TigerSwitch Module

Gigabit Uplink Module for TigerSwitch 10/100 Switches

SMC® Networks

User Guide

SMC6724L2GSSC
SMC6724L2GLSC

TigerSwitch Module User Guide

From SMC's Tiger line of feature-rich workgroup LAN solutions

SMC® Networks
6 Hughes
Irvine, CA 92618
Phone: (949) 707-2400

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* SMC will provide warranty service for one year following discontinuance from the active SMC price list. Under the limited lifetime warranty, internal and external power supplies, fans, and cables are covered by a standard one-year warranty from date of purchase.

SMC Networks, Inc.
6 Hughes
Irvine, CA 92618

COMPLIANCES

FCC - Class A

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart B of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

You may use 50/125 or 62.5/125 micron multimode fiber optic cable or 9/125 micron single-mode fiber optic cable for SC or ST-type connections.:

Warnings:1. Wear an anti-static wrist strap or take other suitable measures to prevent electrostatic discharge when handling this equipment.

2. When connecting this hub to a power outlet, connect the field ground lead on the tri-pole power plug to a valid earth ground line to prevent electrical hazards.

EC Conformance Declaration - Class A

SMC contact for these products in Europe is:
SMC Networks Europe,
Edificio Conata II,
Calle Fructuós Gelabert 6-8, 2º, 4ª,
08970 - Sant Joan Despí,
Barcelona, Spain.

This information technology equipment complies with the requirements of the Council Directive 89/336/EEC on the Approximation of the laws of the Member States relating to Electromagnetic Compatibility and 73/23/EEC for electrical equipment used within certain voltage limits and the Amendment Directive 93/68/EEC. For the evaluation of the compliance with these Directives, the following standards were applied:

RFI Emission:
- Limit class A according to EN 55022:1998
- Limit class A for harmonic current emission according to EN 61000-3-2/1995
- Limitation of voltage fluctuation and flicker in low-voltage supply system according to EN 61000-3-3/1995

Immunity:
- Product family standard according to EN 55024:1998
- Electrostatic Discharge according to EN 61000-4-2:1995 (Contact Discharge: ±4 kV, Air Discharge: ±8 kV)
- Radio-frequency electromagnetic field according to EN 61000-4-3:1996 (80 - 1000 MHz with 1 kHz AM 80% Modulation: 3 V/m)
- Electrical fast transient/burst according to EN 61000-4-4:1995 (AC/DC power supply: ±1 kV, Data/Signal lines: ±0.5 kV)
- Surge immunity test according to EN 61000-4-5:1995 (AC/DC Line to Line: ±1 kV, AC/DC Line to Earth: ±2 kV)
- Immunity to conducted disturbances, Induced by radio-frequency fields: EN 61000-4-6:1996 (0.15 - 80 MHz with 1 kHz AM 80% Modulation: 3 V/m)
- Power frequency magnetic field immunity test according to EN 61000-4-8:1993 (1 A/m at frequency 50 Hz)
- Voltage dips, short interruptions and voltage variations immunity test according to EN 61000-4-11:1994 (>95% Reduction @10 ms, 30% Reduction @500 ms, >95% Reduction @5000 ms)

LVD:
- EN 60950 (A1/1992; A2/1993; A3/1993; A4/1995; A11/1997)

Industry Canada - Class A

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques," NMB-003 édictée par le ministère des Communications.

Japan VCCI Class A

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Taiwan BSMI Class A

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。

Australia AS/NZS 3548 (1995) - Class A

ACN 069 351 613

SMC contact for products in Australia is:

SMC Communications Pty. Ltd.
Suite 18, 12 Tryon Road,
Lindfield NSW2070,
Phone: 61-2-94160437
Fax: 61-2-94160474

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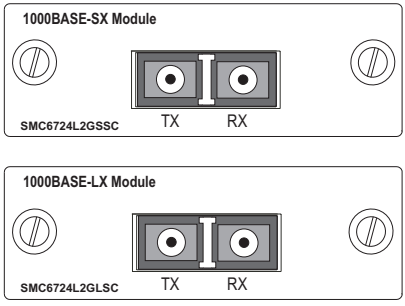
DESCRIPTION OF HARDWARE

SMC's TigerSwitch™ Gigabit Extender Module provides a Gigabit fiber port that can be used for a high-speed backbone or server connection.

