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

		100BaseFX		
		Multi-Mode		Single-Mode
Fiber Cable Type		OM1	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 55032/24
EMI: CISPR 32, 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)
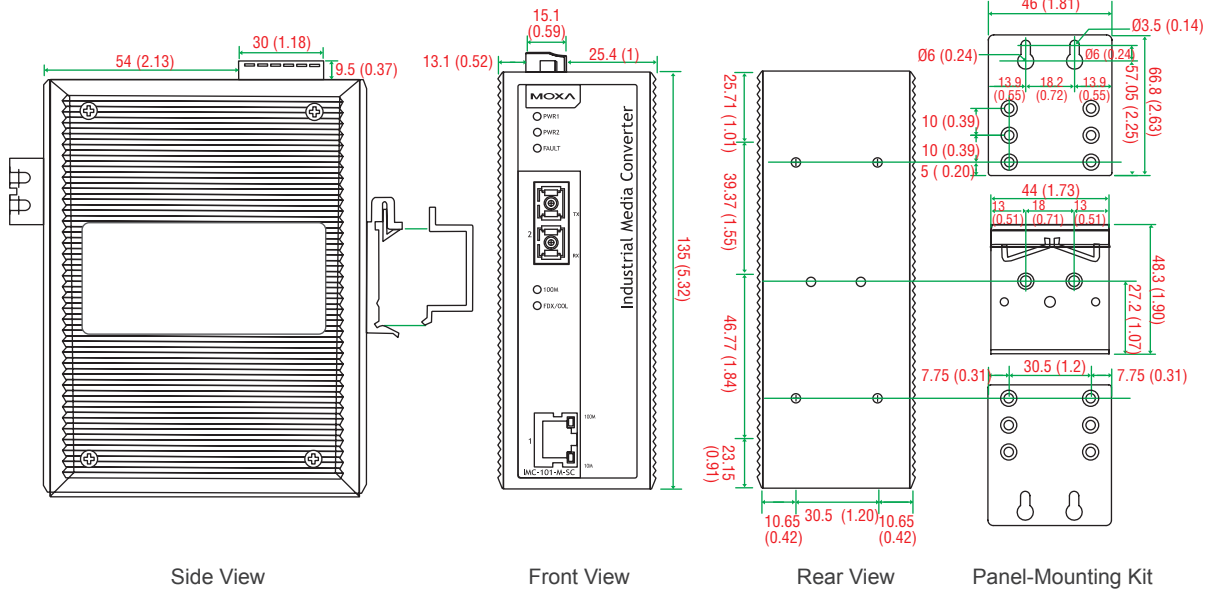**Time:** 401,000 hrs
Standard: MIL-HDBK-217F

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

Dimensions

Unit: mm (inch)

Side View   Front View   Rear View   Panel-Mounting Kit

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

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

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

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

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

IMC-101-S-SC-T-IEX: Industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode, SC connector, 40 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