

IMC-101G Series

Industrial Gigabit Ethernet-to-fiber media converters



Features and Benefits

- 10/100/1000BaseT(X) and 1000BaseSFP slot supported
- Link Fault Pass-Through (LFPT)
- Power failure, port break alarm by relay output
- Redundant power inputs
- -40 to 75°C operating temperature range (-T models)
- Designed for hazardous locations (Class 1 Div. 2/Zone 2, IECEx)
- More than 20 options available¹

Certifications



Introduction

The IMC-101G industrial Gigabit modular media converters are designed to provide reliable and stable 10/100/1000BaseT(X)-to-1000BaseSX/LX/LHX/ZX media conversion in harsh industrial environments. The IMC-101G's industrial design is excellent for keeping your industrial automation applications running continuously, and each IMC-101G converter comes with a relay output warning alarm to help prevent damage and loss. All IMC-101G models are subjected to a 100% burn-in test, and they support a standard operating temperature range of 0 to 60°C and an extended operating temperature range of -40 to 75°C.

Specifications

Ethernet Interface

10/100/1000BaseT(X) Ports (RJ45 connector)	1
100/1000BaseSFP Ports	1
Magnetic Isolation Protection	1.5 kV (built-in)

Optical Fiber

		Gigabit Ethernet SFP			
		SFP-LHX	SFP-ZX	SFP-EZX	SFP-EZX-120
Transceiver Type		Single-mode	Single-mode	Single-mode	Single-mode
Fiber Cable Type		G.652	G.652	G.652	G.652
Typical Distance		40 km	80 km	110 km	120 km
Wavelength	Typical (nm)	1310	1550	1550	1550
	TX Range (nm)	1280 to 1340	1530 to 1570	1530 to 1570	1530 to 1570
	RX Range (nm)	1260 to 1610	1260 to 1610	1260 to 1610	1100 to 1600
Optical Power	TX Range (dBm)	+3 to -4	+5 to 0	+5 to 0	+3 to -2
	RX Range (dBm)	-1 to -24	-1 to -24	-9 to -30	-8 to -33
	Link Budget (dB)	20	24	30	31

1. See the SFP-1G Series datasheet for details.

		Gigabit Ethernet SFP			
		SFP-LHX	SFP-ZX	SFP-EZX	SFP-EZX-120
Dispersion Penalty (dB)		1	1	1	2

Note: When connecting the SFP-LHX, ZX, EZX, or EZX-120, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.

		Gigabit Ethernet SFP					
		SFP-SX		SFP-LSX		Single-mode	Single-mode
Transceiver Type		Multi-Mode		Multi-Mode		Single-mode	Single-mode
Fiber Cable Type		OM1	OM2	OM2	OM1	G.652	G.652
Typical Distance		300 m	550 m	1 km	2 km	10 km	30 km
Wavelength	Typical (nm)	850		1310		1310	1310
	TX Range (nm)	830 to 860		1270 to 1355		1280 to 1355	1280 to 1355
	RX Range (nm)	770 to 860		1260 to 1610		1260 to 1610	1260 to 1610
Optical Power	TX Range (dBm)	-4 to -9.5		-1 to -9		-3 to -9	-3 to -8
	RX Range (dBm)	0 to -18		-1 to -19		-3 to -21	-3 to -23
	Link Budget (dB)	8.5		10		12	15
	Dispersion Penalty (dB)	4.3	3.6	5	5	1	1

Note: When connecting the SFP-LHX, ZX, EZX, or EZX-120, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.

Power Parameters

Input Current	220 mA @ 12 VDC
Input Voltage	12 to 45 VDC
Overload Current Protection	Supported
Power Connector	Terminal block
Power Consumption	220 mA @ 12 VDC

Physical Characteristics

Housing	Metal
Dimensions	53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)
Weight	630 g (1.39 lb)
Installation	DIN-rail mounting

Environmental Limits

Operating Temperature	Standard Models: 0 to 60°C (32 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMC	EN 55032/24
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m IEC 61000-4-8 PFMF IEC 61000-4-11 DIPs
Environmental Testing	IEC 60068-2-1 IEC 60068-2-2 IEC 60068-2-3
Safety	EN 60950-1 UL 60950-1
Vibration	IEC 60068-2-6
Hazardous Locations	-IEX models: IECEx

