IMC-101 Series

Industrial Ethernet-to-fiber media converters

Features and Benefits

- 10/100BaseT(X) auto-negotiation and auto-MDI/MDI-X
- 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)

Certifications

c(UL)us LISTED   CE   FC

Introduction

The IMC-101 industrial media converters provide industrial-grade media conversion between 10/100BaseT(X) and 100BaseFX (SC/ST connectors). The IMC-101 converters' reliable industrial design is excellent for keeping your industrial automation applications running continuously, and each IMC-101 converter comes with a relay output warning alarm to help prevent damage and loss. The IMC-101 media converters are designed for harsh industrial environments, such as in hazardous locations (Class 1, Division 2/Zone 2, IECEx, DNV, and GL Certification), and comply with FCC, UL, and CE standards. Models in the IMC-101 Series support an operating temperature from 0 to 60°C, and an extended operating temperature from -40 to 75°C. All IMC-101 converters are subjected to a 100% burn-in test.

Specifications

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	1
100BaseFX Ports (multi-mode SC connector)	IMC-101-M-SC/M-SC-IEX Series: 1
100BaseFX Ports (multi-mode ST connector)	IMC-101-M-ST/M-ST-IEX Series: 1
100BaseFX Ports (single-mode SC connector)	IMC-101-S-SC/S-SC-80/S-SC-IEX/S-SC-80-IEX Series: 1
Magnetic Isolation Protection	1.5 kV (built-in)

Optical Fiber

		100BaseFX		
		Multi-Mode	Single-Mode (40 km)	Single-Mode (80 km)
Fiber Cable Type	OM1	50/125 µm / 800 MHz x km	G.652	G.652
Typical Distance	4 km	5 km	40 km	80 km
Wave-length	Typical (nm)	1300	1310	1550
	TX Range (nm)	1260 to 1360	1280 to 1340	1530 to 1570
	RX Range (nm)	1100 to 1600	1100 to 1600	1100 to 1600
Optical Power	TX Range (dBm)	-10 to -20	0 to -5	0 to -5
	RX Range (dBm)	-3 to -32	-3 to -34	-3 to -34

		100BaseFX		
		Multi-Mode	Single-Mode (40 km)	Single-Mode (80 km)
Fiber Cable Type	OM1	50/125 µm	G.652	G.652
		800 MHz x km		
Link Budget (dB)		12	29	29
Dispersion Penalty (dB)		3	1	1

Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.
Note: Compute the "typical distance" of a specific fiber transceiver as follows: Link budget (dB) > dispersion penalty (dB) + total link loss (dB).

Power Parameters

Input Current	200 mA @ 12 to 45 VDC
Input Voltage	12 to 45 VDC
Overload Current Protection	Supported
Power Connector	Terminal block
Power Consumption	200 mA @ 12 to 45 VDC

Physical Characteristics

IP Rating	IP30
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) 0 to 60°C (32 to 140°F) -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: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 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	Standard models: UL/cUL Class I Division 2 Groups A/B/C/D -IEX models: UL/cUL Class I Division 2 Groups A/B/C/D, ATEX Zone 2, IECEx

