

# IMC-101 Series Industrial Media Converter

## Industrial 10/100BaseT(X) to 100BaseFX Media Converter

### Features

- Supports Link Fault Pass-Through
- Supports 10/100BaseT(X) auto-negotiation and auto-MDI/MDI-X
- Multi mode, single mode with SC or ST connector available
- Power failure, port break alarm by relay output
- Operating temperature (0 to 60°C), extended operating temperature (-40 to 75°C)
- For hazardous location (Class 1 Div. 2/Zone 2)
- Long-haul transmit distance of 40 km or 80 km



### Overview

MOXA Industrial Media Converter, which is specially designed for reliable and stable operation in harsh industrial environments, provides industrial grade media conversion between 10/100BaseT(X) and 100BaseFX. Its reliable industrial design is excellent for keeping your industrial automation applications running continuously, and comes with a relay output warning alarm to help prevent damage and loss.

These products have been designed for harsh industrial environments, such as in hazardous locations (class I division 2 or zone 2), and comply with FCC, TÜV, UL, and CE standards. IMC-101 series is available in models that support an operating temperature of 0 to 60°C, and an extended operating temperature of -40 to 75°C. They are designed for standard and extended operating temperature ranges, respectively, and are subjected to a 100% burn-in test. These two models meet the needs of industrial automation control.

### Link Fault Pass-Through

IMC-101's "Link Fault Pass-Through" feature overcomes a problem encountered when using traditional media converters. The problem is this. When one side of the link fails, the other side continues transmitting packets, and then waits for a

response that never arrives from the disconnected side. What IMC-101 does is force the link to shut down as soon as it notices that the other link has failed, giving the application software a chance to react to the situation.

### Redundant Power Inputs

IMC-101 provides two power inputs that can be connected simultaneously to live DC power sources. If one power input

fails, the other source acts as a backup, and automatically satisfies IMC-101's power needs.

### Relay Output Alarm by Port Break, Power Failure

IMC-101 provides relay contact outputs to warn technicians on the shop floor when the power fails or a port link is

disconnected, so they can respond quickly with appropriate emergency operation procedures.

### Specifications

#### Technology

**Standards:** IEEE802.3, 802.3u

#### Interface

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

**Fiber ports:** 100BaseFX (SC, ST connectors available)

**LED Indicators:** Power, Fault, 10/100, Full/Half Duplex, Collision

**Dip Switch:** 100BaseFX Full/Half duplex selection, Port break alarm mask

**Alarm Contact:** One relay output with current carrying capacity of 1A @ 24 VDC

## Specifications

### Optical Fiber

#### Distance:

Multi mode:

0 to 5 km, 1310 nm (50/125  $\mu\text{m}$ , 800 MHz\*km)

0 to 4 km, 1310 nm (62.5/125  $\mu\text{m}$ , 500 MHz\*km)

Single mode:

0 to 15 km, 1310 nm (9/125  $\mu\text{m}$ , 3.5 PS/(nm\*km))

0 to 40 km, 1310 nm (9/125  $\mu\text{m}$ , 3.5 PS/(nm\*km))

0 to 80 km, 1550 nm (9/125  $\mu\text{m}$ , 19 PS/(nm\*km))

#### Min. TX Output:

Multi mode : -20 dBm

Single mode: 0 to 15 km, -15 dBm; 0 to 40 km, -5 dBm  
0 to 80 km, -5 dBm

#### Max. TX Output:

Multi mode : -14 dBm

Single mode: 0 to 15 km, -6 dBm; 0 to 40 km, 0 dBm  
0 to 80 km, 0 dBm

**Sensitivity:** -36 to -32 dBm (IMC-101-M)

-34 to -32 dBm (IMC-101-S)

