

# IM Module Series

2-port Gigabit Ethernet and 4-port Fast Ethernet modules for the EDS-728/828 Series



## Features and Benefits

- Modular design lets you choose from a variety of media combinations
- Modular design makes port expansion easy

## Certifications



## Introduction

The IM Module Series has been designed for Moxa's EDS-728 Series and EDS-828 Series modular switches. The IM Module Series includes 6 Fast Ethernet modules, each with 4 ports supporting the TX, MSC, SSC, and MST media types. In addition, the IM Module Series includes 2 Gigabit Ethernet modules, one with 2 copper ports, and one with 2 fiber ports. Multiple modules can be used with the EDS-728 and EDS-828 switches, allowing each switch to support up to 24 Fast Ethernet ports and 4 Gigabit Ethernet ports.

## Specifications

### Ethernet Interface

10/100/1000BaseT(X) Ports (RJ45 connector)	IM-2GTX: 2, Auto negotiation speed, Auto MDI/MDI-X connection
1000BaseSFP Slots	IM-2GSFP: 2
10/100BaseT(X) Ports (RJ45 connector)	IM-2MSC/2TX, IM-2MST/2TX, IM-2SSC/2TX: 2 IM-1LSC/3TX: 3, IM-4TX: 4  Supported functions: Auto negotiation speed Full/Half duplex mode Auto MDI/MDI-X connection
100BaseFX Ports (multi-mode SC connector)	IM-2MSC/2TX: 2 IM-4MSC: 4
100BaseFX Ports (multi-mode ST connector)	IM-2MST/2TX: 2 IM-4MST: 4
100BaseFX Ports (single-mode SC connector)	IM-2SSC/2TX: 2 IM-4SSC: 4

100BaseFX Ports, Single-Mode SC Connector, 80 km	IM-1LSC/3TX: 1				
Optical Fiber			100BaseFX		
			Multi-Mode	Single-Mode	
	Fiber Cable Type		OM1	50/125 μm	G.652
				800 MHz x km	
	Typical Distance		4 km	5 km	40 km
	Wavelength	Typical (nm)		1300	
		TX Range (nm)		1260 to 1360	
		RX Range (nm)		1100 to 1600	
	Optical Power	TX Range (dBm)		-10 to -20	
		RX Range (dBm)		-3 to -32	
		Link Budget (dB)		12	
		Dispersion Penalty (dB)		3	
	<p>Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.</p> <p>Note: Compute the “typical distance” of a specific fiber transceiver as follows: Link budget (dB) &gt; dispersion penalty (dB) + total link loss (dB).</p>				

#### LED Interface

LED Indicators	Fast Ethernet Modules: PWR, P1, P2, P3, P4 port status Gigabit Modules: Port status
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#### Power Parameters

Power Consumption	IM-1LSC/3TX: 2.12 W (max.) IM-2GSFP: 2.96 W (max.) IM-2GTX: 3.04 W (max.) IM-2MSC/2TX, IM-2MST/2TX, IM-2SSC/2TX: 2.06 W (max.) IM-4MSC, IM-4MST, IM-4SSC: 6.6 W (max.) IM-4TX: 1.29 W (max.)
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#### Physical Characteristics

Housing	IP30
Dimensions	Fast Ethernet Modules: 40 x 127.8 x 100 mm (1.57 x 5.03 x 3.94 in) Gigabit Modules: 24 x 65.9 x 101.1 mm (0.94 x 2.59 x 3.98 in)
Weight	IM-1LSC/3TX: 235 g (0.52 lb) IM-2GSFP: 150 g (0.33 lb) IM-2GTX: 148 g (0.33 lb) IM-2MSC/2TX, IM-2SSC/2TX: 245 g (0.54 lb) IM-2MST/2TX, IM-4MSC: 250 g (0.56 lb) IM-4MST, IM-4SSC: 270 g (0.6 lb) IM-4TX: 215 g (0.48 lb)

#### MTBF

Standards	Telcordia (Bellcore), GB
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#### Warranty

