

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

Spec Label:

	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 ^a 4 km ^b	40 km ^c
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 Zone 2 Ex nC nL IIC T4, IECEx

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

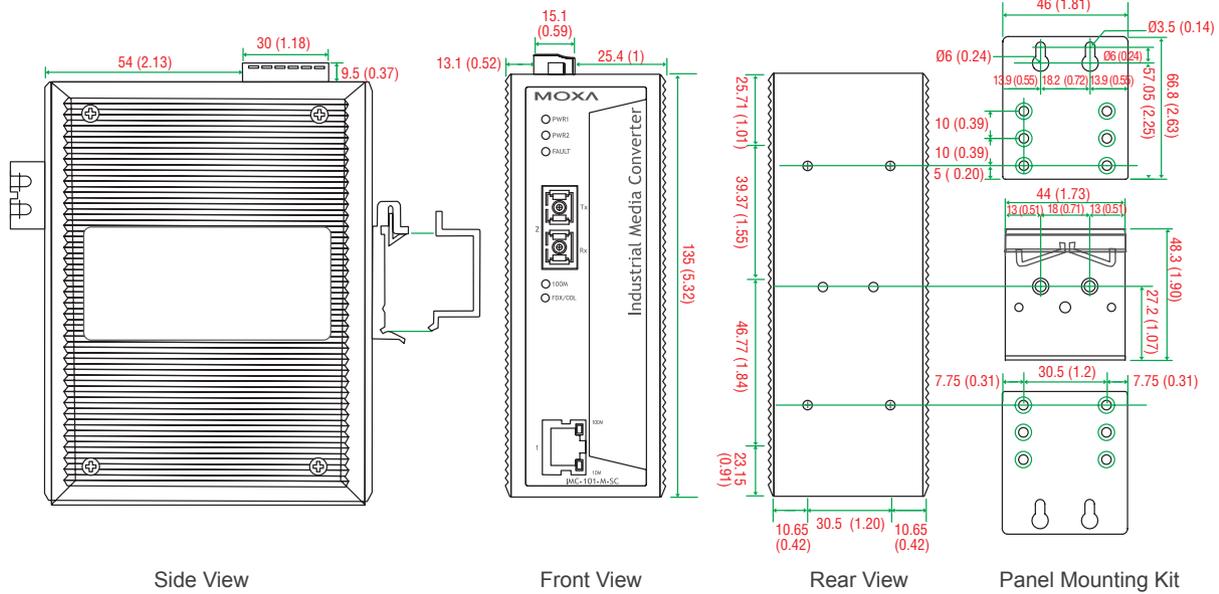
Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

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

SC male to ST female duplex adaptors: See Appendix A

Package Checklist

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

Fiber Accessories

: Fiber Optic Adaptors

SC male to ST female duplex adaptors



These SC male to ST female duplex adaptors are provided as an optional accessory to give users of Moxa industrial Ethernet switches more fiber optic connection options. Simply plug the adaptors directly into the SC connector of any Moxa industrial Ethernet switch to convert the original SC connector into an ST connector. This allows you to use an ST connector with any MOXA industrial Ethernet switch, but without the need for an extra patchcord.

ADP-SCm-STf-S

SC male to ST female duplex adaptor for single-mode fiber

Specifications

Single-mode: 9/125 μm

Ferrules and Sleeves: Zirconia Ceramic

Body Color: Blue

Insertion Loss: 0.5/1.1 (TYP/MAX)

SC-side Connector: SC male

ST-side Connector: ST female

ADP-SCm-STf-M

SC male to ST female duplex adaptor for multi-mode fiber

Specifications

Multi-mode: 62.5/125 μm

Ferrules and Sleeves: Zirconia Ceramic

Body Color: Gray

Insertion Loss: 0.1/0.3 (TYP/MAX)

SC-side Connector: SC male

ST-side Connector: ST female