and Human Services (FDA).
- IEC Publication 825 (International Electrotechnical Commission).
- CENELEC EN 60825 (European Committee for Electrotechnical Standardization).

When operating within their performance limitations, laser transceiver output meets the Class 1 accessible emission limit of all three standards. Class 1 levels of laser radiation are not considered hazardous.

When the connector is in place, all laser radiation remains within the fiber. The maximum amount of radiant power exiting the fiber (under normal conditions) is -12.6 dBm or 55 x 10⁻⁶ watts.

Removing the optical connector from the transceiver allows laser radiation to emit directly from the optical port. The maximum radiance from the optical port (under worst case conditions) is 0.8 W cm⁻² or 8 x 10³ W m⁻² sr⁻¹.

Do not use optical instruments to view the laser output. The use of optical instruments to view laser output increases eye hazard. When viewing the output optical port, power must be removed from the network adapter.

Safety Compliance

Warning: Fiber Optic Port Safety

CLASS I
LASER DEVICE

When using a fiber optic media expansion module, never look at the transmit laser while it is powered on. Also, never look directly at the fiber TX port and fiber cable ends when they are powered on.

Avertissement: Ports pour fibres optiques - sécurité sur le plan optique

DISPOSITIF LASER
DE CLASSE I

Ne regardez jamais le laser tant qu'il est sous tension. Ne regardez jamais directement le port TX (Transmission) à fibres optiques et les embouts de câbles à fibres optiques tant qu'ils sont sous tension.

Warnhinweis: Faseroptikanschlüsse - Optische Sicherheit

LASERGERÄT
DER KLASSE I

Niemals ein Übertragungslaser betrachten, während dieses eingeschaltet ist. Niemals direkt auf den Faser-TX-Anschluß und auf die Faserkabelenden schauen, während diese eingeschaltet sind.

Declaration of Conformity

Application of Council Directive(s): 2004/108/EC
2006/95/EC

Manufacturer's Name: Enterasys Networks, Inc.
Manufacturer's Address: 50 Minuteman Road
Andover, MA 01810
USA

European Representative Address: Enterasys Networks Ltd.
Nexus House, Newbury
Business Park
London Road, Newbury
Berkshire RG14 2PZ, England

Conformance to
Directive(s)/Product Standards: EC Directive 2004/108/EC
EN 55022:2006
EN 55024:1998
EN 61000-3-2:2006
EN 61000-3-3:1995
EC Directive 2006/95/EC
EN 60950-1:2006
EN 60825-1:2007
EN 60825-2:2004

Equipment Type/Environment: Information Technology Equipment,
for use in a Commercial
or Light Industrial Environment.

Enterasys Networks, Inc. declares that the equipment packaged with this notice conforms to the above directives.

Enterasys® G-Series Ethernet Switch

Quick Reference

G3K-2XFP IOM G3K-4XFP IOM

