

# 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	G.652	
		800 MHz*km	4 km	5 km
Wave-length	Typical Distance	4 km	5 km	40 km
	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:** 160 mA @ 24 VDC

**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)

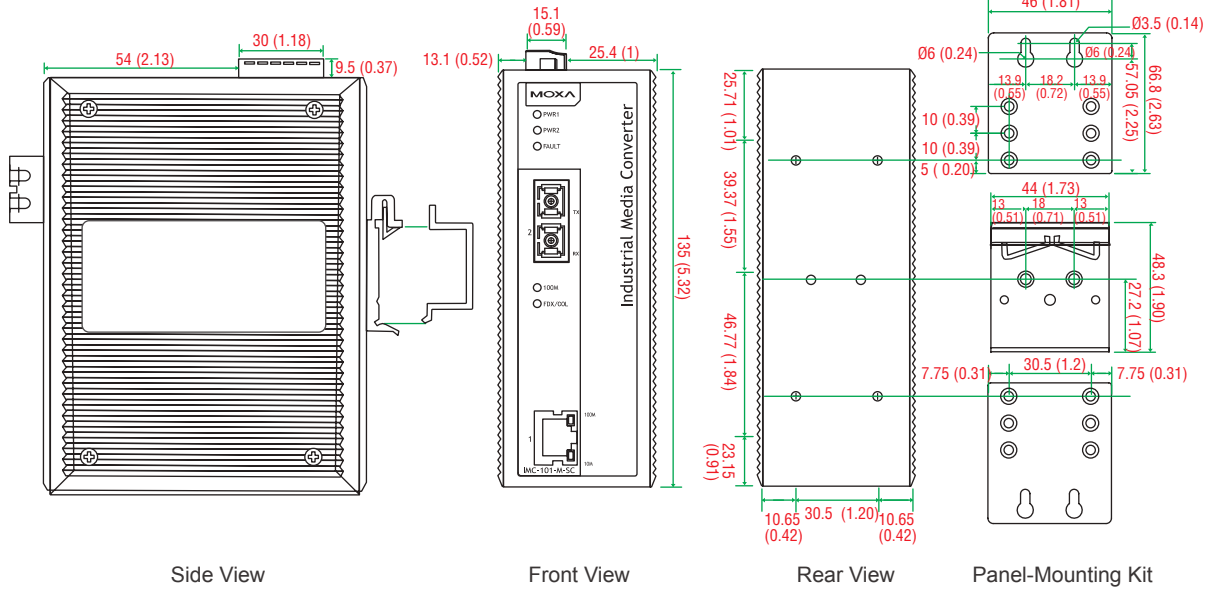
Time: 401,000 hrs  
Standard: MIL-HDBK-217F

**Warranty**

Warranty Period: 5 years  
Details: See [www.moxa.com/warranty](http://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-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

**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