

IMC-101 Series

Industrial Ethernet-to-fiber media converters



- > 10/100BaseT(X) auto-negotiation and auto-MDI/MDI-X
- > Link Fault Pass-Through (LFP)
- > 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)



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. The IMC-101 series is available in models that support an operating temperature from 0 to 60°C, and an extended operating temperature from -40 to 75°C. All IMC-101 series converters are subjected to a 100% burn-in test.

Specifications

Technology

Standards:

IEEE 802.3 for 10BaseT

IEEE 802.3u for 100BaseT(X) and 100BaseFX

Interface

RJ45 Ports: 10/100BaseT(X)

Fiber Ports: 100BaseFX (SC/ST connectors)

LED Indicators: PWR1, PWR2, FAULT, 10/100M (TP port), 100M (Fiber port), FDx/COL (Fiber port)

DIP Switches: 100BaseFX Full/Half duplex selection, port break alarm mask

Alarm Contact: One relay output with current carrying capacity of 1 A @ 24 VDC

Optical Fiber

Fiber Cable Type	100BaseFX		
	OM1	Multi-Mode	Single-Mode
		50/125 μm 800 MHz*km	G.652
Typical Distance	4 km	5 km	40 km
Wave-length	Typical (nm)	1300	1310
	TX Range (nm)	1260 to 1360	1280 to 1340
	RX Range (nm)	1100 to 1600	1100 to 1600
Optical Power	TX Range (dBm)	-10 to -20	0 to -5
	RX Range (dBm)	-3 to -32	-3 to -34
	Link Budget (dB)	12	29
	Dispersion Penalty (dB)	3	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).

Physical Characteristics

Housing: Metal, IP30 protection

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, wall mounting (with optional kit)

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: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Power Requirements

Input Voltage: 12 to 45 VDC redundant inputs

Input Current: 320 mA @ 45 VDC max.

Connection: Removable terminal block

Overload Current Protection: 1.1 A

Reverse Polarity Protection: Present

Standards and Certifications

Safety: UL 508

Hazardous Location: UL/cUL Class I Division 2 Groups A/B/C/D, ATEX

Zone2 Ex nA nC op is IIC T4 Gc, IECEx Ex nA nC IIC T4 Gc

EMC: EN 55022/24

EMI: CISPR 22, FCC Part 15B Class A

EMS:

EN 61000-4-2 (ESD): Contact: 6 kV; Air: 8 kV

EN 61000-4-3 (RS): 80 MHz to 1 GHz: 3 V/m

EN 61000-4-4 (EFT): Power: 2 kV; Signal: 2 kV

EN 61000-4-5 (Surge): Power 1 kV; Signal 1 kV

EN 61000-4-6 (CS): 150 kHz to 80 MHz: 3 V/m

EN 61000-4-8 (PFMF)

EN 61000-4-11

Green Product: RoHS, CRoHS, WEEE

Shock: IEC 60068-2-27

Freefall: IEC 60068-2-32

Vibration: IEC 60068-2-6

Marine: DNV, GL

MTBF (mean time between failures)

