

IMC-101 Series

Industrial Ethernet-to-fiber media converters



Features and Benefits

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

Certifications



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. Models in the IMC-101 Series support an operating temperature from 0 to 60°C, and an extended operating temperature from -40 to 75°C. All IMC-101 converters are subjected to a 100% burn-in test.

Specifications

Ethernet Interface

| | |
|--|---|
| 10/100BaseT(X) Ports (RJ45 connector) | 1 |
| 100BaseFX Ports (multi-mode SC connector) | IMC-101-M-SC/M-SC-IEX Series: 1 |
| 100BaseFX Ports (multi-mode ST connector) | IMC-101-M-ST/M-ST-IEX Series: 1 |
| 100BaseFX Ports (single-mode SC connector) | IMC-101-S-SC/S-SC-80/S-SC-IEX/S-SC-80-IEX Series: 1 |
| Magnetic Isolation Protection | 1.5 kV (built-in) |

Optical Fiber

| | | 100BaseFX | | | |
|------------------|----------------|--------------|-------|---------------------|---------------------|
| | | Multi-Mode | | Single-Mode (40 km) | Single-Mode (80 km) |
| Fiber Cable Type | OM1 | 50/125 μm | G.652 | G.652 | |
| | | 800 MHz x km | | | |
| Typical Distance | | 4 km | 5 km | 40 km | 80 km |
| Wave-length | Typical (nm) | 1300 | | 1310 | 1550 |
| | TX Range (nm) | 1260 to 1360 | | 1280 to 1340 | 1530 to 1570 |
| | RX Range (nm) | 1100 to 1600 | | 1100 to 1600 | 1100 to 1600 |
| Optical Power | TX Range (dBm) | -10 to -20 | | 0 to -5 | 0 to -5 |
| | RX Range (dBm) | -3 to -32 | | -3 to -34 | -3 to -34 |

| | | 100BaseFX | | | |
|--|-------------------------|------------------|--------------|------------------------|------------------------|
| | | Multi-Mode | | Single-Mode (40 km) | Single-Mode (80 km) |
| | | Fiber Cable Type | OM1 | 50/125 μ m | G.652 |
| | | | 800 MHz x km | | |
| | Link Budget (dB) | 12 | 29 | 29 | |
| | Dispersion Penalty (dB) | 3 | 1 | 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).

Power Parameters

| | |
|-----------------------------|-----------------------|
| Input Current | 200 mA @ 12 to 45 VDC |
| Input Voltage | 12 to 45 VDC |
| Overload Current Protection | Supported |
| Power Connector | Terminal block |
| Power Consumption | 200 mA @ 12 to 45 VDC |

Physical Characteristics

| | |
|--------------|---|
| IP Rating | IP30 |
| Housing | Metal |
| 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 |

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) 0 to 60°C (32 to 140°F) -40 to 75°C (-40 to 167°F) |
| Storage Temperature (package included) | -40 to 85°C (-40 to 185°F) |
| Ambient Relative Humidity | 5 to 95% (non-condensing) |

Standards and Certifications

| | |
|-----------------------|--|
| EMC | EN 55032/24 |
| EMI | CISPR 32, FCC Part 15B Class A |
| EMS | IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m IEC 61000-4-8 PFMF IEC 61000-4-11 DIPs |
| Environmental Testing | IEC 60068-2-1 IEC 60068-2-2 IEC 60068-2-3 |

| | |
|---------------------|--|
| Safety | EN 60950-1, UL 60950-1 |
| Vibration | IEC 60068-2-6 |
| Hazardous Locations | Standard models: UL/cUL Class I Division 2 Groups A/B/C/D -IEX models: UL/cUL Class I Division 2 Groups A/B/C/D, ATEX Zone 2, IECEx |

MTBF

| | |
|-----------|---------------|
| Time | 401,000 hrs |
| Standards | MIL-HDBK-217F |