MTBF

Time	500,540 hrs
Standards	Telcordia (Bellcore), GB

Warranty

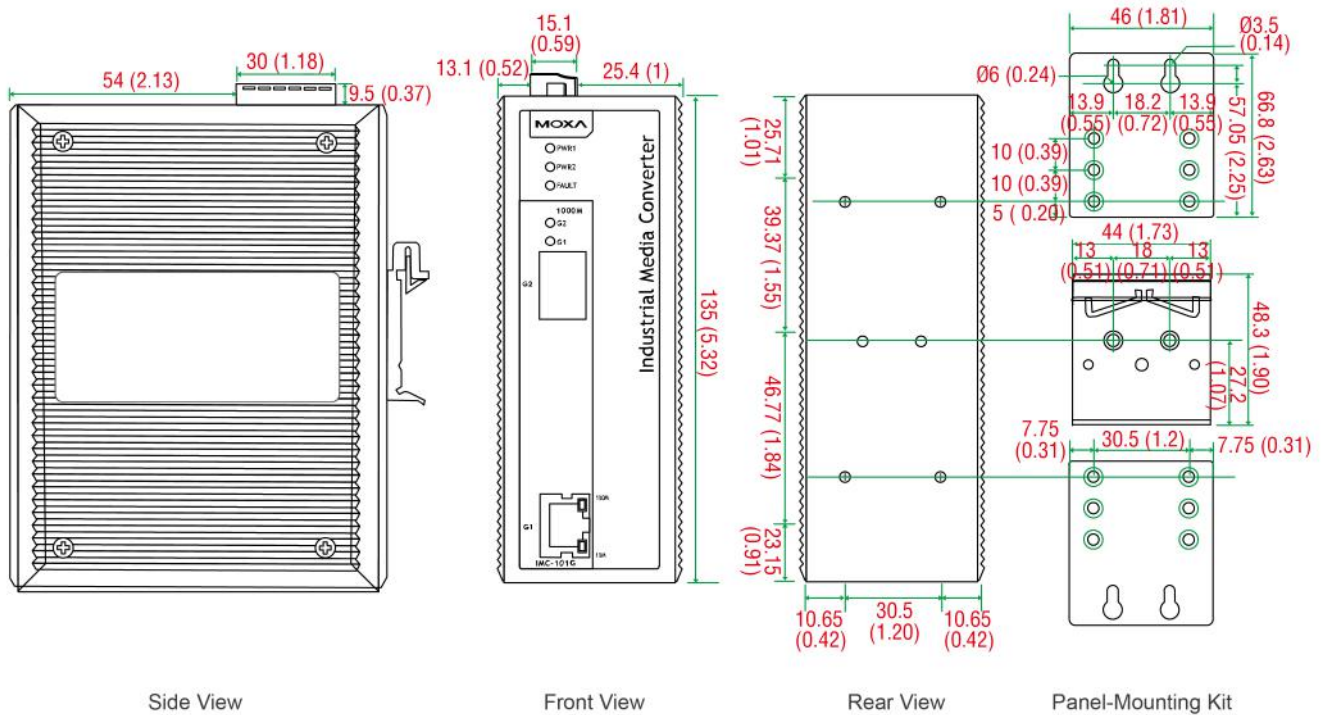
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x IMC-101G Series converter
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	Operating Temp.	IECEx Supported
IMC-101G	0 to 60°C	-
IMC-101G-T	-40 to 75°C	-
IMC-101G-IEX	0 to 60°C	✓
IMC-101G-T-IEX	-40 to 75°C	✓

Accessories (sold separately)

SFP Modules

SFP-1GLHXLC	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, 0 to 60°C operating temperature
SFP-1GLHXLC-T	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-1GLXLC	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature
SFP-1GLXLC-T	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-1GZXLC	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, 0 to 60°C operating temperature
SFP-1GZXLC-T	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, -40 to 85°C operating temperature

Power Supplies

DR-4524	45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 50°C operating temperature
DR-75-24	75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 60°C operating temperature

DR-120-24	120W/2.5A DIN-rail 24 VDC power supply with universal 88 to 132 VAC or 176 to 264 VAC input by switch, or 248 to 370 VDC input, -10 to 60°C operating temperature
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Rack-Mounting Kits

RK-4U	19-inch rack-mounting kit
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Wall-Mounting Kits

WK-46	Wall-mounting kit, 2 plates, 8 screws, 46.5 x 66.8 x 1 mm
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