The SMC6724L2GSSC contains one 1000BASE-SX multimode fiber port that can be connected to a site up to 550 m (1805 ft) away. The SMC6724L2GLSC contains one 1000BASE-LX single-mode fiber port that can be connected to a site up to 5 km (16,404 ft) away.



Gigabit Port LEDs

The switch's front panel provides LEDs that indicate the presence of modules installed in the rear-panel slots. Port status LEDs are also provided on the front of the switch for "at-a-glance" network monitoring. The following table details the indicator functions provided by the module.

Extender Module LEDs		
LEDs	**Condition**	**Status**
Status	On	A module is installed in this slot.
	Off	No module is installed in this slot.

INSTALLING THE MODULE

CAUTION: The SMC6724L2GSSC and SMC6724L2GLSC modules are designed for the SMC6724L2 and SMC6724L3. These modules may only be installed in these switches. Do not try to install them in any other TigerSwitch units.

Contact your distributor for advice on newly released switches that may be designed for use with this module.

The TigerSwitch 10/100 Extender Module is field installable. Just follow the instructions below.

Equipment Checklist

After unpacking the Gigabit Extender Module, check the contents of the box to be sure you have received the following items:

- One SMC6724L2GSSC or SMC6724LGLSC Gigabit Extender Module
- SMC Warranty Registration Card
- This User Guide

Handling the Modules

CAUTION: The modules can easily be damaged by electrostatic discharge.

To prevent electrostatic damage, observe the following guidelines:

- Do not remove the module from its packaging until you are ready to install it.
- Do not touch any of the module's pins, connectors or components.
- Hold the module only by its edges or front panel.
- Wear an anti-static wristband connected to a suitable earth ground whenever handling the module.
- Store or transport this module only in appropriate anti-static packaging.

Instructions

CAUTION: The switch must be powered off before installing or replacing any module.

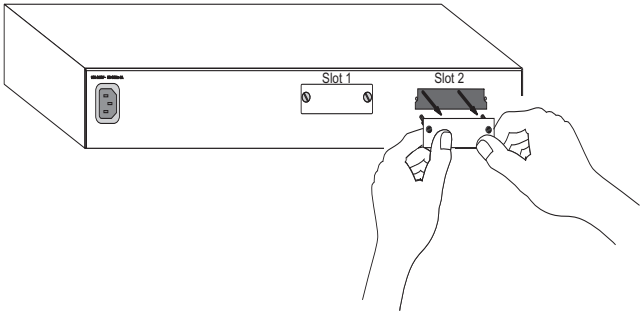
1. **Power off the switch:** Disconnect the AC power cord from the switch. If a redundant power unit (RPU) is present, disconnect its DC cable connection to the switch.

2. **Remove network cables:** If you are replacing a module, remove the cable attached to the port on the module.

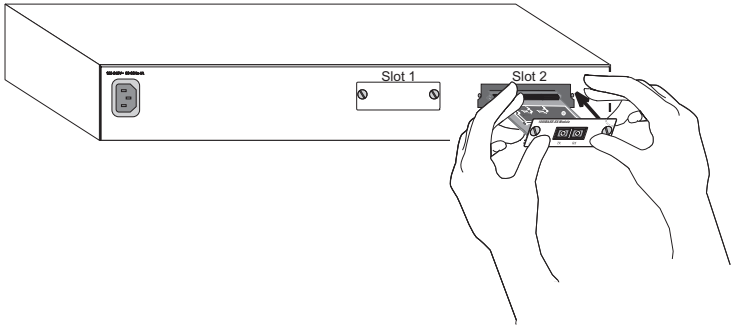
3. **Loosen the screws on the installed module or slot faceplate:** Using your fingers or a flathead screwdriver, turn the screws securing the module (or faceplate on the slot) in a counter-clockwise direction until they are free of the chassis. Be sure not to completely remove the screws from the module or faceplate.

