

# IMC-P101 Series

## IEEE 802.3af PoE Ethernet-to-fiber media converters



- > 10/100BaseT(X) auto-negotiation and auto-MDI/MDI-X
- > IEEE 802.3af compliant PoE PSE equipment
- > Power failure alarm by relay output
- > Store-and-forward mode and pass through mode
- > -40 to 75°C operating temperature range (T models)
- > Redundant dual DC power inputs



### Introduction

IMC-P101 series Ethernet-to-fiber media converters provide Ethernet media conversion from 10/100BaseT(X) to 100BaseFX (with SC or ST connectors). These converters are classified as power source equipment (PSE), and when used in this way provide up to 15.4 watts to IEEE 802.3af compliant powered devices (PDs), eliminating

the need for additional wiring. The IMC-P101 converters support IEEE 802.3/802.3u/802.3x with 10/100M, full/half-duplex, and MDI/MDI-X auto-sensing, providing a complete solution for your industrial Ethernet network.

### Specifications

#### Technology

##### Standards:

IEEE 802.3 for 10BaseT  
 IEEE 802.3u for 100BaseT(X), 100BaseFX  
 IEEE 802.3af for Power-over-Ethernet

##### Interface

**RJ45 Ports:** 10/100BaseT(X)  
**Fiber Ports:** 100BaseFX (SC/ST connectors)  
**LED Indicators:** PWR1, PWR2, Fiber Link, 10/100M (TP port), PSE Indicator  
**DIP Switches:**

DIP No.	Function	ON	OFF
1	Auto Negotiation	Enable*	Disable
2	Force TP Speed	100 Mbps*	10 Mbps
3	Force TP Duplex	Full Duplex*	Half Duplex
4	Link Fault Pass Through	Enable*	Disable
5	Operating Mode	Store-and-Forward*	Pass Through
6	PSE	Disable	Enable*
7	P.R.R. (PD Remote Reset)	Enable	Disable*

\* Default DIP switch setting.

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

#### 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  
**Dimensions:** 144.45 x 122.3 x 51.65 mm (5.69 x 4.81 x 2.03 in)  
**Weight:**  
 Product only: 525 g  
 Packaged: 710 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:** 48 VDC (46 to 57 VDC), redundant inputs  
**Power Consumption:** 430 mA @ 48 VDC (max.)  
**Connection:** Removable terminal block  
**Overload Current Protection:** 1.6 A (protects against two signals shorted together)  
**Reverse Polarity Protection:** Protects against V+/V- reversal

**Standards and Certifications**

**Safety:** UL 508  
**EMC:** CE, FCC  
**EMI:** FCC Part 15 Subpart B Class A, EN 55022 Class A

**EMS:**

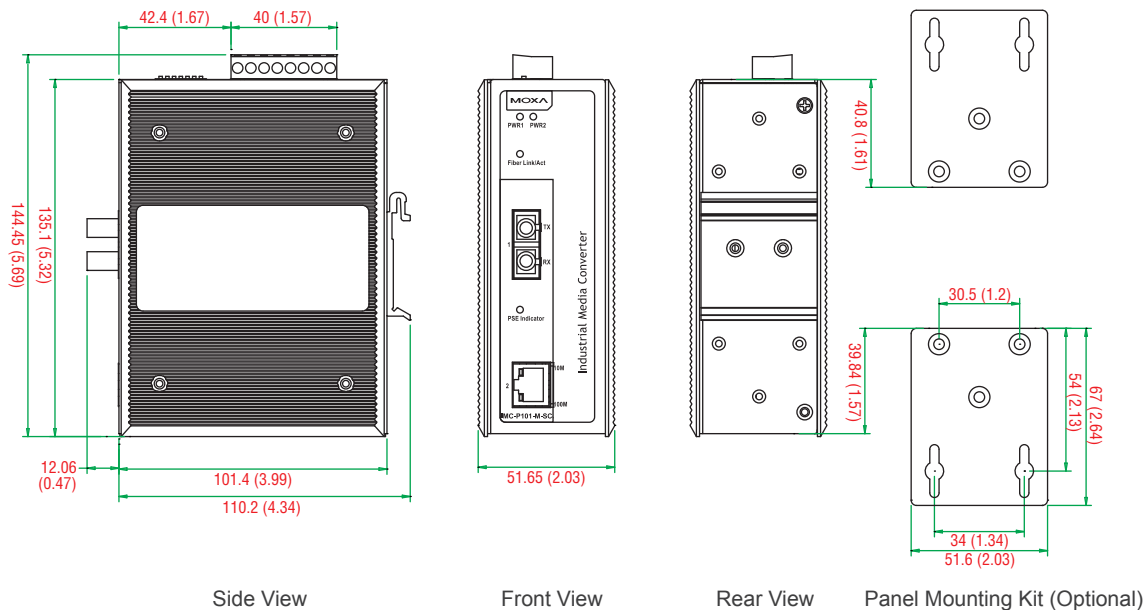
IEC 61000-4-2 (ESD) Level 4,  
 IEC 61000-4-3 (RS) Level 3,  
 IEC 61000-4-4 (EFT) Level 4,  
 IEC 61000-4-5 (Surge) Level 3,  
 IEC 61000-4-6 (CS) Level 3,  
 IEC 61000-4-8 (PFMF) Level 1,  
 IEC 61000-4-11  
**Shock:** IEC 60068-2-27  
**Freefall:** IEC 60068-2-32  
**Vibration:** IEC 60068-2-6  
**Green Product:** RoHS, CRoHS, WEEE  
**MTBF** (mean time between failures)  
**Time:** 435,210 hrs  
**Database:** Telcordia (Bellcore), GB

**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-P101-M-SC:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode port with SC connector, 0 to 60°C operating temperature
- IMC-P101-M-ST:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode port with ST connector, 0 to 60°C operating temperature
- IMC-P101-S-SC:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode port with SC connector, 0 to 60°C operating temperature
- IMC-P101-S-ST:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode port with ST connector, 0 to 60°C operating temperature
- IMC-P101-M-SC-T:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode port with SC connector, -40 to 75°C operating temperature
- IMC-P101-M-ST-T:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode port with ST connector, -40 to 75°C operating temperature
- IMC-P101-S-SC-T:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode port with SC connector, -40 to 75°C operating temperature
- IMC-P101-S-ST-T:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode port with ST connector, -40 to 75°C operating temperature

**Package Checklist**

- 1 IMC-P101 media converter
- Hardware installation guide (printed)
- Warranty card

**Optional Accessories** (can be purchased separately)

**WK-51:** Wall mounting kit