enterasys® Secure Networks™

DATASHEET

Pluggable Transceivers

Industry Standard Pluggable Transceivers for Fast Ethernet, Gigabit, and 10 Gigabit Ethernet

Compatible and interoperable with Enterasys product platforms

High quality transceiver technology for extended life cycle that improves ROI and lowers TCO

Support for a large variety of cable types and transmission distances

Compliant with industry standard multi-source agreements for vendor-to-vendor compatibility

Overview

Enterasys pluggable transceivers deliver speed and media flexibility for Enterasys product platforms that support pluggable transceiver technology. All Enterasys transceivers are of the highest quality and conform to industry standards and manufacturer multi-source agreements for interoperability. Enterasys fully tests our transceivers with all product platforms to ensure compatibility and compliance.

Transceiver Summary

Multiple media types, port speeds and transmission distances to fit any environment

Enterasys transceivers provide connectivity options for Ethernet over twisted pair copper and fiber optic cables with transition speeds from 100 Megabits per second to 10 Gigabits per second. Twisted pair copper transceivers support transmission distances of up to 100 meters and fiber optic transceivers support multi-mode and single-mode fiber optic cable types with transmission distances up to 110 kilometers. Direct connect copper and fiber cable solutions with integrated transceivers provide low cost options for 10 Gigabit Ethernet connectivity at distances from 1 meter to 20 meters.

Fast Ethernet

Product Portfolio			100 Mbps Modular Interfaces		
			SFP Modules		
Category	Model	Sub-model	MGBIC-LC04	MGBIC-LC05	MGBIC-N-LC04
Stackable Switches	C3	C3K Models Only	√	√	√
	B5		√	√	√
	C5		√	√	√
Modular Chassis Products	N-Series	7G-6MGBIC-B	√	√	√
		7K-2XFP-6MGBIC	√	√	√
	S-Series		√	√	√
	K-Series		√	√	√
G-Series	G3		√	√	√
D-Series	D2		√	√	√

Benefits

Business Alignment

- Industry standard technology and form-factor
- Flexible interface selection to accommodate and take advantage of existing cabling infrastructure

Operational Efficiency

- Highest quality for extended life cycle and for the best possible return on investment
- Fully tested with all applicable Enterasys products

Interoperability and Quality

- Designed and manufactured to stringent IEEE standards and manufacturer multi-source agreements to ensure interoperability
- The highest quality transceiver technology to ensure long life cycle and reliability

Support and Services

- Industry-leading customer satisfaction and first call resolution rates
- Personalized services, including site surveys, network design, installation, and training

There is nothing more important than our customers.

Transceiver Compatibility

Gigabit Ethernet

Product Portfolio			1 Gbps Ethernet Modular Interfaces												
			SFP Modules												
Category	Model	Sub-model	MGBIC-02	MGBIC-08	MGBIC-LC01	MGBIC-LC03	MGBIC-LC07	MGBIC-LC09	MGBIC-BX10-D MGBIC-BX10-U	MGBIC-MT01	I-MGBIC-GLX	I-MGBIC-GSX	I-MGBIC-GZX	I-MGBIC-GTX	I-MGBIC-LC03
Stackable Switches	A2		√	√	√	√	√	√	√	√					
	A4		√	√	√	√	√	√	√	√					
	B2		√	√	√	√	√	√	√	√					
	B3		√	√	√	√	√	√	√	√					
	C2		√	√	√	√	√	√	√	√					
	C3		√	√	√	√	√	√	√	√					
	B5		√	√	√	√	√	√	√	√					
	C5		√	√	√	√	√	√	√	√					
Modular Chassis Products	N-Series		√	√	√	√	√	√	√	√					
	S-Series		√	√	√	√	√	√	√	√					
	K-Series		√	√	√	√	√	√	√	√					
	X-Series		√	√	√	√	√	√	√	√					
	E1		√	√	√	√		√	√	√					
XSR	XSR				√			√		√					
G-Series	G3		√	√	√	√	√	√	√	√					
D-Series	D2		√	√	√	√	√	√	√	√					
I-Series	I-Series										√	√	√	√	√
Security	NAC	2S4082-25-SYS 7S4280-19-SYS	√	√	√	√	√	√	√	√					