### Power

**Input Voltage:** 24 VDC (12 to 48 VDC); Redundant inputs

**Input Current (@24V):** 0.2A

**Connection:** Removable Terminal Block

**Overload Current Protection:** 1.1A

**Reverse Polarity Protection:** Present

### Mechanical

**Casing:** IP30 protection, metal case

**Dimensions:** 53.6 x 135 x 105 mm (W x H x D)

**Weight:** 0.63 kg

**Installation:** DIN-Rail, Wall Mounting

### Environmental

**Operating Temperature:** 0 to 60°C (32 to 140°F)

-40 to 75°C (-40 to 167°F) for -T models

**Storage Temperature:** -40 to 85°C (-40 to 185°F)

**Ambient Relative Humidity:** 5 to 90% (non-condensing)

### Regulatory Approvals

**Safety:** UL60950 (E212360), UL 508, CSA C22.2 No. 60950, EN60950

#### Hazardous location:

UL/cUL Class1, Division 2, Groups A, B, C and D (E238559)

ATEX Class1, Zone 2, EEx nC IIC (03CA24537)

**EMI:** FCC Part 15, CISPR (EN55022) Class A,

**EMS:** EN61000-4-2 (ESD), level 3

EN61000-4-3 (RS), level 3

EN61000-4-4 (EFT), level 3

EN61000-4-5 (Surge), level 3

EN61000-4-6 (CS), level 3

**Shock:** IEC60068-2-27

**Free Fall:** IEC60068-2-32

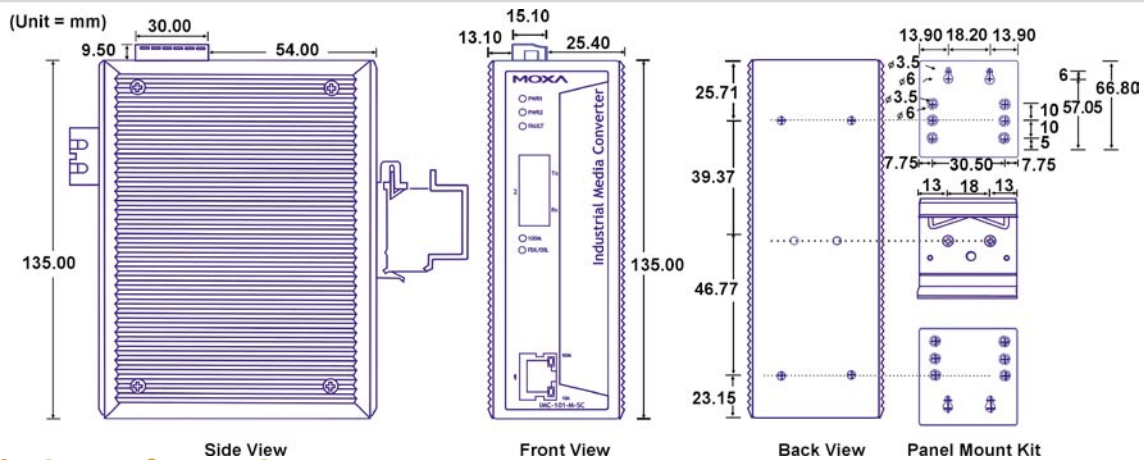
**Vibration:** IEC60068-2-6

**MTBF:** 810,000 hrs

**Data Base:** MIL-HDBK-217F, GB

**WARRANTY:** 5 years

## Dimensions



## Ordering Information

**IMC-101-M-SC:** Industrial 10/100BaseT(X) to 100BaseFX Media Converter, multi mode, SC connector, 0 to 60°C

**IMC-101-M-ST:** Industrial 10/100BaseT(X) to 100 BaseFX Media Converter, multi mode, ST connector, 0 to 60°C

**IMC-101-S-SC:** Industrial 10/100 BaseT(X) to 100 BaseFX Media Converter, single mode, SC connector, 0 to 60°C

### Extended Operating Temperature Models (-40 to 75°C)

**IMC-101-M-SC-T:** Industrial 10/100BaseT(X) to 100BaseFX Media Converter, multi mode, SC connector, -40 to 75°C

**IMC-101-M-ST-T:** Industrial 10/100BaseT(X) to 100 BaseFX Media Converter, multi mode, ST connector, -40 to 75°C

**IMC-101-S-SC-T:** Industrial 10/100 BaseT(X) to 100 BaseFX Media Converter, single mode, SC connector, -40 to 75°C

**Long haul 40 km and 80 km transmit models with Single mode optical fiber are also available.**

### Optional Accessories

**WK-46:** Wall Mounting Kit

\* **All items include:** User's Manual