Warranty Period	5 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>

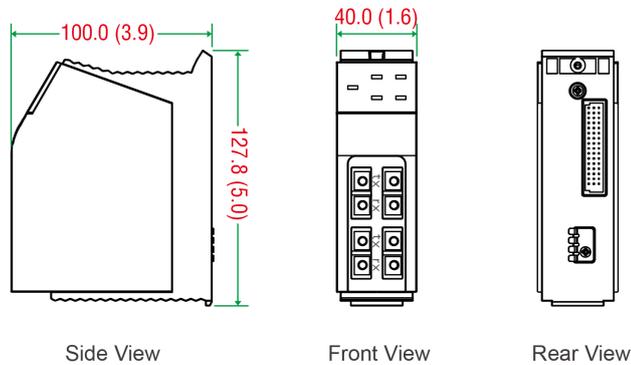
## Package Contents

Device	1 x IM Module Series module
Documentation	1 x warranty card

## Dimensions

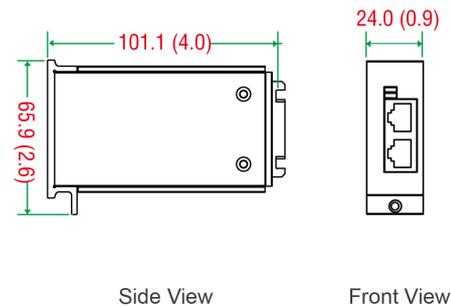
### Fast Ethernet Interface Modules

Unit: mm (inch)



### Gigabit Ethernet Interface Modules

Unit: mm (inch)



## Ordering Information

Model Name	10/100/1000BaseT(X) Ports RJ45 Connector	1000Base SFP	10/100BaseT(X) Ports RJ45 Connector	100BaseFX Ports Multi-Mode SC Connector	100BaseFX Ports Multi-Mode ST Connector	100BaseFX Ports Single-Mode SC Connector	100BaseFX Ports Single-Mode SC Connector, 80 km
IM-2GTX	2	-	-	-	-	-	-
IM-2GSFP	-	2	-	-	-	-	-
IM-4TX	-	-	4	-	-	-	-
IM-4MSC	-	-	-	4	-	-	-
IM-4MST	-	-	-	-	4	-	-
IM-2MSC/2TX	-	-	2	2	-	-	-
IM-2MST/2TX	-	-	2	-	2	-	-
IM-4SSC	-	-	-	-	-	4	-
IM-2SSC/2TX	-	-	2	-	-	2	-
IM-1LSC/3TX	-	-	3	-	-	-	1

## Accessories (sold separately)

### SFP Modules

SFP-1G10ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G10ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G10BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G10BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G20ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature

SFP-1G20ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G20BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G20BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G40ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G40ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G40BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G40BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1GEZXC	SFP module with 1 1000BaseEZC port with LC connector for 110 km transmission, 0 to 60°C operating temperature
SFP-1GEZXC-120	SFP module with 1 1000BaseEZC port with LC connector for 120 km transmission, 0 to 60°C operating temperature
SFP-1GLHLC	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, 0 to 60°C operating temperature
SFP-1GLHLC-T	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, -40 to 85°C operating temperature
SFP-1GLHXC	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, 0 to 60°C operating temperature
SFP-1GLHXC-T	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-1GLSXC	SFP module with 1 1000BaseLSX port with LC connector for 500 m transmission, 0 to 60°C operating temperature
SFP-1GLSXC-T	SFP module with 1 1000BaseLSX port with LC connector for 500 m transmission, -40 to 85°C operating temperature
SFP-1GLXC	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature
SFP-1GLXC-T	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-1GSXC	SFP module with 1 1000BaseSX port with LC connector for 300/550 m transmission, 0 to 60°C operating temperature
SFP-1GSXC-T	SFP module with 1 1000BaseSX port with LC connector for 300/550 m transmission, -40 to 85°C operating temperature
SFP-1GZXC	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, 0 to 60°C operating temperature
SFP-1GZXC-T	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, -40 to 85°C operating temperature

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