10 Gigabit Ethernet

Product Portfolio			10 Gbps Ethernet Modular Interfaces																		
			XFP Modules						XENPAK Modules				SFP+ Modules				SFP+ Interconnect Cable Assemblies			Laserwire Cables	
Category	Model	Sub-model	10GBASE-CX4-XFP	10GBASE-SR-XFP	10GBASE-LRM-XFP	10GBASE-LR-XFP	10GBASE-ER-XFP	10GBASE-ZR-XFP	10GBASE-LX4	10GBASE-SR	10GBASE-LR	10GBASE-ER	10GB-SR-SFPP	10GB-LR-SFPP	10GB-LRM-SFPP	10GB-ER-SFPP	10GB-C01-SFPP	10GB-C03-SFPP	10GB-C10-SFPP	10GB-LW-SFPP	10GB-LW-XFP
Stackable Switches	C2	C2K122-24	√	√	√	√	√	√													√
	C3	C3K-2XFP	√	√	√	√	√	√													√
	B5												√	√	√	√	√	√	√	√	
	C5												√	√	√	√	√	√	√	√	
Modular Chassis Products	N-Series	7KR4290-02							√	√	√	√									
		7KR4297-xx	√	√	√	√	√	√													
		7K-2XFP-6MGBIC	√	√	√	√	√	√													√
	S-Series												√	√	√	√	√	√	√	√	
	K-Series												√	√	√	√	√	√	√	√	
	X-Series	X-M2 & -M8 IOMs	√	√	√	√	√	√													√
G-Series	G3	G3K- IOMs	√	√	√	√	√	√													√

Transceiver Specifications

	Type	Connector Type	Cable Type	Core Size (microns)	Modal B/W MHz-Km	Max Distance*	Wavelength nm	Tx Power Min/Max dBm	Rx Min/Max dBm	Link Power Budget dB	Notes
10 Gigabit Ethernet											
10GBASE-ZR-XFP	XFP	LC	SMF	9	-	80 km	1550	0 / 4.0	-25 / -7.0	25	Requires minimum 11 dB attenuation
10GBASE-ER**	XENPAK	SC	SMF	9	-	40 km	1550	-1 / 2	-16 / -1.0	15	Requires minimum 3 dB attenuation. Links longer than 30 km require attenuation to be less than the minimum for B1.1 or B1.3 single mode fiber.
10GBASE-ER-XFP	XFP	LC									
10GB-ER-SFPP	SFP+	LC									
10GBASE-LR**	XENPAK	SC	SMF	9	-	10 km	1310	-8.2 / 0.5	-14.4 / 0.5	6.2	
10GBASE-LR-XFP	XFP	LC									
10GB-LR-SFPP	SFP+	LC									
10GBASE-SR**	XENPAK	SC	MMF	62.5 (OM1) 50 (OM2) 50 (OM3) 50 (OM4)	200 500 2000 4700	33 m 82 m 300 m 550 m	850	-7.3 / -1.0	-9.9 / -1.0	2.6	
10GBASE-SR-XFP	XFP	LC									
10GB-SR-SFPP	SFP+	LC									
10GBASE-LRM-XFP	XFP	LC	MMF	62.5 (OM1) 50 (OM2) 50 (OM3)	500 500 500	220 m 220 m 220 m	1310	-4.5 / 1.5	-6.5 / 1.5	2	XFP - OM1 and OM2 requires MCP
10GB-LRM-SFPP	SFP+										SFP+ - No Mode Conditioning Patch cord (MC)P required
10GBASE-LX4**	XENPAK	SC	MMF	62.5 / 50	500	300 m	1275, 1300, 1325, 1350	-7.3 / -1.0	-9.9 / -1.0	2.6	OM1 and OM2 MMF require mode conditioning patch cords.
10GBASE-CX4-XFP	XFP	CX4	Copper CX4	-	-	15 m	-	-	-	-	Compatible with CX4 compliant cable up to 15 m in length
10GB-C01-SFPP	SFP+	Integrated SFP+	Copper	-	-	1 m 3 m 10 m	-	-	-	-	Pre-terminated copper cable with integrated SFP+ connector modules
10GB-C03-SFPP											
10GB-C10-SFPP											
10GB-LW-SFPP	SFP+	-	-	-	-	-	-	-	-	-	Laserwire (LW) SFP+ Adapter
10GB-LW-XFP	XFP										Laserwire (LW) XFP adapter
10GB-LW-03	LW Adapter	Integrated LW	MMF	-	-	3 m	850	-	-	-	Pre-terminated Laserwire cable with integrated transceivers. Requires the use of SFP+ or XFP adapters.
10GB-LW-05						5 m					
10GB-LW-10						10 m					
10GB-LW-20						20 m					