4. **Remove the installed module or faceplate:** Firmly pull on the screws until the module is free of the switch. Carefully slide the module straight out of the slot.

   Keep the original faceplate for future use. If you should remove the module, replace the faceplate to prevent dust and debris from entering the unit and to maintain proper air flow.

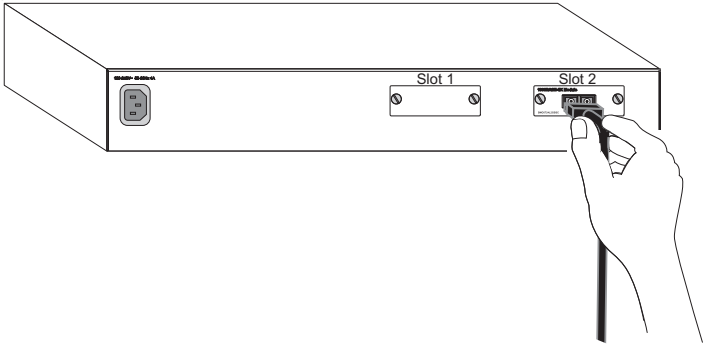


5. **Insert the new module into the switch:** Holding the new module with the text on the front panel upright, carefully slide the module into the lower slot on the rear panel, and press gently until it snaps into place. Be sure the new module's front panel is flush with the switch panel.



6. **Secure the new module:** Secure the new module in place by screwing the attached screws clockwise into the switch's chassis. Tighten them enough to secure the module, but not so tight as to prevent them from being unscrewed by hand.

7. **Connect the network cable:** Connect fiber cable to the port on the newly installed module. See "Cable Specifications" on page 9 in this guide for further information.



8. **Power on the switch:** Reconnect the previously removed power sources to the switch. Check the switch's front-panel LED indicators to ensure that the module is operating correctly. Refer to the table of LEDs on page 1 for a description of the LED indications. If the module does not respond, see "Troubleshooting" on page 7.

More details concerning connection options and network applications can be found in the TigerSwitch 10/100 User Guide. Information on the module's configuration options can be found in the Management Guide that is included with the base unit.

TROUBLESHOOTING

If you experience any problems with the module, check the following items before contacting SMC Technical Support:

- Ensure that the switch with the Gigabit Extender Module is powered up.
- Ensure that the device attached to the module is powered up and operating correctly.
- Ensure that the module is properly seated in the slot.
- Verify that the attached device is configured to match the communication mode used by the module (1 Gbps and full duplex).
- Check the connectors on both ends of the cable to be sure they are properly engaged. When attaching fiber cable to an SC-type port, be sure the plug clicks into place to ensure that it is properly seated.
- If you are using fiber optic cable with an ST-type connector (in conjunction with the SC-ST Converter*), try switching the TX and RX connectors.
- Be sure the fiber terminators are clean. You can clean the cable plugs by wiping them gently with a clean tissue or cotton ball moistened with a little ethanol. Dirty fiber terminators on fiber optic cables will impair the quality of the light transmitted through the cable.

* You may use an SC-ST Converter (SMC Part Number: 99-012034-091) to attach fiber cable with an ST-type connector to the SC-type port on the Gigabit Extender Module.