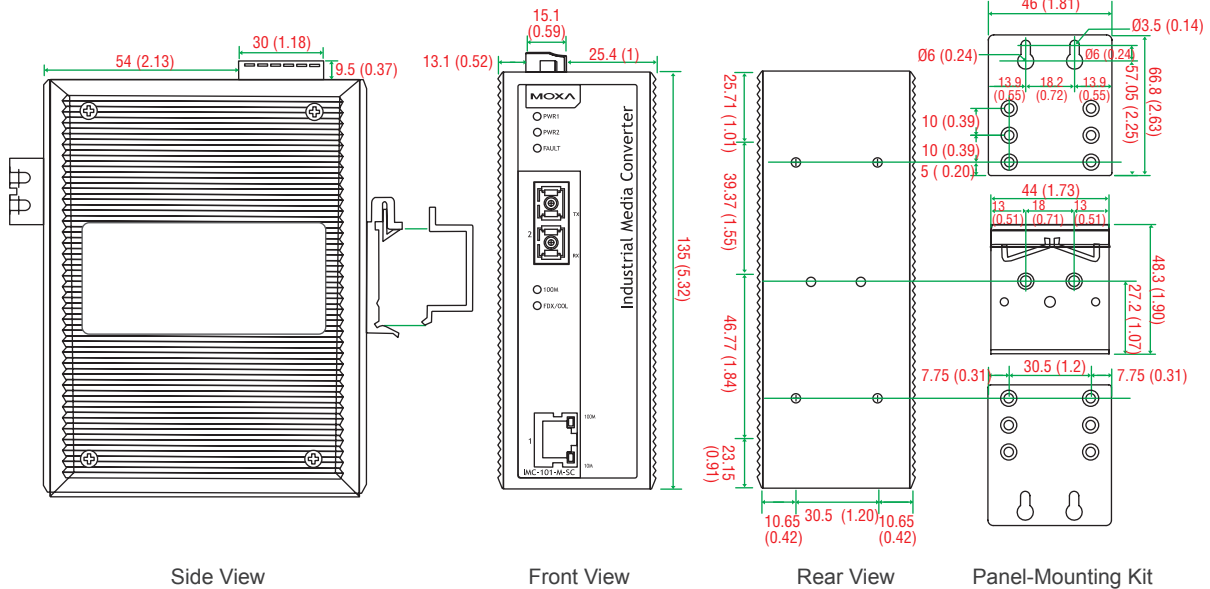
Time: 401,000 hrs
Standard: MIL-HDBK-217F

Warranty

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

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

IMC-101-M-SC: Industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode, SC connector, 0 to 60°C operating temperature

IMC-101-M-ST: Industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode, ST connector, 0 to 60°C operating temperature

IMC-101-S-SC: Industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode, SC connector, 40 km, 0 to 60°C operating temperature

IMC-101-S-SC-80: Industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode, SC connector, 80 km, 0 to 60°C operating temperature

IMC-101-M-SC-T: Industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode, SC connector, -40 to 75°C operating temperature

IMC-101-M-ST-T: Industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode, ST connector, -40 to 75°C operating temperature

IMC-101-S-SC-T: Industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode, SC connector, 40 km, -40 to 75°C operating temperature

IMC-101-S-SC-80-T: Industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode, SC connector, 80 km, -40 to 75°C operating temperature

IECEX Models

IMC-101-M-SC-IEEX: Industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode, SC connector, IECEX, 0 to 60°C operating temperature

IMC-101-M-ST-IEEX: Industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode, ST connector, IECEX, 0 to 60°C operating temperature

IMC-101-S-SC-IEEX: Industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode, SC connector, 40 km, IECEX, 0 to 60°C operating temperature

IMC-101-S-SC-80-IEEX: Industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode, SC connector, 80 km, IECEX, 0 to 60°C operating temperature

IMC-101-M-SC-T-IEEX: Industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode, SC connector, IECEX, -40 to 75°C operating temperature

IMC-101-M-ST-T-IEEX: Industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode, ST connector, IECEX, -40 to 75°C operating temperature

IMC-101-S-SC-T-IEEX: Industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode, SC connector, 40 km, IECEX, -40 to 75°C operating temperature

IMC-101-S-SC-80-T-IEEX: Industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode, SC connector, 80 km, IECEX, -40 to 75°C operating temperature

Optional Accessories (can be purchased separately)

DR-4524: 45W/2A DIN-rail 24 VDC power supply, 85 to 264 VAC input

DR-75-24: 75W/3.2A DIN-rail 24 VDC power supply, 85 to 264 VAC input

DR-120-24: 120W/5A DIN-rail 24 VDC power supply, 88 to 132 VAC/176 to 264 VAC input by switch

WK-46: Wall-mounting kit

WK-51-01: DIN-rail/wall-mounting kit, 2 plates with 6 screws

RK-4U: 4U-high 19-inch rack-mounting kit

DK-DC50131-01: DIN-rail mounting kit, 2 plates with 8 screws

Package Checklist

- 1 IMC-101 media converter
- Quick installation guide (printed)
- Warranty card