Warranty

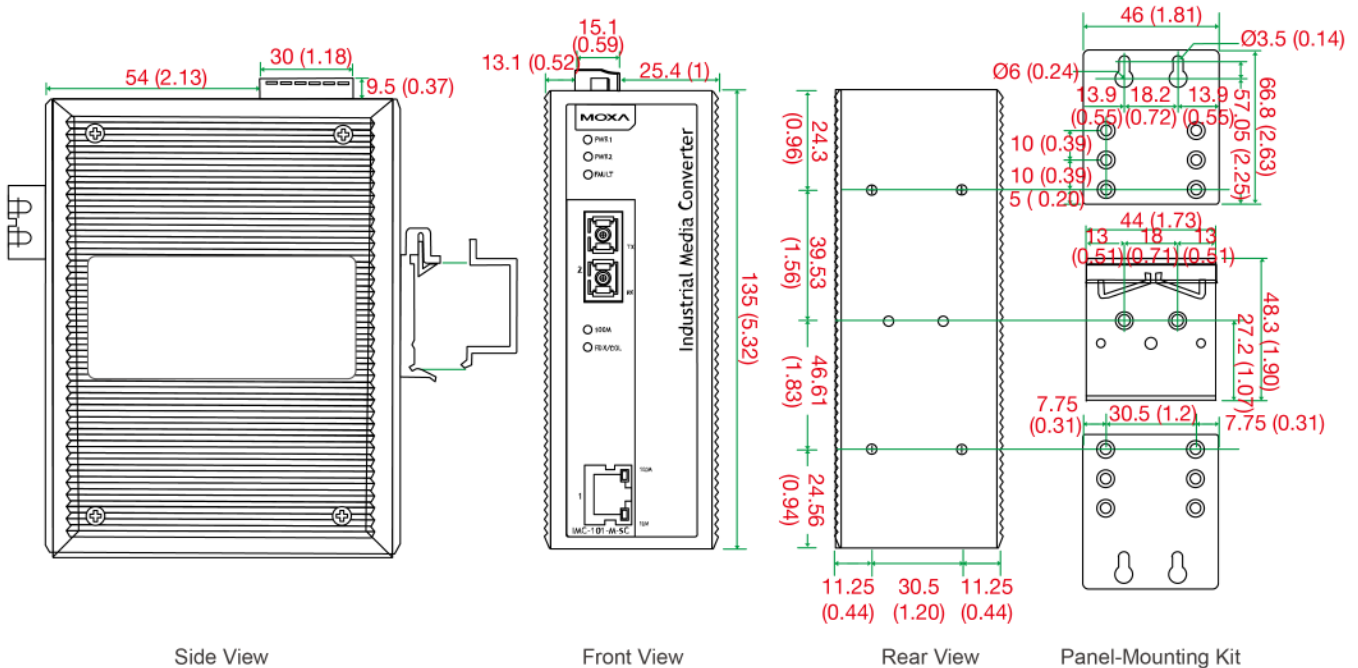
| | |
|-----------------|--|
| Warranty Period | 5 years |
| Details | See www.moxa.com/warranty |

Package Contents

| | |
|---------------|---|
| Device | 1 x IMC-101 Series converter |
| Documentation | 1 x quick installation guide 1 x warranty card |

Dimensions

Unit: mm (inch)



Ordering Information

| Model Name | Operating Temp. | Fiber Module Type | IECEX | Fiber Transmission Distance |
|--------------------|-----------------|-------------------|-------|-----------------------------|
| IMC-101-M-SC | 0 to 60°C | Multi-mode SC | - | 5 km |
| IMC-101-M-SC-T | -40 to 75°C | Multi-mode SC | - | 5 km |
| IMC-101-M-SC-IEX | 0 to 60°C | Multi-mode SC | ✓ | 5 km |
| IMC-101-M-SC-T-IEX | -40 to 75°C | Multi-mode SC | ✓ | 5 km |
| IMC-101-M-ST | 0 to 60°C | Multi-mode ST | - | 5 km |
| IMC-101-M-ST-T | -40 to 75°C | Multi-mode ST | - | 5 km |

| Model Name | Operating Temp. | Fiber Module Type | IECEX | Fiber Transmission Distance |
|--------------------|-----------------|-------------------|-------|-----------------------------|
| IMC-101-M-ST-IEX | 0 to 60°C | Multi-mode ST | ✓ | 5 km |
| IMC-101-M-ST-T-IEX | -40 to 75°C | Multi-mode ST | ✓ | 5 km |
| IMC-101-S-SC | 0 to 60°C | Single-mode SC | - | 40 km |
| IMC-101-S-SC-T | -40 to 75°C | Single-mode SC | - | 40 km |
| IMC-101-S-SC-IEX | 0 to 60°C | Single-mode SC | ✓ | 40 km |
| IMC-101-S-SC-T-IEX | -40 to 75°C | Single-mode SC | ✓ | 40 km |
| IMC-101-S-SC-80 | 0 to 60°C | Single-mode SC | - | 80 km |
| IMC-101-S-SC-80-T | -40 to 75°C | Single-mode SC | - | 80 km |

Accessories (sold separately)

DIN-Rail Mounting Kits

| | |
|---------------|---------------------------------|
| DK-DC50131-01 | DIN-rail mounting kit, 6 screws |
|---------------|---------------------------------|

Power Supplies

| | |
|-----------|---|
| DR-4524 | 45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 50°C operating temperature |
| DR-120-24 | 120W/2.5A DIN-rail 24 VDC power supply with universal 88 to 132 VAC or 176 to 264 VAC input by switch, or 248 to 370 VDC input, -10 to 60°C operating temperature |
| DR-75-24 | 75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 60°C operating temperature |

Wall-Mounting Kits

| | |
|----------|---|
| WK-46 | Wall-mounting kit, 2 plates, 8 screws, 46.5 x 66.8 x 1 mm |
| WK-51-01 | Wall mounting kit with 2 plates (51.6 x 67 x 2 mm) and 6 screws |

Rack-Mounting Kits

| | |
|-------|---------------------------|
| RK-4U | 19-inch rack-mounting kit |
|-------|---------------------------|

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