

## CISCO 100BASE-X SFP FOR FAST ETHERNET SFP PORTS

### PRODUCT OVERVIEW

The Cisco® 100BASE-X Small Form-factor Pluggable (SFP) is a hot-swappable input/output device that plugs into a Fast Ethernet port or slot, linking the port with the network.

Main features include the following:

- Hot-swappable when deployed, the switch or router does not have to reboot.
- Supports the “pay-as-you-populate” model.
- Interchangeable with other 100BASE-X SFPs on the same line card.
- Supports the Cisco quality ID feature that enables the switch or router to identify whether or not the SFP is a Cisco qualified SFP.
- Optically interoperable with respective 100BASE-X Ethernet interfaces on the same link.

**Figure 1.** Cisco 100M Ethernet SFP



### Cisco 100BASE-FX SFP

The Cisco 100BASE-FX SFP (part number GLC-FE-100FX) operates on ordinary multimode fiber-optic (MMF) link spans up to 2 kilometers long.

### Cisco 100BASE-LX10 SFP

The Cisco 100BASE-LX10 SFP (part number GLC-FE-100LX) operates on ordinary single-mode fiber-optic (SMF) link spans up to 10 kilometers long.

### Cisco 100BASE-BX10 SFP

The Cisco 100BASE-BX10 (part numbers GLC-FE-100BX-D and GLC-FE-100BX-U) SFPs operate on ordinary SMF single-strand link spans up to 10 kilometers long.

### TECHNICAL SPECIFICATIONS

#### Platform Support

The Cisco SFPs are supported across a variety of Cisco Systems® switches, routers, and optical transport devices. For more details, refer to the document *Cisco 100M Ethernet SFP Compatibility Matrix*.

## Connectors and Cabling

- Connectors: Dual LC connector (GLC-FE-100FX and GLC-FE-100LX) or single LC connector (GLC-FE-BX-D and GLC-FE-BX-U)

Table 1 provides cabling specifications for the SFPs for installation in a Fast Ethernet SFP port. Note that all SFP ports have LC-type connectors, and the minimum cable distance for all SFPs listed (MMF and SMF [G.652] is 2 meters [6.5 feet]).

**Table 1.** SFP Port Cabling Specifications

SFP	Wavelength (nm)	Fiber Type	Cable Distance
GLC-FE-100FX	1310	MMF	2 km (6562 ft)
GLC-FE-100LX	1310	SMF	10 km (32,810 ft)
GLC-FE-100BX-U	1310	SMF	10 km (32,810 ft)
GLC-FE-100BX-D	1550	SMF	10 km (32,810 ft)

## Standards

- Compatible with IEEE 802.3ah Draft 3.0
- Compatible with standard as specified in IEEE 802.3

Table 2 gives information about fiber loss.

**Table 2.** Fiber-Loss Budgets

SFP	Type	Transmit (dBm)		Receive (dBm)	
		Maximum	Minimum	Maximum	Minimum
GLC-FE-100FX	100BASE-FX	-14	-20	-14	-31
GLC-FE-100LX	100BASE-LX10	-8	-15	-8	-28
GLC-FE-100BX-U	100BASE-BX10-U	-8	-14	-7	-28.2
GLC-FE-100BX-D	100BASE-BX10-D	-8	-14	-7	-28.2

## Dimensions

- Dimensions (H x W x D): 8.5 x 13.4 x 56.5 mm

## Environmental Conditions and Power Requirements

- Operating temperature range: 0 to 50°C (32 to 122°F)
- Storage temperature range: -40 to 85°C (-40 to 185°F)

**Table 3.** Electrical Power Interface

Parameter	Symbol	Minimum	Typical	Maximum	Units
Supply Current	$I_s$	–	200	300	mA
Surge Current	$I^{\text{Surge}}$	–	–	30	mA
Input Voltage	$V^{\text{cc}}$	3.1	3.3	3.5	V

### Warranty

- Standard warranty: 90 days
- Extended warranty (option): Available under a Cisco SMARTnet™ support contract for the Cisco switch or router chassis

### ORDERING INFORMATION

Table 4 gives ordering information for the Cisco SFP.