** Transmission distances are provided as a nominal guide only. Refer to the optical specifications and the specific characteristics of your fiber installation to determine achievable distances.*

*** Discontinued product. Specifications for reference only.*

Transceiver Specifications (cont.)

	Type	Connector Type	Cable Type	Core Size (microns)	Modal B/W MHz-Km	Max Distance*	Wavelength nm	Tx Power Min/Max dBm	Rx Min/Max dBm	Link Power Budget dB	Notes
Gigabit Ethernet											
MGBIC-LC07	SFP	LC	SMF	9	-	110 km	1550	0 / +5.0	-30 / -9	30	Requires minimum 14 dB attenuation
MGBIC-08	SFP	LC	SMF	9	-	80 km	1550	0 / +5.0	-24.0 / -3	24	Requires minimum 8 dB attenuation
I-MGBIC-GZX	SFP										I-MGBIC for I-Series only -40° to +60° C
MGBIC-LC09	SFP	LC	SMF	9	-	10 km	1310	-9.5 / -3	-20 / -3	10.5	
I-MGBIC-GLX	SFP										I-MGBIC for I-Series only -40° to +60° C
MGBIC-BX10-D	SFP	Simplex LC	SMF	9	-	10 km	Tx 1490 Rx 1310	-9 / -3	-22 / -3	13	Single fiber application SFP's must be used in -D and -U pairs
MGBIC-BX10-U							Tx 1310 Rx 1490				
MGBIC-LC03	SFP	LC	MMF	62.5 50	160 400	2 Km 1 Km	1310	-9 / -1	-19 / -1	10	No mode conditioning patch cords required
I-MGBIC-LC03											I-Series only -40° to +60° C
MGBIC-LC01	SFP	LC	MMF	62.5 62.5 50 50	160 200 400 500	220 m 275 m 500 m 550 m	850	-9.5 / -3	-17 / 0	7.5	I-MGBIC for I-Series only -40° to +60° C
I-MGBIC-GSX	SFP	LC									
MGBIC-MT01	SFP	MTRJ									
MGBIC-02	SFP	RJ45	Cat5, Twisted Pair	-	-	100 m	-	-	-	-	Gigabit only
I-MGBIC-GTX	SFP										I-Series only -40° to +60° C
100 Megabit Ethernet											
MGBIC-LC05	SFP	LC	SMF	9	-	10 km	1310	-15 / -8	-28 / -8	13	
MGBIC-LC04	SFP	LC	MMF	62.5 50	160 400	2 km	1310	-20 / -15	-30 / -14	10	Same as MGBIC-N-LC04

** Transmission distances are provided as a nominal guide only. Refer to the optical specifications and the specific characteristics of your fiber installation to determine achievable distances.*

