

# 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

**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  
**RJ45 Ports:** 10/100BaseT(X)

##### Optical Fiber

	100BaseFX	
	Multi-mode	Single-mode
Wavelength	1300 nm	1310 nm
Max. TX	-14 dBm	0 dBm
Min. TX	-20 dBm	-5 dBm
RX Sensitivity	-32 dBm	-34 dBm
Link Budget	12 dB	29 dB
Typical Distance	5 km <sup>a</sup> 4 km <sup>b</sup>	40 km <sup>c</sup>
Saturation	-6 dBm	-3 dBm

a. 50/125 μm, 800 MHz\*km fiber optic cable  
b. 62.5/125 μm, 500 MHz\*km fiber optic cable  
c. 9/125 μm, 3.5 PS/(nm\*km) fiber optic cable

#### 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  
**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, UL 60950-1  
**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:** CE, FCC  
**EMI:** FCC Part 15 Subpart B Class A, EN 55022 Class A  
**EMS:**  
EN 61000-4-2 (ESD) Level 3,  
EN 61000-4-3 (RS) Level 3,  
EN 61000-4-4 (EFT) Level 3,  
EN 61000-4-5 (Surge) Level 3,  
EN 61000-4-6 (CS) Level 2,  
EN 61000-4-8,  
EN 61000-4-11  
**Marine:** DNV, GL  
**Shock:** IEC 60068-2-27  
**Freefall:** IEC 60068-2-32  
**Vibration:** IEC 60068-2-6  
**Green Product:** RoHS, CRoHS, WEEE

**MTBF** (mean time between failures)

Time: 401,000 hrs

Database: MIL-HDBK-217F, GB 25°C

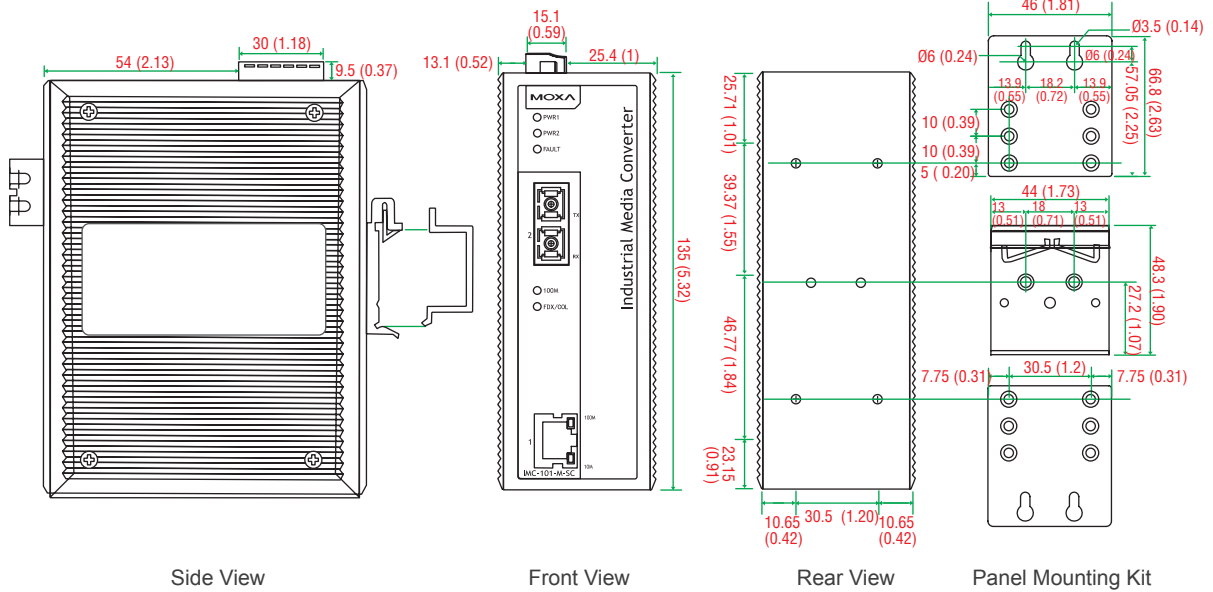
**Warranty**

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-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

**RK-4U:** 4U-high 19" rack mounting kit

**Package Checklist**

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