**Table 4.** Ordering Cisco SFP

Product Number	SFP
GLC-FE-100FX	100BASE-FX SFP for Fast Ethernet SFP ports
GLC-FE-100LX	100BASE-LX10 SFP for Fast Ethernet SFP ports
GLC-FE-100BX-U	100BASE-BX10-U SFP for Fast Ethernet SFP ports
GLC-FE-100BX-D	100BASE-BX10-D SFP for Fast Ethernet SFP ports

### Regulatory and Standards Compliance

#### Safety

- Laser Class 1 21CFR1040

### ADDITIONAL INFORMATION

For more information about Cisco 100BASE-X SFPs for Fast Ethernet SFP ports, contact:

- United States and Canada: 800 553-6387
- Europe: 32 2 778 4242
- Australia: 61 2 9935 4107
- Other: 408 526-7209
- <http://www.cisco.com>

**Corporate Headquarters**

Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
www.cisco.com  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 526-4100

**European Headquarters**

Cisco Systems International BV  
Haarlerbergpark  
Haarlerbergweg 13-19  
1101 CH Amsterdam  
The Netherlands  
www-europe.cisco.com  
Tel: 31 0 20 357 1000  
Fax: 31 0 20 357 1100

**Americas Headquarters**

Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
www.cisco.com  
Tel: 408 526-7660  
Fax: 408 527-0883

**Asia Pacific Headquarters**

Cisco Systems, Inc.  
168 Robinson Road  
#28-01 Capital Tower  
Singapore 068912  
www.cisco.com  
Tel: +65 6317 7777  
Fax: +65 6317 7799

Cisco Systems has more than 200 offices in the following countries and regions. Addresses, phone numbers, and fax numbers are listed on **the Cisco Web site at [www.cisco.com/go/offices](http://www.cisco.com/go/offices).**

Argentina • Australia • Austria • Belgium • Brazil • Bulgaria • Canada • Chile • China PRC • Colombia • Costa Rica • Croatia • Cyprus • Czech Republic  
Denmark • Dubai, UAE • Finland • France • Germany • Greece • Hong Kong SAR • Hungary • India • Indonesia • Ireland • Israel • Italy • Japan • Korea  
Luxembourg • Malaysia • Mexico • The Netherlands • New Zealand • Norway • Peru • Philippines • Poland • Portugal • Puerto Rico • Romania • Russia  
Saudi Arabia • Scotland • Singapore • Slovakia • Slovenia • South Africa • Spain • Sweden • Switzerland • Taiwan • Thailand • Turkey • Ukraine  
United Kingdom • United States • Venezuela • Vietnam • Zimbabwe

Copyright © 2004 Cisco Systems, Inc. All rights reserved. CCIP, CCSP, the Cisco *Powered* Network mark, Cisco Unity, Follow Me Browsing, FormShare, and StackWise are trademarks of Cisco Systems, Inc.; Changing the Way We Work, Live, Play, and Learn, and iQuick Study are service marks of Cisco Systems, Inc.; and Aironet, ASIST, BPX, Catalyst, CCDA, CCDP, CCIE, CCNA, CCNP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, the Cisco IOS logo, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Empowering the Internet Generation, Enterprise/Solver, EtherChannel, EtherSwitch, Fast Step, GigaStack, Internet Quotient, IOS, IP/TV, iQ Expertise, the iQ logo, iQ Net Readiness Scorecard, LightStream, Linksys, MGX, MICA, the Networkers logo, Networking Academy, Network Registrar, *Packet*, PIX, Post-Routing, Pre-Routing, RateMUX, Registrar, ScriptShare, SlideCast, SMARTnet, StrataView Plus, Stratum, SwitchProbe, TeleRouter, The Fastest Way to Increase Your Internet Quotient, TransPath, and VCO are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or Web site are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0402R) 204108.81\_ETMG\_CM\_12.04