Ordering Information

Part Number	Description
10 Gigabit Ethernet	
10GB-ER-SFPP	10 Gb, 10GBASE-ER, IEEE 802.3 SM, 1550 nm Long Wave Length, 40 km, LC SFP+
10GB-LR-SFPP	10 Gb, 10GBASE-LR, IEEE 802.3 SM, 1310 nm Long Wave Length, 10 km, LC SFP+
10GB-LRM-SFPP	10 Gb, 10GBASE-LRM, IEEE 802.3 MM, 1310 nm Short Wave Length, 220 m, LC SFP+
10GB-SR-SFPP	10 Gb, 10GBASE-SR, IEEE 802.3 MM, 850 nm Short Wave Length, 33/82 m, LC SFP+
10GBASE-ZR-XFP	10 Gb, 10GBASE-ZR, SM, 1550 nm Long Wave Length, 80 km, LC XFP
10GBASE-ER-XFP	10 Gb, 10GBASE-ER, IEEE 802.3 SM, 1550 nm Long Wave Length, 40 km, LC XFP
10GBASE-LR-XFP	10 Gb, 10GBASE-LR, IEEE 802.3 SM, 1310 nm Long Wave Length, 10 km, LC XFP
10GBASE-LRM-XFP	10 Gb, 10GBASE-LRM, IEEE 802.3 MM, 1310 nm Long Wave Length, 220 m, LC XFP
10GBASE-SR-XFP	10 Gb, 10GBASE-SR, IEEE 802.3 MM, 850 nm Short Wave Length, 33/82 m, LC XFP
10GBASE-CX4-XFP	10 Gb, 10GBASE-CX4, IEEE 802.3 TwinAxial, Copper SFF-8470, 15 m, LC XFP
10 Gigabit Ethernet Cables and Interconnects	
10GB-C10-SFPP	10 Gb, pluggable copper cable assembly with integrated SFP+ transceivers, 10 meters
10GB-C03-SFPP	10 Gb, pluggable copper cable assembly with integrated SFP+ transceivers, 3 meters
10GB-C01-SFPP	10 Gb, pluggable copper cable assembly with integrated SFP+ transceivers, 1 meter
CX4-CBL-15	CX4 cable, 15 meters
CX4-CBL-05	CX4 cable, 5 meters
CX4-CBL-02	CX4 cable, 2 meters
10GB-LW-SFPP	10Gb, Laserwire® SFP+ adapter for use with Laserwire cable assembly*
10GB-LW-XFP	10Gb, Laserwire® XFP adapter for use with Laserwire cable assembly*
10GB-LW-20	10Gb, Laserwire® cable assembly, (requires Laserwire SFP+ or XFP adapters), 20 meters*
10GB-LW-10	10Gb, Laserwire® cable assembly, (requires Laserwire SFP+ or XFP adapters), 10 meters*
10GB-LW-05	10Gb, Laserwire® cable assembly, (requires Laserwire SFP+ or XFP adapters), 5 meters*
10GB-LW-03	10Gb, Laserwire® cable assembly, (requires Laserwire SFP+ or XFP adapters), 3 meters*
Gigabit Ethernet	
MGBIC-LC07	1 Gb, 802.3 SM,1550 nm,110 km,LC SFP
MGBIC-08	1 Gb, 1000BASE-LX/LH, IEEE 802.3 SM, 1550 nm Long Wave Length, 80 km, LC SFP
MGBIC-LC09	1 Gb, 1000BASE-LX, IEEE 802.3 SM, 1310 nm Long Wave Length, 10 km, LC SFP
MGBIC-LC03	1 Gb, 1000BASE-LX, MM, 1310 nm Long Wave Length, 2 km, LC SFP
MGBIC-BX10-D	1 Gb, 1000Base-BX10-D Single Fiber SM, Bidirectional, 1490nm Tx / 1310nm Rx, 10 km, Simplex LC SFP (must be paired with MGBIC-BX10-U)
MGBIC-BX10-U	1 Gb, 1000Base-BX10-U Single Fiber SM, Bidirectional 1310nm Tx / 1490nm Rx, 10 km, Simplex LC SFP (must be paired with MGBIC-BX10-D)
MGBIC-LC01	1 Gb, 1000BASE-SX, IEEE 802.3 MM, 850 nm Short Wave Length, 220/550 m, LC SFP
MGBIC-MT01	1 Gb, 1000BASE-SX, IEEE 802.3 MM, 850 nm Short Wave Length, 220/550 m, MTRJ SFP
MGBIC-02	1 Gb, 1000BASE-T, IEEE 802.3 Cat5, Copper Twisted Pair, 100 m, RJ 45 SFP
I-MGBIC-GZX	I-Series Only, -40°C to +60°C, 1 Gb, 1000BASE-LX/LH, IEEE 802.3 SM, 1550 nm Long Wave Length, 80 km, LC SFP
I-MGBIC-GLX	I-Series Only, -40°C to +60°C, 1 Gb, 1000BASE-LX, MM - 550 m, SM - 10 km, 1310 nm Long Wave Length, LC SFP
I-MGBIC-LC03	I-Series Only, -40°C to +60°C, 1 Gb, 1000BASE-LX, MM, 1310 nm, 2 km with 62.5 MMF, 1 km with 50 MMF, LC SFP
I-MGBIC-GSX	I-Series Only, -40°C to +60°C, 1 Gb, 1000BASE-SX, IEEE 802.3 MM, 850 nm Short Wave Length, 220/550 m, LC SFP
I-MGBIC-GTX	I-Series Only, -40°C to +60°C, 1 Gb, 1000BASE-T, IEEE 802.3 Cat5, Copper Twisted Pair, 100 m, RJ 45 SFP
100 Megabit Ethernet	
MGBIC-LC05	100 Mb, 100BASE-LX10, IEEE 802.3 SM, 1310 nm Long Wave Length, 10 km, LC SFP
MGBIC-LC04	100 Mb, 100BASE-FX, IEEE 802.3 MM, 1310 nm Long Wave Length, 2 km, LC SFP