MTBF

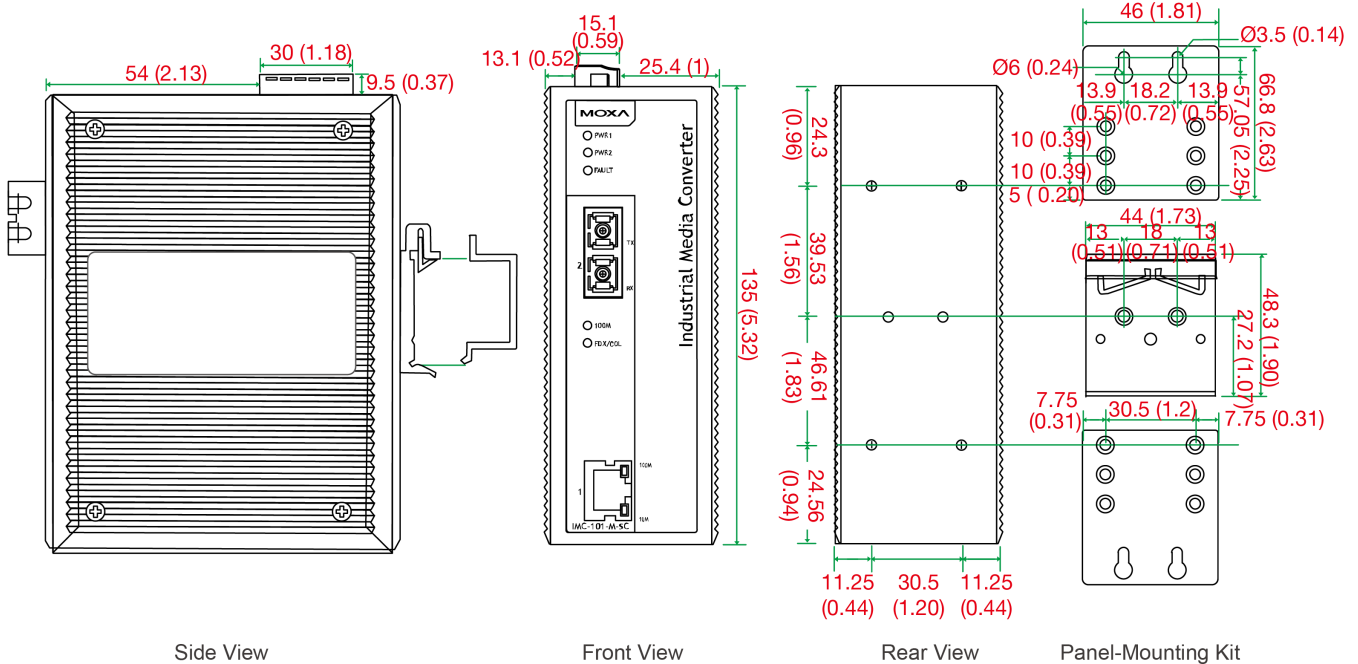| Time	401,000 hrs
Standards	MIL-HDBK-217F

Warranty

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

Package Contents

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

Dimensions

Unit: mm (inch)

Side View   Front View   Rear View   Panel-Mounting Kit

Ordering Information

Model Name	Operating Temp.	Fiber Module Type	IECEx	Fiber Transmission Distance
IMC-101-M-SC	0 to 60°C	Multi-mode SC	–	5 km
IMC-101-M-SC-T	-40 to 75°C	Multi-mode SC	–	5 km
IMC-101-M-SC-IEX	0 to 60°C	Multi-mode SC	✓	5 km
IMC-101-M-SC-T-IEX	-40 to 75°C	Multi-mode SC	✓	5 km
IMC-101-M-ST	0 to 60°C	Multi-mode ST	–	5 km
IMC-101-M-ST-T	-40 to 75°C	Multi-mode ST	–	5 km

Model Name	Operating Temp.	Fiber Module Type	IECEx	Fiber Transmission Distance
IMC-101-M-ST-IEX	0 to 60°C	Multi-mode ST	✓	5 km
IMC-101-M-ST-T-IEX	-40 to 75°C	Multi-mode ST	✓	5 km
IMC-101-S-SC	0 to 60°C	Single-mode SC	–	40 km
IMC-101-S-SC-T	-40 to 75°C	Single-mode SC	–	40 km
IMC-101-S-SC-IEX	0 to 60°C	Single-mode SC	✓	40 km
IMC-101-S-SC-T-IEX	-40 to 75°C	Single-mode SC	✓	40 km
IMC-101-S-SC-80	0 to 60°C	Single-mode SC	–	80 km
IMC-101-S-SC-80-T	-40 to 75°C	Single-mode SC	–	80 km

Accessories (sold separately)

DIN-Rail Mounting Kits

DK-DC50131-01	DIN-rail mounting kit, 6 screws

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-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
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

Wall-Mounting Kits

WK-46	Wall-mounting kit, 2 plates, 8 screws, 46.5 x 66.8 x 1 mm
WK-51-01	Wall mounting kit with 2 plates (51.6 x 67 x 2 mm) and 6 screws

Rack-Mounting Kits

RK-4U	19-inch rack-mounting kit

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