Cable Specifications

Cable Types and Specifications			
Cable	**Type**	**Max. Length**	**Connector**
1000BASE-SX	50/125 or 62.5/125 micron core multimode fiber (MMF)	See the following table	SC or ST
1000BASE-LX	9/125 micron core single-mode fiber (SMF)	5 km (16,404 ft)	SC

1000BASE-SX Fiber Specifications		
Fiber Diameter	**Fiber Bandwidth**	**Cable Length Range**
62.5/125 micron MMF	160 MHz/km	2 - 220 m (7 - 722 ft)
	200 MHz/km	2 - 275 m (7 - 902 ft)
50/125 micron MMF	400 MHz/km	2 - 500 m (7 - 1641 ft)
	500 MHz/km	2 - 550 m (7 - 1805 ft)

SPECIFICATIONS

TigerSwitch Gigabit Uplink Modules

General

Communication Mode
Full duplex, auto-negotiation for flow control

Communication Rate
1000 Mbps

LED Indicators
Status - one per module

Size
7.2 x 9.1 x 2.4 cm (2.83 x 3.58 x 0.94 in.)

Power Consumption
4 W maximum

Temperature
Operating: 0 to 50 °C (32 to 122 °F)
Storage: -40 to 70 °C (-40 to 158 °F)

Humidity
5% to 95%

Standards
IEEE 802.3z Gigabit Ethernet
ISO/IEC 8802-3

Compliances
CE Mark
Emissions
- FCC Class A
- VCCI Class A

Industry Canada Class A
EN55022 (CISPR 22) Class A
EN 61000-3-2/3
C-Tick - AS/NZS 3548 (1995) Class A

Immunity
EN 61000-4-2/3/4/5/6/8/11

Warranty
Limited Lifetime

SMC6724L2GSSC

Ports
1 1000BASE-SX

Network Interface
SC connector:
62.5/125 or 50/125 micron multimode fiber cable

SMC6724L2GLSC

Ports
1 1000BASE-LX

Network Interface
SC connector:
9/125 micron single-mode fiber cable

ORDERING INFORMATION

TigerSwitch 10/100 Products and Accessories	
Product Number	**Description**
SMC6724L2	24-port Fast Ethernet switch with two media expansion slots
SMC6724L2GSSC	Gigabit module with one 1000BASE-SX multimode fiber (SC-type connector)
SMC6724L2GSST	SMC6724L2GSSC + SC-ST converter
SMC6724L2GLSC	Gigabit Module with one 1000BASE-LX single-mode port (SC-type connector)
SMC6724L2GT	Gigabit module with one 1000BASE-T port (RJ-45 connector)
SMC6724L2FSSC	Extender module with one 100BASE-FX single-mode fiber port (SC-type connector)
SMC6724L2FMSC	Extender module with one 100BASE-FX multimode fiber port (SC-type connector)
SMC6724L2FMST	SMC6724L2FMSC + SC-ST converter
99-012034-091	SC to ST plug converter for fiber optic module

FOR TECHNICAL SUPPORT, CALL:

From U.S.A. and Canada (24 hours, 7 days a week)
(800) SMC-4-YOU; (949) 707-2400; (949) 707-2460 (Fax)
From Europe (8:00 AM - 5:30 PM UK Greenwich Mean Time)
44 (0) 1188 748740; 44 (0) 1189 748741 (Fax)

INTERNET

E-mail addresses:
techsupport@smc.com
european.techsupport@smc-europe.com
Driver updates:
http://www.smc.com/support.html
World Wide Web:
http://www.smc.com/
FTP Site:
ftp.smc.com

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Spain:	34-93-477-4920;	Fax 34-93-477-3774
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Southern Europe:	33 (1) 41.18.68.68;	Fax 33 (1) 41.18.68.69
Central/Eastern Europe:	49 (0) 89 92861-200;	Fax 49 (0) 89 92861-230
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South Africa:	27 (0) 11-3936491;	Fax 27 (0) 11-3936491
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Korea:	82-2-553-0860;	Fax 82-2-553-7202
Japan:	81-45-224-2332;	Fax 81-45-224-2331
Australia:	61-2-9416-0437;	Fax 61-2-9416-0474
India:	91-22-8204437;	Fax 91-22-8204443

SMC®
Networks
6 Hughes
Irvine, CA 92618
Phone: (949) 707-2400

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