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Standards

SFP MSA INF-8074i
SFP+ MSA SFF-8431
XFP MSA INF-8077i

Laser Safety

Class I Laser Eye Safety Compliance:
IEC 60825
FDA/CFH Title 21
OSHA TED 01-00-015

Additional eye safety notice:
Fiber optic transceivers operate in the infrared spectrum, outside of the visible spectrum. Users should always avoid looking directly into any laser transmission path.

Enterasys Third Party Transceiver Policy

Enterasys provides a wide range of fully tested and interoperable transceivers for use in our product platforms. Enterasys makes no claim or guarantee that any third party transceiver will operate correctly or at all when used in an Enterasys product. Enterasys strongly advises our customers to always use Enterasys transceivers in our product platforms to ensure compatibility with the product platform and interoperability with other industry standard transceiver devices.

Enterasys is not liable for and will not support Enterasys products that are found to be defective if the cause of the product failure is due to the use of a third party transceiver. Enterasys does not express or imply any warranty or support obligations for any third party transceivers.

Warranty

Enterasys Transceivers come with a one year hardware warranty. For full warranty terms and conditions please go to http://www.enterasys.com/support/warranty.aspx.

Service and Support

Enterasys Networks provides comprehensive service offerings that range from Professional Services to design, deploy and optimize customer networks, customized technical training, to service and support tailored to individual customer needs. Please contact your Enterasys account executive for more information about Enterasys Service and Support.

Contact Us

For more information, call Enterasys Networks toll free at 1-877-801-7082, or +1-978-684-1000 and visit us on the Web at enterasys.com

Thought Leadership
Patented Innovation

enterasys® Secure Networks™

03/11

Delivering on our promises. On-time. On-budget.